PURE WATER PROJECT
LAS VIRGENES-TRIUNFO

Bringing Our Water Full Circle

Conveyance Pipelines Alignment Study



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Las Virgenes-Triunfo Joint Powers Authority

February 2023

Executive Summary

Background and Objectives

The Las Virgenes-Triunfo Joint Powers Authority (JPA) is delivering a series of project elements under the Pure Water Project Las Virgenes-Triunfo (PWP). The PWP involves the construction of an Advanced Water Purification Facility (AWPF) to treat surplus (unused) tertiary effluent from the Tapia Water Reclamation Facility (WRF) for indirect potable reuse through surface water augmentation. Implementation of the PWP will involve the construction of four conveyance pipelines: a source water pipeline from the JPA's recycled water system (source water) to the AWPF, purified water pipeline from the AWPF to the Las Virgenes Reservoir (purified water), reverse osmosis (RO) concentrate pipeline from the AWPF to Calleguas Salinity Management Pipeline (concentrate), and a residuals pipeline from the AWPF to the sanitary sewer (residuals). The purpose of the Conveyance Pipelines Alignment Study (Study) is to identify viable alignments (alternatives) for each conveyance line, evaluate and score each alternative in accordance with the JPA's objectives, and utilize the evaluation's findings to make a recommendation for an alignment to carry into the design phase.

Approach

The Study was carried out through the following steps: pipeline alternatives development, initial screening, and alternatives evaluation. A range of pipeline alternatives were first developed to capture a variety of potential alignments. Next, an initial screening was conducted with input from LVMWD to select the most promising alternatives for further examination in this Study. The viable alternatives were evaluated based on a series of nonmonetary criteria and Class 5 cost estimates. The non-monetary criteria used in the evaluation include:

- Easements and Encroachments
- Constructability
- Utilities
- Public Impacts
- Operation & Maintenance
- Permitting
- Geotechnical Considerations
- Pumping Requirements/Hydraulic Considerations

A recommended alternative was identified for each conveyance pipeline using a ranking analysis that combined cost factors with the findings of the nonmonetary criteria scores. The findings also identified additional high-scoring alternatives that the design team may keep under consideration where the top two alternatives received comparable scores.

Alternatives Evaluation and Recommendations

The non-monetary score and cost for each pipeline alternative were compared to develop conveyance pipeline recommendations. The following sections provide a summary of each alternative pipeline evaluation and the resulting recommendation.

Source Water

The recommended alternative for the source water line (Alternative 4) connects to the existing recycled water system at Lindero Canyon Rd and Agoura Rd and extends along Agoura Rd to the AWPF site. Table ES-1 summarizes the results of the source water alternatives evaluation.

Hydraulic modeling performed in this analysis indicates that Alternative 4 could have pressure impacts on users of the LVMWD recycled water system. As a result, additional evaluation is advised to identify the system components that may be most vulnerable to these impacts and to consider potential mitigation measures, if necessary.

Table ES-1: Source Water Pipeline Scoring Summary

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Costs[1]	Advance for Further Consideration
1	Alt. 4	4,400 ft	74.5	$5,129,000	Yes
2	Alt. 1	15,210 ft	67.5	$19,645,000	No
3	Alt. 1A	15,360 ft	65.0	$21,726,000	No
4	Alt. 2	9,590 ft	58.5	$12,357,000	No
5	Alt. 3	6,070 ft	52.0	$7,997,000	No

[1] Cost estimates were developed for Cement-Mortar Lined and Coated (CML&C) steel and PVC pipe materials. Cost estimates in this table reflect CML&C steel pipe.

Purified Water

The recommended alternative for the purified water line from the AWPF to Triunfo Creek Park is to stay within the public right-of-way along Agoura Rd and Lindero Canyon Rd (Alternative 1-1). Two alternatives were considered for construction through Triunfo Creek Park, assuming different construction methods including open cut construction (Alternative 2-1) and trenchless construction (Alternative 2-2). The results of the analysis indicate that a field geotechnical exploration is needed to properly assess the subsurface conditions along this segment and ultimately select the best alignment and construction method. Table ES-2 summarizes the results of the source water alternatives evaluation.

Table ES-2: Purified Water Pipeline Scoring Summary

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Costs[1]	Advance for Further Consideration
Reach 1					
1	Alt. 1-1	12,710 ft	71.5	$14,764,000	Yes
2	Alt. 1-2	12,760 ft	49.0	$15,949,000	No
Reach 2					
1	Alt. 2-2	3,400 ft	56.0	$4,903,000	Yes
2	Alt. 2-1	3,500 ft	54.5	$4,916,000	Yes

[1] Cost estimates were developed for Cement-Mortar Lined and Coated (CML&C) steel and PVC pipe materials. Cost estimates in this table reflect CML&C steel pipe.

Concentrate Pipeline

The concentrate alternative alignments were divided into three reaches that share a start and end point for ease of comparison for the various combinations of alignment routes. Alignment segments in Reach 1, denoted with prefix “1-”, extend from the Agoura Rd AWPF site to the intersection of Thousand Oaks Blvd and Conejo School Rd. Reach 2, denoted with prefix “2-”, continues from the intersection of Thousand Oaks Blvd and Conejo School Rd to the intersection of Hillcrest Dr and Lynn Rd. Reach 3 extends from the end of Reach 2 to the proposed connection point with the SMP on Santa Rosa Rd.

The recommended Reach 1 alignment follows Agoura Rd and Hampshire Rd, turning up Willow Rd to Conejo School Rd. The Reach 2 recommended alignment continues north on Conejo School Rd, turning on Hillcrest Rd, crossing under State Route 23. The Reach 3 recommended alignment extends west along Hillcrest Dr turns on Ventu Park Rd and then onto Rancho Conejo Blvd. Across from the City of Thousand Oaks Municipal Services Center near the end of Rancho Conejo Blvd, the alignment turns onto a private parcel continuing through to the Conejo Canyon Open Space Trail which then turns to Hill Canyon Rd terminating at the proposed SMP connection point at Santa Rosa Rd. Table ES-3 summarizes the results of the source water alternatives evaluation.

Table ES-3: Concentrate Pipeline Scoring Summary

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Cost[1]	Advance for Further Consideration
Reach 1					
1	Alternative 1-3	22,680 ft	84.0	$16,812,000	Yes
2	Alternative 1-1	22,820 ft	82.0	$17,364,000	Yes
3	Alternative 1-2	26,930 ft	57.0	$19,629,000	No
4	Alternative 1-4	22,770 ft	54.5	$16,951,000	No
Reach 2					
1	Alternative 2-3	19,660 ft	79.5	$14,915,000	Yes
2	Alternative 2-1	16,820 ft	75.5	$13,068,000	Yes
3	Alternative 2-2	17,870 ft	66.5	$13,406,000	No
Reach 3					
1	Alternative 3-1	30,000 ft	-	$21,140,000	Yes

[1] High-Density Polyethylene (HDPE) was used as the pipe material basis for the cost estimate.

Residuals Pipeline

Several existing sewers were identified as potential connection points for the residuals pipeline which would be used to convey waste flows from the AWPF. The recommendation for the residuals line is an alignment connecting to the 24-inch LVMWD trunk sewer located along Agoura Rd to the east of the Agoura Rd AWPF site. In the absence of an integrated sewer model, flow monitoring is recommended to verify the sewer has sufficient capacity to handle the residual flows. The anticipated configuration is for the residuals flow to be pumped from the AWPF site via a force main to a new manhole that will discharge to the 24-inch trunk sewer at Agoura Rd, east of Ladyface Ct.

Construction Costs

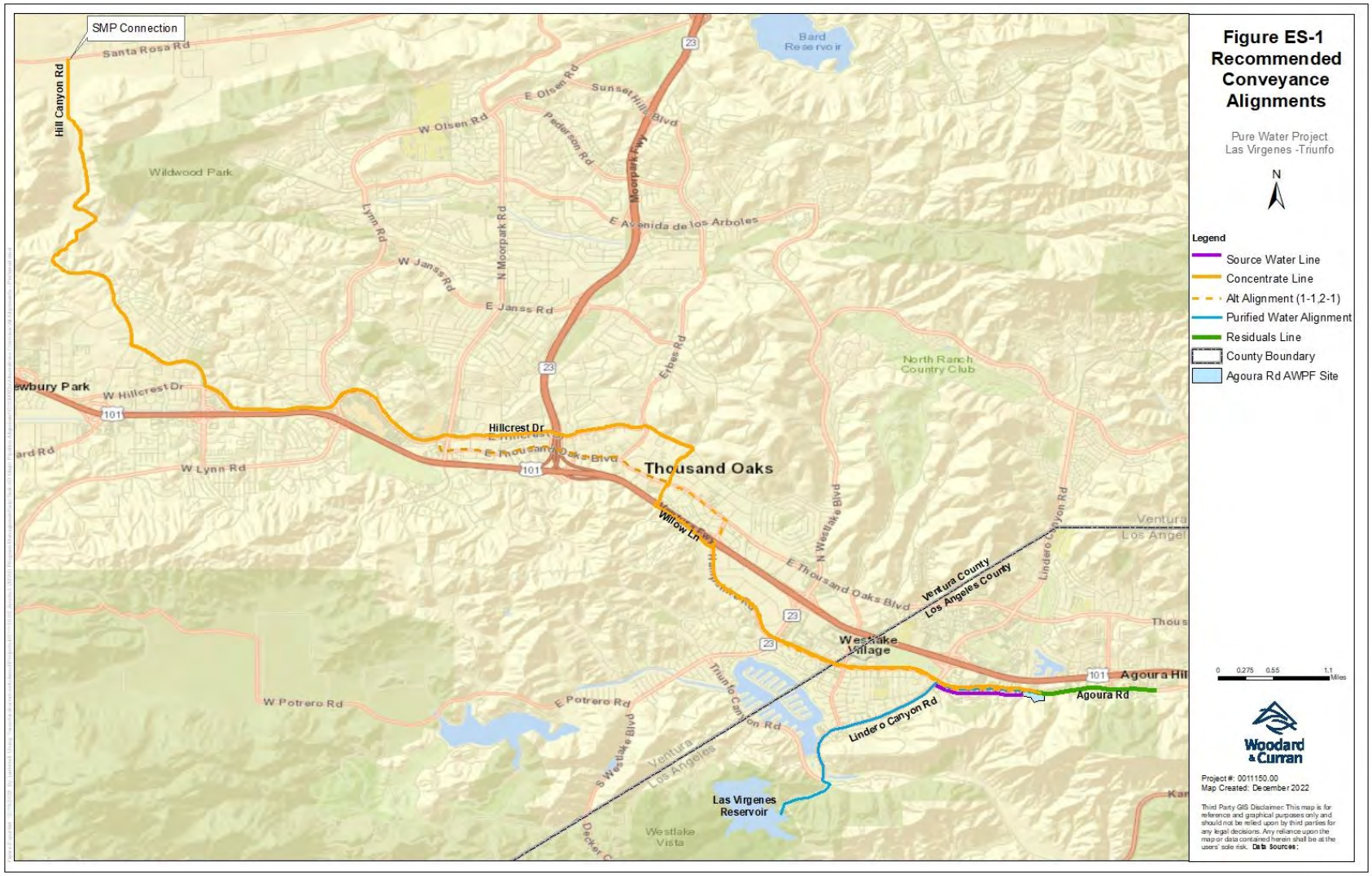
Table ES-4 summarizes the estimated construction costs for each conveyance pipeline's recommended alignment.

Table ES-4: Conveyance Construction Costs Summary

Conveyance Line	Recommended Alignment Estimated Construction Cost
Source Water	$3.1M (PVC), $5.1M (CML&C Steel)
Purified Water	$12.4M (PVC), $19.7M (CML&C Steel)
Concentrate	$52.9M (HDPE)
Residuals	$2.3M (PVC)
Total	**$70.7M - $80.0M**

Figure ES-1 provides an overview of the recommended conveyance pipeline alignments.

Figure ES-1: Recommended Conveyance Alignments



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Acronyms and Abbreviations

AACE	Association for Advancement of Cost Engineering
ASCE	American Society of Civil Engineers
AWPF	Advanced Water Purification Facility
CCI	Construction Cost Index
CCR	California Code of Regulations
CLSM	Controlled Low Strength Material
CML&C	Cement-Mortar Lined and Coated
CMWD	Calleguas Municipal Water District
DDW	Division of Drinking Water
ENR	Engineering News Record
FPVC	Fusible Polyvinyl Chloride
HDPE	High-Density Polyethylene
JPA	Las Virgenes - Triunfo Joint Powers Authority
LA	Los Angeles
LVMWD	Las Virgenes Municipal Water District
MDD	Maximum Day Demand
MGD	Million Gallons Per Day
MRCA	Mountains Recreation and Conservation Authority
MWD	Metropolitan Water District of Southern California
NPDES	National Pollutant Discharge Elimination System
psi	Pounds Per Square Inch
PVC	Polyvinyl Chloride
PWP or Program	Pure Water Project
RO	Reverse Osmosis
RWPS	Recycled Water Pump Station
SCE	Southern California Edison
SMP	Salinity Management Pipeline
TWSD	Triunfo Water and Sanitation District
VFD	Variable Frequency Drive
WRF	Water Reclamation Facility

1. Introduction and Objectives

The Las Virgenes-Triunfo Joint Powers Authority (JPA), formed between the Las Virgenes Municipal Water District (LVMWD) and the Triunfo Water & Sanitation District (TWSD), owns, operates and maintains a joint wastewater system including the Tapia Water Reclamation Facility (WRF), an extensive system of trunk sewers, and a recycled water distribution system. Currently, recycled water produced at the Tapia WRF is either delivered to customers on the JPA's recycled water system or discharged to Malibu Creek. Discharges to Malibu Creek are governed by the Tapia WRF's National Pollutant Discharge Elimination System (NPDES) permit. The Tapia WRF NPDES permit stipulates that beginning in November 2030, effluent discharged to Malibu Creek needs to meet more stringent water quality requirements. To meet these future regulatory requirements and reduce the region's dependance on imported water supplies, the JPA is implementing the Pure Water Project (PWP).

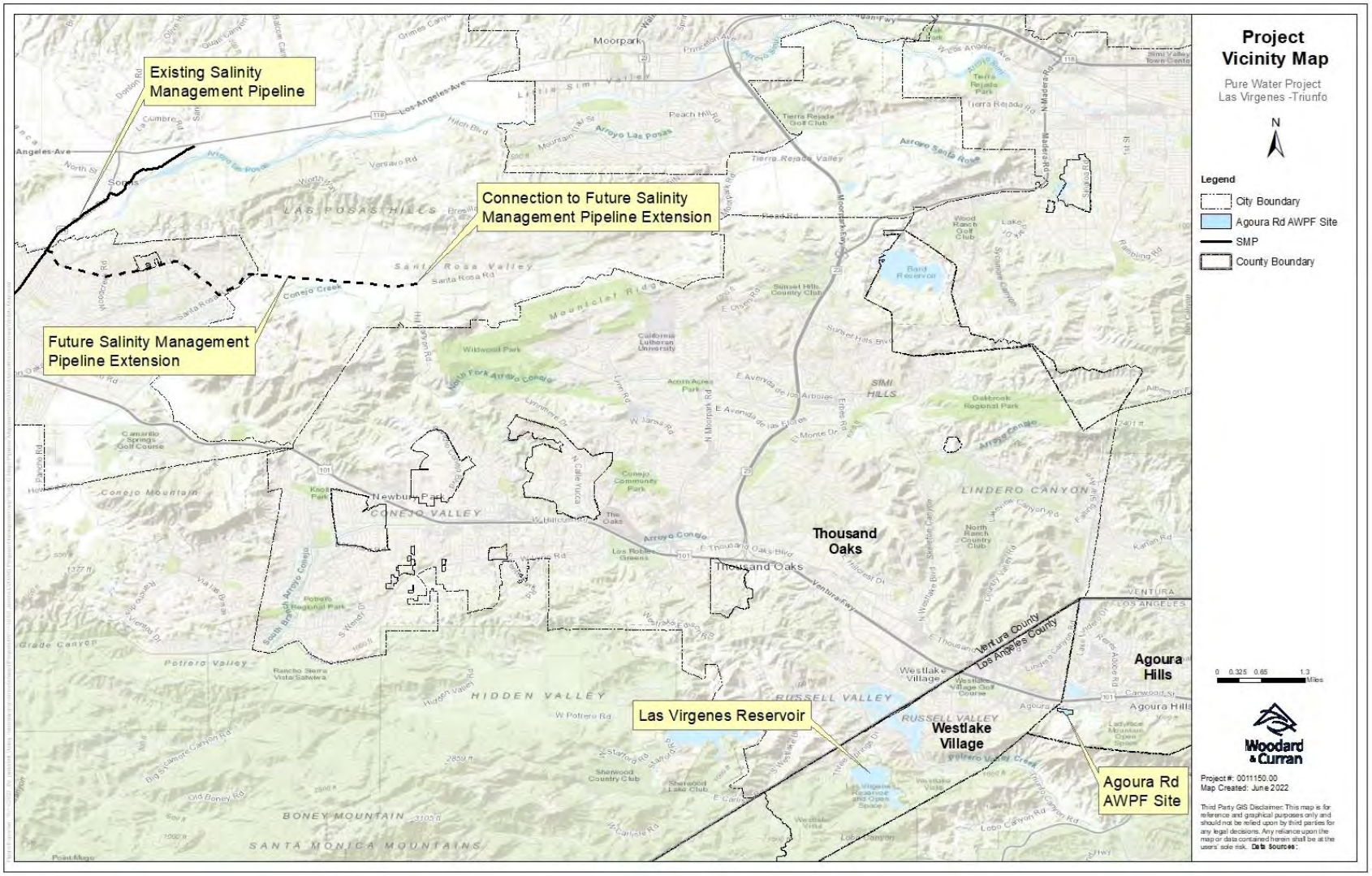
The PWP involves the construction of an Advanced Water Purification Facility (AWPF) for treatment of excess (unused) Tapia WRF effluent for use as a surface water augmentation supply. This analysis assumes the AWPF will be located at the Agoura Rd site, near the border of the cities of Westlake Village and Agoura Hills. The purified water will be conveyed to the Las Virgenes Reservoir where it will be blended with potable surface water from the Metropolitan Water District of Southern California (MWD). The water from the Las Virgenes Reservoir would then be treated at the Westlake Filtration Plant prior to distribution. The proposed PWP conveyance infrastructure is composed of four principal conveyance pipelines:

- Source Water: Source water for the AWPF from the JPA's recycled water system (Section 3)
- Purified Water: Purified water from the AWPF to the Las Virgenes Reservoir (Section 4)
- Concentrate: Reverse osmosis (RO) concentrate from the AWPF to Calleguas Salinity Management Pipeline (Section 5)
- Residuals: Residuals from the AWPF to the sanitary sewer (Section 6)

In addition, an analysis of off-specification of water handling is examined to identify proposed discharge locations (Section 7). The purpose of the Conveyance Pipeline Alignment Study (Study) is to identify potential alignments (alternatives) for each conveyance line, analyze and evaluate each alternative based on the objectives of the JPA, and use the results of the evaluation to recommend an alignment for each conveyance line (Summarized in Section 8).

Figure 1-1 provides an overview of the project vicinity showing key components including the AWPF site, Las Virgenes Reservoir, and the proposed connection to the Salinity Management Pipeline.

Figure 1-1: Project Vicinity Map



2. Study Approach

The Study was carried out through the following steps: pipeline alternatives development, initial screening, and alternatives evaluation. A range of pipeline alternatives were first developed to capture a variety of potential alignments. An initial screening step was then performed with input from LVMWD to select the most viable alternatives for further analysis in this Study. The viable alternatives were evaluated based on a series of nonmonetary criteria (discussed further in Section 2.2) and construction cost estimates. A ranking analysis was performed using the results of the nonmonetary criteria scoring in conjunction with cost considerations to identify recommended alternative(s) for each conveyance system that meets the Study objectives. Each of these steps are discussed in greater detail in the following sections of this report. This section describes the criterion/sub-criterion scoring approach, the criteria, and the method of comparing alternative scores.

2.1 Criterion and Sub-Criterion Scoring

Each alternative is scored from 0 to 5 points based on the degree to which it meets the objective of the criterion (where no sub-criterion further breaks down the criterion) or sub-criterion. An alternative with a higher score equates to it better meeting the objective compared to another alternative. Scoring can also be considered in three qualitative categories under each criterion or sub-criterion:

- High degree of achieving objective (5 points)
- Medium degree of achieving objective (3 to 4 points)
- Low degree of achieving objective (0 to 2 points)

Once each criterion or sub-criterion has been scored, the scores are normalized to a 100 total point system for comparison of the alternatives. The maximum possible 100-point total is divided into eight weighted maximum scores for each criterion. For criterion where there are multiple sub-criteria, the sub-criteria are assigned a weighted number of possible points, with all sub-criteria points totaling the maximum possible score of the overall criterion. An initial scoring was conducted without weighting the sub-criteria. Discussions were then held with LVMWD staff, who provided weightings of the criteria to be used in the analysis based on the relative importance of each criterion with regard to the priorities of the Agency, customers, and local community. The weighting of each criterion is reflected in the maximum score the criterion can receive. The weighted analysis results are presented in this report.

The alternatives were first scored and ranked by the non-monetary criteria. A planning level cost comparison of the alternatives was then combined with the ranking analysis to arrive at the recommended alternative(s).

2.2 Non-Monetary Evaluation Criteria

The criteria used in the evaluation are described below and are summarized at the end of this section.

2.2.1 Easements and Encroachments

For each alternative, the availability of right-of-way, jurisdiction over the right-of-way, and easement requirements were identified. Where the alignment crosses private property, it was assumed that an easement would be necessary. If easements are required, there are potential easement acquisition costs, a risk of not being able to secure the necessary easements, and/or potential schedule impacts associated with easement acquisition. A list of anticipated right-of-way permits for all conveyance lines is provided in **Table 2-1**. The permits applicable to each alternative is described further in the alternative descriptions in a following section.

Potential Easements, Right-of-Way Encroachments

A high score was given to alternatives requiring no easements, meaning all construction would be within City right-of-way (City of Agoura Hills, City of Westlake Village, or City of Thousand Oaks); a medium score was given if a routine Caltrans encroachment was required, such as for a highway underpass crossing, and for alternatives having an existing easement requiring modification; and a low score was given if a private easement is required, or a complex Caltrans encroachment permit is required, such as for installation involving modification of a Caltrans bridge structure.

Table 2-1: Anticipated Right-of-Way Permits

Agency	Type of Permit
Ventura County Public Works Agency	Flood Encroachment Permit
Caltrans	Encroachment Permit
City of Agoura Hills Department of Public Works/Engineering	Encroachment Permit
City of Thousand Oaks - Public Works Department	Encroachment Permit
City of Westlake Village Department of Engineering	Encroachment Permit
Los Angeles County Department of Public Works	Encroachment Permit
Los Angeles County Department of Parks and Recreation	Temporary Park Access Permit
Ventura County Parks Department	Temporary Park Access Permit
Ventura County Public Works Agency	Encroachment Permit
Mountains Recreation and Conservation Authority (MRCA)	Encroachment Permit

Note: Potential right-of-way permits shown for all alignments for reference. All permits do not apply to every conveyance line or alternative. See alternative descriptions for applicable permits.

2.2.2 Constructability

General constructability issues were evaluated for each alternative based on factors anticipated to affect difficulty of construction, including access, construction methods, and trenchless risks.

Access

A high score was given if an alternative had no significant construction access issues; a medium score was given if there are moderate construction access issues, such as requiring extended staging in high density areas or within a Caltrans easement; and a low score was given if there are significant construction access issues, such as extended access needed through a private property, or through difficult terrain.

Construction Method

A high score was given if only traditional open cut methods are anticipated to be used; a medium score was given if the alignment requires alternate construction methods such as trenchless construction for relatively short segments such as highway or storm channel crossings; and a low score was given if the alignment requires complex construction methods such as installation through a bridge structure, trenchless construction in difficult soil conditions, or open cut installation in hard rock.

2.2.3 Utilities

A preliminary evaluation of existing utilities along each alignment was conducted. Record drawings were requested by Jacobs from utility agencies identified in the Project area using a DigAlert online design lookup request. Information was received, plotted, and reviewed for conflicts from the utilities listed in **Table 2-2** to evaluate utility-related sub-criteria.

Table 2-2: Utility Agencies and Information Sources

Utility	Type	Mapping Request Status	Class Designation[1]
Amgen	Comm	Mapping Received	E
California American Water	Water	Mapping Received	E
California Water Service	Water	Mapping Received	E
Calleguas MWD	Water	Mapping Received	E
Caltrans	Structural	Mapping Received	D
Camrosa Water District	Water	Mapping Received	D
Charter	Telecom	Mapping Received	E
City of Agoura Hills	Storm/Sewer	Mapping Received	E
City of Thousand Oaks	Water/Storm/Sewer	Mapping Received	E
City of Westlake Village	Telecom	Mapping Received	E
Crimson Pipeline	Gas	Mapping Received	E
Crown Castle	Telecom	Mapping Received	E
Los Angeles County (Storm Drains)	Storm	Mapping Received	E
Los Angeles County (Sanitary Sewer)	Sewer	Mapping Received	E
LVMWD	Water/Sewer	Mapping Received	E
NPMS	Gas	Mapping Received	E
Southern California Edison (SCE)	Electric	Mapping Received	E
SoCal Gas	Gas	Mapping Received	E
Triunfo Water & Sanitation District	Sewer	Mapping Received	E
Ventura County Public Works Agency	N/A	No utilities in project area	N/A
Ventura County Storm Drain System	Storm	Mapping Received	E
Verizon	Telecom	Mapping Received	E

[1] Utility information class designations are based on ASCE 38-02 “Standard Guidelines for Collection and Depiction of Existing Subsurface Utility Data” modified based on the data available for this project.

Class A – Utility depiction is based on exposure of the utility and measurements through utility potholing.

Class B – Utility depiction is based on surveying, plotting and interpolating between two accessible facilities, such as gravity pipeline manholes or outlets.

Class C – Utility depiction is based on a combination of surveying and potholing at least one accessible feature and using information obtained from as-builts or record drawings to interpolate location and/or elevation.

Class D – Utility depiction is based on as-builts or record drawing information.

Class E – Utility depiction is based on incomplete as-built record drawings, GIS data, or atlas mapping only.

Congestion

A high score was given if there is relatively low utility congestion with multiple potential slots for a pipeline along the alignment compared to the other alternatives; a medium score was given if there is typical utility congestion along the alignment; and a low score is given if there is significant utility congestion along the alignment with limited space to locate an available alignment corridor.

Critical Utility Conflict Potential

A high score was given if there is a low potential for conflicts with critical utilities which would be difficult or infeasible to relocate such as large storm drains, sewers, or encasements; a medium score was given if there is moderate potential for conflicts with a critical utility; and a low score was given if there is a high potential for conflicts with critical utilities.

2.2.4 Public Impacts

Potential impacts to the public associated with each alternative were scored such that alternatives with fewer public impacts received a higher score. The scores were based on the anticipated pedestrian, bicyclist, and vehicular impacts during construction.

Pedestrian and Bicyclist Impacts

Impacts to bike lanes and walkable areas such as City Halls, downtown areas, and schools were considered. A high score was given if there is minimal to no impact to pedestrians and bicycle traffic; a medium score was given if there are moderate impacts to pedestrians and bicycle traffic, such as construction along roadways designated as a bike route or with a dedicated bike lane that could result in short interruptions to bike traffic; and a low score was given if there are significant impacts to pedestrians and bicycle traffic, such as construction in a city center with high volumes of pedestrian traffic, or with extended interruptions along a high traffic bicycle corridor.

Vehicular Impacts

A high score was given for alternatives with minimal traffic impacts such as construction outside of the roadway or on undeveloped land; a medium score was given for routes with moderate traffic impacts such as potential lane closures on residential or arterial streets; and a low score was given for significant traffic impacts such as construction through a city center, school area, or areas where special traffic control measures such as night work may be needed including critical intersections or narrow roadways with high traffic volumes. Low scores were also given for instances where extended traffic control within Caltrans right-of-way may be required.

2.2.5 Operation and Maintenance

Potential operational and maintenance challenges considered include safety and access, the relative number of appurtenances, and the length of pipe to be maintained.

Safety/Access

A high score was given if an alignment has good overall access for the owner to operate and maintain the pipeline and there are minimal safety concerns associated with accessing the proposed pipeline; a medium score was given if there are some challenges to safety/access, such as being located on a high traffic street, on private property, or in a bridge structure; and a low score was given if there are significant challenges to safety/access, such as being located off-road, in a steep sloped area, or limited vehicular access.

Number of Appurtenances

The amount of maintenance required for pipeline and appurtenances associated with each alignment based on alignment length was estimated. A high score was given for the alignment with the shortest length; a medium score was given if the alignment has a moderately higher relative length compared to the shortest alignment; and a low score was given if the alignment has a long relative length compared to the shortest alignment.

2.2.6 Permitting

The anticipated environmental and permitting requirements, other than encroachment, which is a separate criterion described above, were identified for each alignment. The alternatives were scored based on the likely issues and complexity of obtaining permits for the project.

DDW Separation

The State Water Resources Control Board, Division of Drinking Water (DDW) is the regulatory agency with jurisdiction over protecting potable water pipelines from potential contamination from other non-potable pipelines. Preliminary conversations were held with DDW to discuss the separation criteria for the PWP conveyance lines from potable pipelines. For the purposes of this evaluation, it was assumed that where the separation requirements cannot be met, special approval from DDW will be needed.

A high score was given if there are minimal to no separation issues based on anticipated separation requirements for the conveyance systems; a medium score was given if there are moderate separation issues, such as a congested corridor where short segments cannot meet separation requirements and special DDW approval may be needed; and a low score was given if there are significant separation issues which may not receive approval from DDW.

Environmental

The segments were evaluated based on the environmental impacts and constraints that may be encountered within the project area. Environmental considerations can increase project cost and/or risk and are subject to public review and approval by authorities having jurisdiction.

A high score was given if there are minimal to no anticipated environmental constraints, and all construction related impacts are within paved roadways; a medium score was given was for alignments with minor environmental impacts, including construction within unpaved roadways; and a low score was given for alignments that require construction within undeveloped land or a potential environmentally sensitive area.

2.2.7 Geotechnical Considerations

A desktop geotechnical study was performed using readily available information to prepare a feasibility-level evaluation summarizing the generalized subsurface conditions of the conveyance alignment alternatives. The study also generated a geotechnical exploration plan for the future design phase of the project. The results of this study, provided in **Appendix A**, were used to score the alignment alternatives on their potential subsurface conditions.

A high score was given if the anticipated soil conditions are not likely to affect pipeline construction; a medium score was given if there are anticipated moderate challenging soil conditions such as oversized materials or slight to moderate potential for hard rock; and a low score was given if there are significant challenging soil conditions anticipated, such as oversized materials, high potential for hard rock, or shallow bedrock.

2.2.8 Pumping Requirements/Hydraulic Considerations

Hydraulic considerations for the alternatives were scored such that alternatives with lower pumping requirements received a higher score. The scores were based on the pumping head required and other hydraulic considerations.

Pumping Head

A high score was given for the alternative with the lowest required pumping head; a medium score was given if low to moderate relative additional pumping head is required compared to the lowest head alternative, or if the pumping requirements amongst the alternatives are not a significant differentiator; and a low score was given if high relative pumping head is required compared to the lowest head alternative.

Hydraulic Considerations

For the source water alternatives, this criterion evaluated the impacts of each alternative's hydraulic impacts on the LVMWD recycled water system. Impacts were estimated based on modeling each of the alternatives using LVMWD's Infowater recycled water system model. The 2014 LVMWD model was converted from WaterGems to the Infowater software platform. A high score was given if there are no anticipated hydraulic impacts to the recycled water system; a medium score was given if minimal impacts to the recycled water system are anticipated, such as lowered service pressure to customers but which still meet LVMWD minimum standards; and a low score was given if significant impacts to the recycled water system are anticipated, such as customer service pressures below LVMWD minimum standards, or if potential improvements to the recycled water system backbone is required.

For the concentrate and purified water lines, hydraulic considerations are not considered to be a significant differentiator amongst the alternatives; therefore, this sub-criterion was removed from scoring for their evaluations.

The evaluation criteria are summarized in **Table 2-3**.

Table 2-3: Alternatives Scoring Basis

	100		100	**Score Descriptions:** Highest score = Highest-Ranking alternative. Criteria are scored from 0 - 5 based on the following criterion		
Criteria	**Max Score**	**Sub-Criteria**	**Subscore**	**High: 5 points**	**Medium: 3 to 4 points**	**Low: 0 to 2 points**
1. Easements and Encroachments						
Based on potential easement requirements	**10.0**	**1.1 Potential Easements, Right-of-Way Encroachments**	**10.00**	Public right-of-way	Short distance easement; Routine encroachment in public agency R/W (e.g. Caltrans underpass)	Private property easement; Complex Caltrans encroachment (bridge installation); Long distance
2. Constructability						
Engineering judgement based on type of construction methods, risk of construction method required	**15.0**	**2.1 Access**	**7.50**	No significant construction access issues	Minor construction access issues (e.g. staging in high traffic/density areas)	Significant construction access isssues (e.g. difficult terrain; extended access within private property)
		2.2 Construction Method	**7.50**	Traditional open-cut methods	Requires alternate construction such as trenchless in public streets, low risk soil conditions or bridge crossing in open cell	High complexity construction (hard rock, bridge structure); through concrete paving. Long trenchless distance required, high risk soil conditions
3. Utilities						
Engineering judgement based on utility congestion along corridor.	**10.0**	**3.1 Congestion**	**5.00**	Relatively less utility congestion along alignment	Typical utility congestion along alignment	High utility congestion along alignment
		3.2 Critical Utility Conflict Potential	**5.00**	Low potential for conflict with critical utility	Moderate potential for conflict with critical utility	High potential for conflict with critical utilities
4. Public Impacts						
Based on anticipated impacts to the public during construction.	**10.0**	**4.1 Pedestrian and Bicyclist Impacts**	**5.00**	Minimal to no impact to pedestrians and bicycle traffic	Moderate impact to pedestrian and bicycle traffic (along designated bike route)	Significant impact to pedestrian and bicycle traffic (extended impact to bike corridor; in downtown city center)
		4.2 Vehiclular Impacts	**5.00**	Minimal traffic impacts; Construction outside of roadway or on undeveloped land	Traffic control measures (lane closures) on arterial streets.	Traffic impacts to critical areas (school area, through city center, critical intersections); Extended traffic control within Caltrans R/W
5. Operation and Maintenance						
Engineering judgement based on accessibility for maintenance, amount of facilities to maintain	**20.0**	**5.1 Safety/Access**	**15.00**	Good access and minimal safety concerns	Some challenges to safety/access (located on high traffic street, on private property, in bridge structure)	Significant challenges to safety/access (located off road, steep slope area, limited vehicle access)
		5.2 Number of Appurtenances	**5.00**	Relative shorter length (Least amount of pipeline/appurtenances to maintain)	Moderate relative length	Long relative length (Most amount of pipeline/appurtenances to maintain)
6. Permitting						
Other than encroachment permits. Based on difficulty of permitting, agency coordination.	**10.0**	**6.1 DDW Separation**	**5.00**	No significant separation issues	Moderate separation issues likely requiring DDW approval	Significant separation issues, may not meet DDW approval
		6.2 Environmental	**5.00**	No anticipated environmental constraints; temporary construction-related impacts such as noise; construction within paved roadways	Minor environmental impacts; construction within unpaved roadways	Construction within undeveloped land; environmentally sensitive area
7. Geotechnical Considerations						
Engineering judgement based on results of geotechnical desktop study	**10.0**	**7.1 Geotechnical Considerations**	**10.0**	No soil conditions affecting trenching anticipated	Moderate challenging soil conditions anticipated (oversized materials, slight-moderate potential for hard rock)	Significant challenging soil conditions anticipated (oversized mateirals, moderate-high potential for hard rock, shallow bedrock)
8. Pumping Requirements/Hydraulic Considerations						
Based on the amount of pumping required and hydraulic impacts to the existing system	**15.0**	**8.1 Pumping Head***	**7.50**	Lowest pumping head required	Moderate additional pumping required vs lowest head alternative	High additional pumping required vs lowest head alternative
		8.2 Hydraulic Considerations*	**7.50**	Minimal to no hydraulic impact to existing systems (e.g. no pressure impact to RW customers)	Minimal hydraulic impact to existing system (e.g. customer pressure impacted but above minimum service pressure)	Significant hydraulic impact to existing system (e.g. customer pressures below minimum service pressure)

*For purified water and concentrate line scoring Hydraulic Considerations subcriteria not a differentiator so the subcriteria was removed from scoring. For scoring of purified and concentrate alternatives, Pumping Head received a subscore of 15.

2.3 Cost Estimates

Planning level construction cost estimates were developed to assess the relative cost of each alternative. Cost estimates at this stage are Class 5 estimates in accordance with the Association for the Advancement of Cost Engineering (AACE) International Publication 56R-08 Cost Estimate Classification System for a concept level project with early definition with an expected accuracy range of -30% to +50%. A 25% contingency has been applied at this level to account for unknown conditions. For detailed cost estimate assumptions see **Appendix B**.

Costs are reported in July 2022 dollars. The corresponding cost index benchmark is the Engineering News Record Construction Cost Index for the Los Angeles Area (ENR LA CCI) for July 2022, which is 13575.17.

3. Source Water Pipeline

The source water pipeline will connect to LVMWD's existing recycled water distribution system and convey the disinfected tertiary Title 22 recycled water to the AWPF as supply. This section describes the alignment development and evaluation for the source water pipeline.

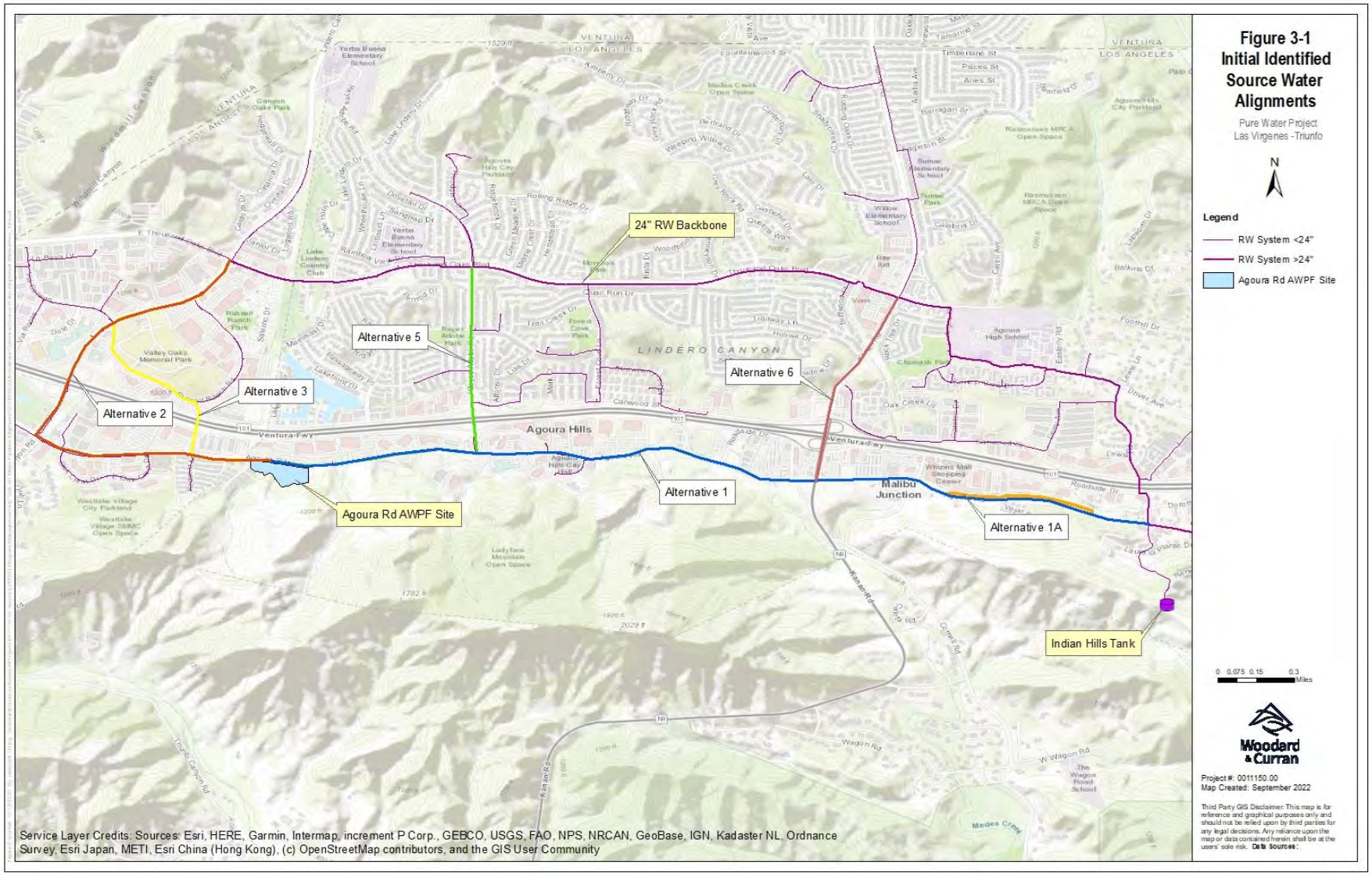
3.1 Preliminary Alternative Development and Screening

The first step in the evaluation of source water pipeline alternatives was to identify the breadth of potential alignments and connection points to the recycled water system. **Figure 3-1** provides an overview of the seven alignments identified during this initial step as well as the existing system backbone. A preliminary screening was performed to narrow the range of identified alternatives down to a set of the most viable alternatives to advance to the detailed evaluation. The preliminary screening was performed with input from LVMWD and readily available information which was used to remove alternatives from consideration that contained significant flaws affecting their viability.

The recycled water system has an existing 6-inch line in Agoura Rd which serves customers adjacent to the proposed AWPF site, however this line does not have adequate capacity to supply the AWPF. Potential connection points to the larger diameter system backbone identified for further evaluation during the initial screening phase include: 1) Agoura Rd and Lewis Rd, 2) Lindero Canyon Rd and Thousand Oaks Blvd, 3) Lindero Canyon Rd and Agoura Rd.

The alternatives advanced for further evaluation are described in the next section.

Figure 3-1: Initial Identified Source Water Alternative Alignments



3.2 Alternative Descriptions

Alternative 1 connects to the existing 24-inch recycled water system at the intersection of Agoura Rd and Lewis Rd. The alignment extends west along Agoura Rd to the Agoura Rd AWPF site.

Alternative 1A connects to the existing 24-inch recycled water system at the intersection of Agoura Rd and Lewis Rd. The alignment extends west along Agoura Rd approximately 1,000 LF before diverting towards the parallel Los Angeles County Flood Control District (LACFCD) owned access roadway along the stormwater channel. At the entrance to the Whizins Mall Shopping Center, the alignment returns to Agoura Rd and extends to the Agoura Rd AWPF site.

Alternative 2 connects to the existing 24-inch recycled water system at Lindero Canyon Rd and Thousand Oaks Blvd and extends south along Lindero Canyon Rd, crossing over Highway 101 in a utility opening through the bridge overpass. The alignment then turns east on Agoura Rd and continues to the Agoura Rd AWPF site.

Alternative 3 connects to the existing 24-inch recycled water system at Lindero Canyon Rd and Thousand Oaks Blvd and extends south along Thousand Oaks Rd then turns onto Russell Ranch Rd. The alignment then turns into a private commercial property off Russell Ranch Rd, continuing through and turning onto the electrical transmission line easement on the east edge of the property. The crossing of Highway 101 would be via trenchless installation below the highway to a private parcel on the south side of the highway. The alignment continues through the private parcel, turning on Agoura Rd before extending east to the Agoura Rd AWPF site.

Alternative 4 connects to the existing recycled water system at Lindero Canyon Rd and Agoura Rd. This alternative connects to the smaller diameter existing 20-inch recycled water main which crosses Highway 101, compared with a connection to the 24-inch recycled water system backbone as in the other alternatives. The alignment extends east along Agoura Rd to the Agoura Rd AWPF site.

An overview map of the various alignments is shown in **Figure 3-2**, and a summary of each alternative is provided in **Table 3-1**.

Figure 3-2: Source Water Alignment Overview

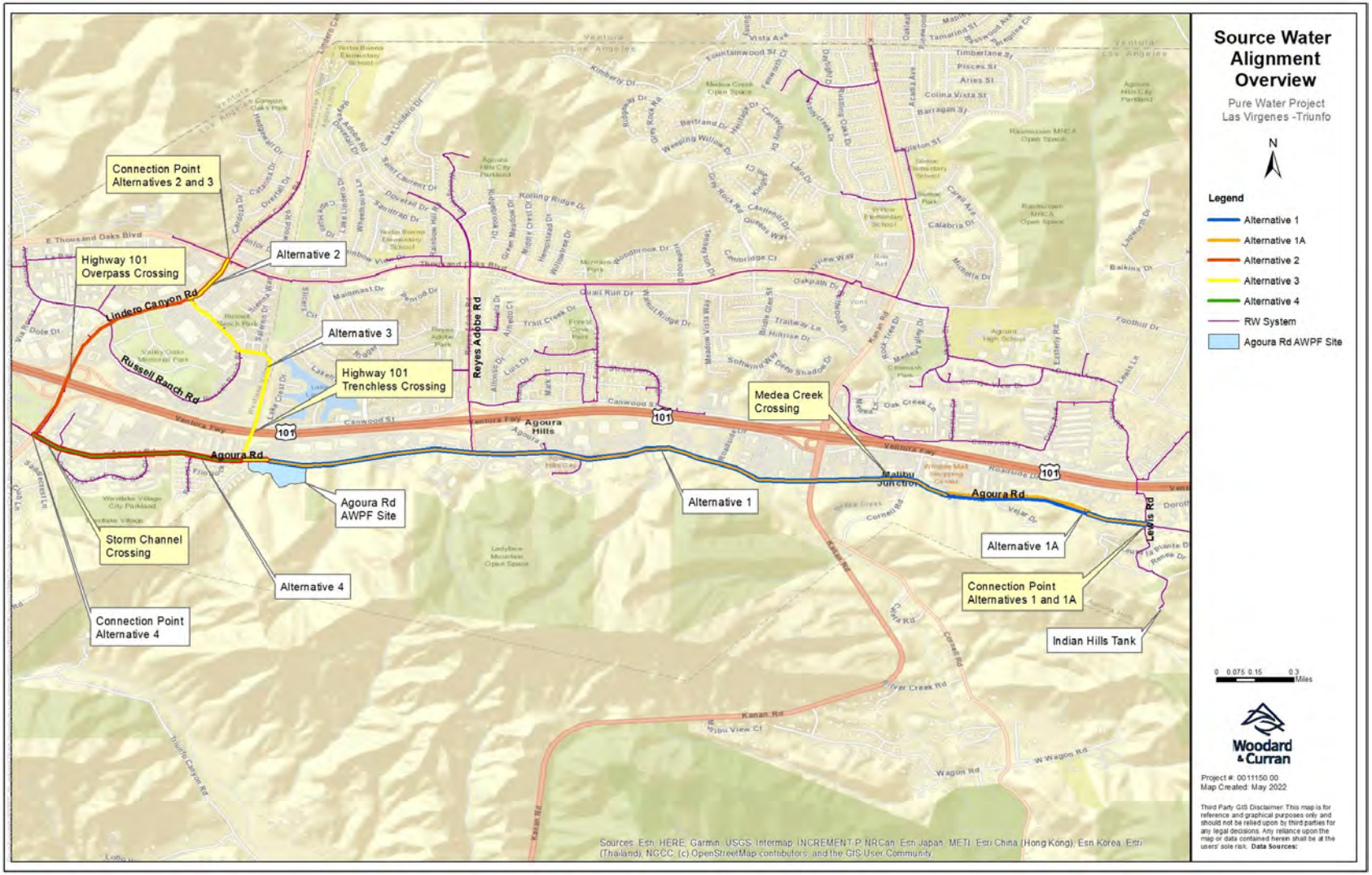


Table 3-1: Source Water Alignment Alternatives Summary

No.	Recycled Water System Connection Location	Alignment Streets	Length	Alternate Construction Methods
1	Agoura Rd at Lewis Rd	Agoura Rd	15,210 ft	• Medea creek crossing o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) o Span pipe across creek adjacent to existing bridge
1A	Agoura Rd at Lewis Rd	Agoura Rd, LACFCD Access Rd	15,360 ft	• Medea creek crossing o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) o Span pipe across creek adjacent to existing bridge
2	Lindero Canyon Rd at Thousand Oaks Blvd	Lindero Canyon Rd, Agoura Rd	9,590 ft	• Highway 101 overpass crossing - construct in utility opening within bridge • LACFCD channel bridge crossing at Agoura Rd (Trenchless installation under channel, attached to bridge, or spanning headwall)
3	Lindero Canyon Rd at Thousand Oaks Blvd	Russell Ranch Rd, 2 Private Parcels, 101 Freeway Trenchless Crossing, Agoura Rd	6,070 ft	• Highway 101 trenchless crossing (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore)
4	Lindero Canyon Rd at Agoura Rd	Agoura Rd	4,400 ft	• LACFCD channel bridge crossing at Agoura Rd (Trenchless installation under channel, attached to bridge, or spanning headwall)

3.3 Hydraulic Analysis

A hydraulic analysis was performed to assist in the determination of the most viable alternative alignment option considering service pressures, pipeline velocities, and head loss. For this analysis, LVMWD's Infowater hydraulic model was used. As shown in **Figure 3-2**, the alternatives created were based on routes to the Agoura Road AWPF site. The evaluation used a baseline, west side maximum day demand (MDD) condition of 10 million gallons per day (mgd) that consisted of 7.5 mgd to the AWPF and 2.5 mgd to serve limited irrigation demands.

Some changes were made to the existing model in order to evaluate the scenarios that were created for these alternatives. These changes include the following:

- The existing LVMWD recycled water distribution system consists of two independent pipe networks served from two discreet recycled water pump stations (RWPS East and RWPS West), located adjacent to Reservoir 2. Therefore, only the western half (west side) of the distribution system was evaluated in this analysis.

- All of the irrigation demands were multiplied by a scaling factor to get to a total irrigation demand of 2.5 mgd.
- A control was added to the Oak Park pump station. This control allowed the pumps to turn on when the Oak Park tank level reached 10 ft and turn off when it reached 20 ft. In the original model, the pumps had no controls to turn the pump station off, so this control allows the tank to cycle.
- A fixed head reservoir was added to the RWPS West to simulate a constant flow and to eliminate pump station capacity as a restraint. A pump with a variable frequency drive (VFD) was added between the reservoir and the pipeline. The VFD was configured to pump a continuous flow of 10 mgd into the system.
- The initial level (21.34 ft) for the Indian Hills Tank was lowered (to 15 ft) to allow for full cycling over a relatively consistent range. The model would fail if the tank either emptied out or overfilled

3.3.1 Hydraulic Criteria and Scenarios

Table 3-2 summarizes the hydraulic modeling criteria applied for this evaluation. Maximum velocity and head loss are target values that are generally adequate for evaluating pumped distribution systems.

Table 3-2: Hydraulic Modeling Criteria

Category, Item	Value
Pipeline Velocity, Maximum	5 fps
Head loss, Maximum	5 ft/1,000 ft
C Value	130
Service Pressure, Typical Min.	40 psi

Four hydraulic modeling scenarios were used in this analysis. The first “baseline” scenario utilized the existing run in the model and was used for comparison purposes. Three new scenarios were analyzed based on the alternative alignments for the source water conveyance line to the AWPF. Each of these scenarios had a system demand of 10 mgd (7.5 mgd as influent demand to the AWPF and 2.5 mgd as irrigation demand). As discussed previously, changes to the existing model were made within these scenarios to ensure a smooth simulation including a control to the Oak Park pump station, a fixed head reservoir and a VFD pump at the RWPS West, and an adjustment to the initial level of the Indian Hills Tank. The four modeling scenarios are as follows:

- MDD Baseline – This baseline scenario uses the “Existing” scenario within the model. Everything within this scenario was kept the same, including the irrigation demands, pumps and tanks. All alternative scenarios were based on this scenario.

- Alternative 1 – Alternatives 1 and 1A adds a 20-inch pipeline between the existing 24-inch backbone along Agoura Road at Lewis Road and the AWPF.

- Alternatives 2 and 3 – Alternative 2 adds a 20-inch pipeline between the existing 24-inch pipeline at the Thousand Oaks Blvd and Lindero Canyon Road intersection and the AWPF. Alternative 3 shares the same connection point as Alternative 2, therefore it was assumed the results of Alternative 2 would also apply to Alternative 3.

- Alternative 4 – Alternative 4 adds a 20-inch pipeline between the existing 24-inch pipeline at the Lindero Canyon Road and Agoura Road to the AWPF.

3.3.2 Hydraulic Analysis Results and Recommendations

The MDD Baseline scenario includes demands of approximately 7.1 mgd to the west side of the system during MDD periods. The 7.1 mgd is the maximum day irrigation demand existing in the current model. This seems to result in adequate distribution system performance, but it is causing high velocities in the 16-inch suction pipe, low suction head at the RWPS West, and potential submergence issues. A detailed hydraulic analysis of the RWPS West would be required to gain a full understanding of these identified issues.

The existing distribution system appears to be capable of moving 10 mgd from the RWPS West to the AWPF for all source water conveyance alignments (Scenarios B, C, D). As discussed above, the RWPS West and suction supply lines will need to be upgraded under all alternatives. Figures 3-3 through 3-5 show the resulting flow and minimum pressure nodes for each alternative alignment. Alternative 1 is the only alternative where all the customers would receive the minimum level of service of 40 psi. The minimum level of service of 40 psi is a general requirement used in recycled water system assessments.

Table 3-3 summarizes the demand nodes and associated minimum pressures for Alternatives 2 and 3 and Alternative 4. **Table 3-4** summarizes the results of each scenario analyzed.

It is recommended that the existing model be updated to further optimize its use in this analysis. As mentioned above, different elements had to be modified. For example, the pump controls are not currently set up to make an extended period simulation (EPS) scenario run properly. Therefore, steady state scenarios were used. An update of the model will help to adjust the pump controls and optimize the results.

Table 3-3: Minimum Customer Pressures (< 40 psi)

Meter No.	Demand (gpm)	Minimum Pressure (psi)	
		Alternatives 2 and 3	Alternative 4
M_274 (Mtr)	2.91	28.81	18.50
M_273 (Mtr)	6.42	31.16	20.85
M_410 (Mtr)	4.39	34.03	28.62
M_411 (Mtr)	3.01	37.42	32.01
M_716 (Mtr)	44.55	38.00	38.21
M_406 (Mtr)	0.11	39.11	33.70
M_405 (Mtr)	0.55	39.11	33.70

Table 3-4: Hydraulic Analysis Summary of Results

Performance Data	Scenarios			
	MDD Baseline	Alternative 1	Alternatives 2 and 3	Alternative 4
RWPS Flows				
RWPS West Flow (gpm [mgd])	4,948 [7.1]	6,944 [10.0]	6,944 [10.0]	6,944 [10.0]
RWPS East Flow (gpm [mgd])	3,125 [4.5]	3,125 [4.5]	3,125 [4.5]	3,125 [4.5]
Suction from Res 2 Intake to RWPS West Pump Barrels				
Suction HGL at RWPS (ft)	756.2	750.6	750.6	750.6
Suction pipe 16", velocity (fps)	12.7	15.3	15.3	15.3
RWPS West Discharge				
RWPS West Discharge Head (ft)	1,315	1,270	1,270	1,270
Indian Hills Tank				
Head (ft)	1,292[2]	1,203-1,217	1,203-1,217	1,203-1,217
24" Backbone Feeding to Indian Hills, Peak Velocity (fps)	3.04	4.9	4.9	4.9
24" Backbone Feeding to Indian Hills, Flow (gpm [mgd])	4,288 [6.2]	6,914 [9.9]	6,914 [9.9]	6,914 [9.9]
Distribution System at Lindero and Thousand Oaks				
Minimum Pressure (psi)	112	76	56	55
Velocity (fps)	1.34	0.7	4.3	4.2
Flow (gpm [mgd])	1,893 [2.7]	975 [1.4]	6,050 [8.9]	5,915 [8.5]
Distribution System at AWPF				
Minimum Pressure (psi)	N/A	73	62	59
20" Backbone Feeding AWPF, Velocity (fps)	N/A	5.3	5.3	5.3
20" Backbone Feeding AWPF, Flow (gpm [mgd])	N/A	5,208 [7.5]	5,208 [7.5]	5,208 [7.5]
Irrigation Customers				
Minimum Service Pressures (psi)	48	49	28	18

Notes:

1. Alternative 3 shares the same connection point as Alternative 2, therefore it was assumed the results of Alternative 2 would also apply to Alternative 3.
2. The Indian Hills Tank was modeled as a non-demand node using steady state conditions for representing existing conditions to make the model run properly. Future system runs with the AWPF were run as an EPS to allow the tank volume to cycle through.

Figure 3-3: Alternative 1 Hydraulic Analysis Results

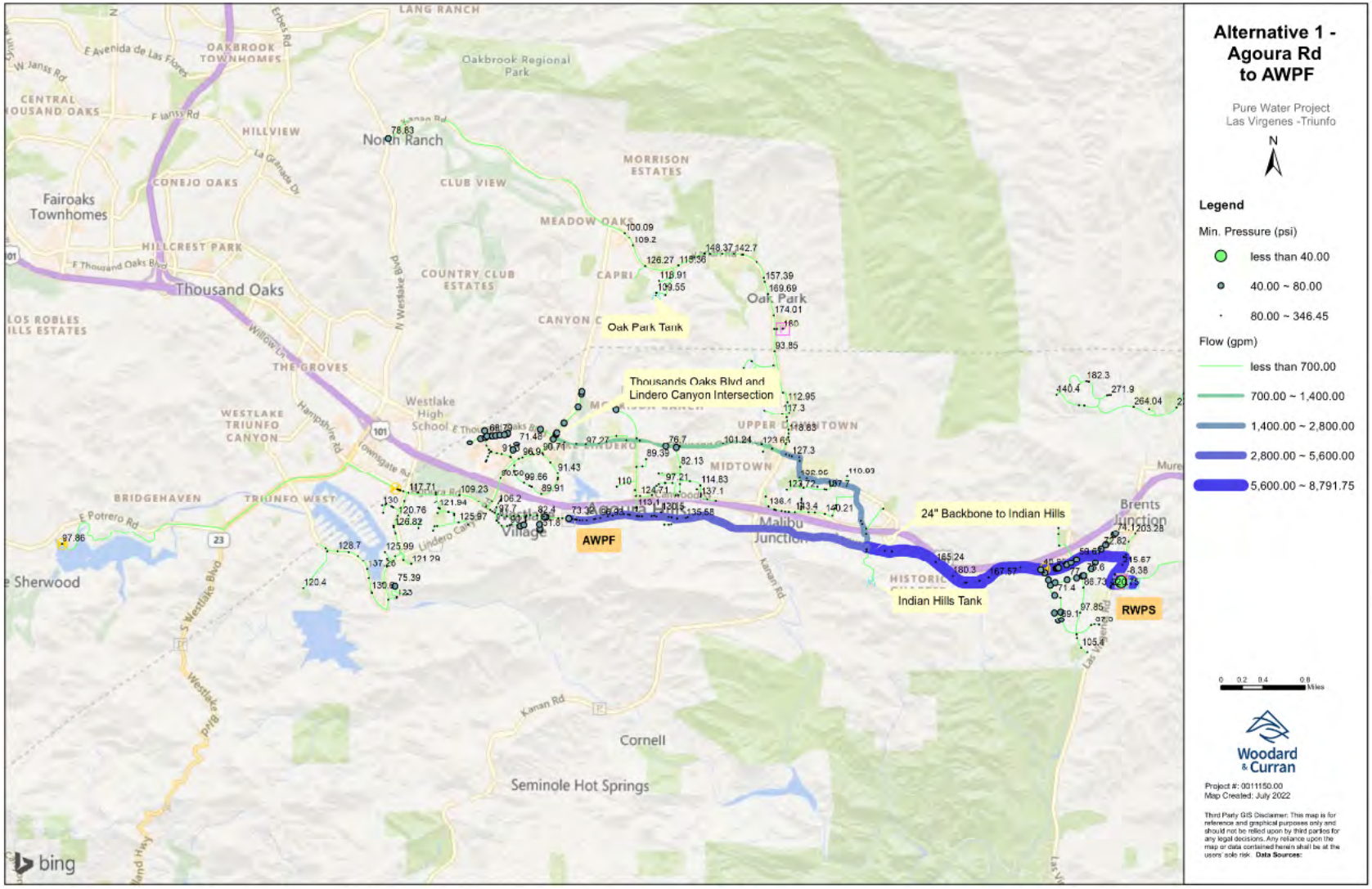


Figure 3-4: Alternatives 2 and 3 Hydraulic Analysis Results

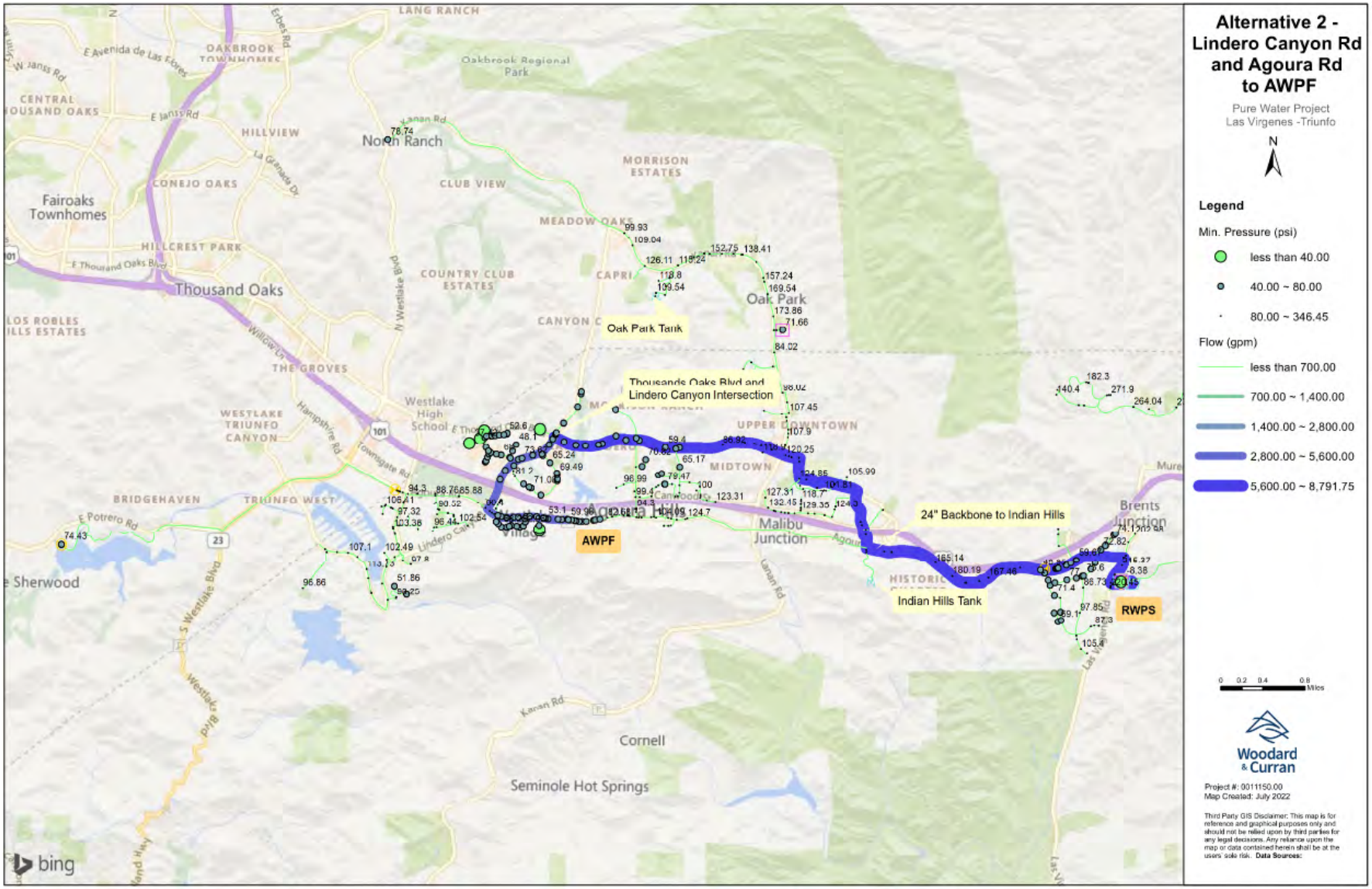
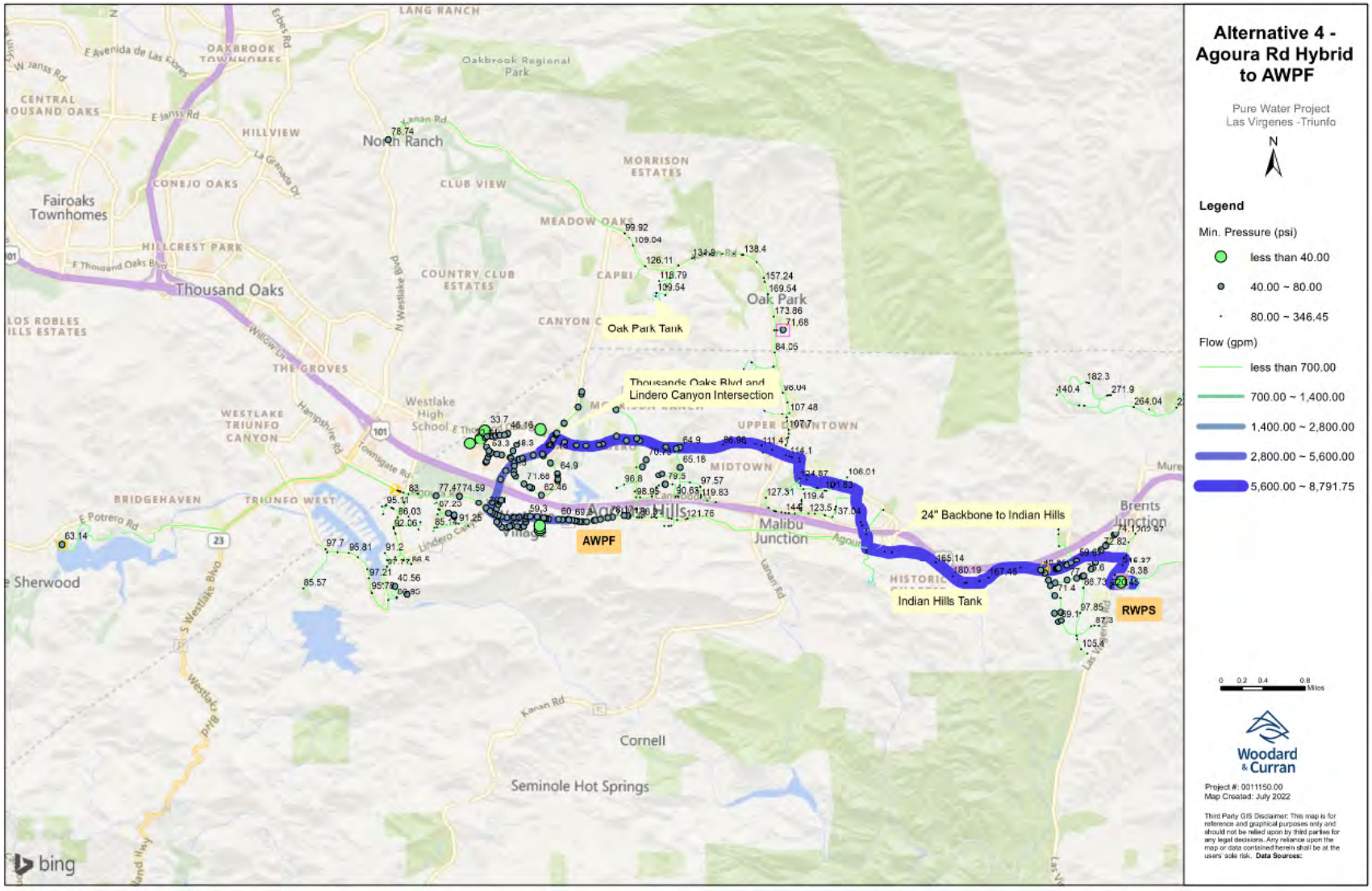


Figure 3-5: Alternative 4 Hydraulic Analysis Results



3.4 Alternatives Evaluation

This section describes the evaluation of each of the source water alternatives for each evaluation criterion. Scores are provided as a summary table at the end of this section.

3.4.1 Alternative 1

- **Easements and Encroachments** – The entire alternative is within the public right-of-way in the City of Agoura Hills.
- **Constructability** – Agoura Rd is underlain by the 20-foot wide Old Agoura Rd which consists of 8-inch to 12-inch thick concrete beneath the current asphalt paving. In the widened section of Agoura Rd west of Cornell Rd there are segments where there are available slots where the source water line could be constructed to avoid impacting the Old Agoura Rd concrete slab. Where construction through the Old Agoura Rd concrete is required, additional level of effort is needed for sawcutting through the concrete slab and replacement per City of Agoura Hills requirements. The length of alignment where construction through the concrete slab is required would depend on the final corridor selected within the street. The alignment also crosses the concrete lined Madea Creek between Kanan Rd and Cornell Rd. The source water line could be installed via trenchless construction methods below the creek. Alternatively, the pipe could be constructed to span across the walls of the channel adjacent to the bridge structure. Typical open cut construction anticipated for the remaining alternative length.
- **Utilities** – Some segments along Agoura Rd have other buried utilities present which leave a narrow corridor for the source water line. It is anticipated that there is, however, an available corridor to slot the source water line. Along Agoura Rd the alignment also crosses a shallow large diameter storm drain which may also require alternative construction methods if in conflict. The box culvert through which Lindero Canyon Creek crosses Agoura Road may be too shallow to install the source water pipeline via open cut construction above it, in which case trenchless construction under the box culvert would be required.
- **Public Impacts** – Agoura Rd contains a relatively high amount of traffic and has a dedicated bike lane that is heavily travelled. Bicycle traffic may be impacted during construction. Between Lewis Rd and Kanan Rd, Agoura Rd has a single lane of traffic in each direction with a dedicated bike lane, therefore traffic control could be more difficult in this area. Night work may be required by the City of Agoura Hills for some segments to minimize daytime traffic delays.
- **Operations and Maintenance** – There may be access requirements for maintenance on arterial streets but overall, there are no anticipated major maintenance access concerns.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate to high potential to encounter hard rock.
- **Pumping Requirements/Hydraulic Considerations** – This alignment has a connection point to the recycled water system on Agoura Rd near the Indian Hills Tank and therefore results in the best hydraulic performance of the system based on modeling results summarized above. When modeled, this alternative was able to maintain deliveries to customers while maintaining minimum service pressures (>40 pounds per square inch [psi]), and with higher delivery pressure to the AWPF relative to a connection at the end of the recycled water system backbone. This alternative connects to the recycled water system near Indian Hills Tank which feeds the western recycled water system, which offers better flow control to the AWPF compared to the other considered connection points where the AWPF

source connection is downstream of a number of customers. All source water alternatives would require a similar amount of pumping head and capacity from the RWPS West.

3.4.2 Alternative 1A

- **Easements and Encroachments** – An easement from LACFCD would be required for construction and maintenance of the pipeline along the storm channel access road, for a total length of approximately 2,600 feet. There is a risk of LACFCD rejecting the easement request, which is a factor reflected in the scoring for this alternative. The remainder of the alignment is within public right-of-way in the City of Agoura Hills.
- **Constructability** – Agoura Rd is underlain by the 20-foot wide Old Agoura Rd which consists of 8-inch to 12-inch thick concrete beneath the current asphalt paving. The extents of the concrete paving will need to be field verified; however, based on available information, the portion of this alignment in the LACFCD access road does not include any concrete paving. Construction along sections with concrete paving would require additional level of effort for sawcutting through the concrete paving and replacement per City of Agoura Hills requirements. The alignment also crosses the concrete lined Madea Creek between Kanan Rd and Cornell Rd. The source water line could be installed via trenchless construction methods below the creek. Alternatively, the pipe could be constructed to span across the walls of the channel adjacent to the bridge structure. Typical open cut construction anticipated for the remaining segment length.
- **Utilities** – Alternative 1A avoids a segment of the narrow Agoura Rd corridor, instead following the access road where there is not anticipated to be a concern with utility conflicts. Some segments along Agoura Rd have other buried utilities present which leave a narrow corridor for the source water line. It is anticipated that there is, however, an available corridor to slot the source water line. The Lindero Canyon Creek may be located too shallow to install the source water pipeline via open cut construction above it, in which case trenchless construction under the box culvert would be required.
- **Public Impacts** – Agoura Rd is a relatively high trafficked street and has a dedicated bike lane that is well used. Bicycle traffic may be impacted during construction. Night work may be required by the City of Agoura Hills for some segments to minimize daytime traffic delays. Public impacts for this alignment would be reduced due to a portion of the alignment being out of public right-of-way.
- **Operations and Maintenance** – Access for maintenance of the pipeline would be on arterial streets and in LACFCD right-of-way. Maintenance access along the access road, however, is safer as it is not in a traffic lane.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated. Construction along the access road is in an unpaved roadway.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate to high potential to encounter hard rock.
- **Pumping Requirements/Hydraulic Considerations** – This alignment has a connection point to the recycled water system on Agoura Rd near the Indian Hills Tank and therefore results in the best hydraulic performance of the system based on modeling results using LVMWD's recycled water system model. When modeled, this alternative was able to maintain deliveries to customers while maintaining minimum service pressures (>40 psi), and with higher delivery pressure to the AWPF relative to a connection at the end of the recycled water system backbone. This alternative connects to the recycled water system near Indian Hills Tank which feeds the western recycled water system, which offers better flow control to the AWPF compared to the other considered connection points where the AWPF source connection is downstream of a number of customers. All source water alternatives would require a similar amount of pumping head and capacity from the RWPS West.

3.4.3 Alternative 2

- **Easements and Encroachments** – This alternative requires an encroachment permit from Caltrans for a crossing of Highway 101 within the Lindero Canyon Rd bridge overpass structure. A review of the bridge record drawings provided by Caltrans indicate the bridge has an available utility opening. The process of obtaining an easement from Caltrans for construction and maintenance of the pipeline within the bridge structure could cause delays in the project schedule. In addition, there is a risk of Caltrans rejecting the easement request. These factors are reflected in the scoring for this alternative.
- **Constructability** – Bridge as-builts provided by Caltrans indicate there are two open 2-foot-2-inch by 3-foot-6-inch wide utility cells in the bridge (the third occupied by LVMWD's 20-inch recycled pipeline). An inspection would be necessary to confirm the availability of these utility cells. Since this work will be done in Caltrans right-of-way, it may be difficult to locate a staging area around Highway 101 and the high traffic area on Lindero Canyon Rd. Construction of this crossing is technically challenging due to traffic control requirements during construction, construction of piping within a confined space, and various other Caltrans requirements for work within their right-of-way.

  The Los Angeles County flood control channel crossing could be constructed by attaching the pipe to the existing bridge. Several of the PWP conveyance lines will require crossing of the flood control channel, of which the bridge will likely not be able to accommodate all. Alternate construction methods include constructing the pipe via trenchless installation under the channel, or to span the walls of the channel on the downstream side of the bridge. Typical open cut construction is anticipated for the remainder of the segment length.
- **Utilities** – Based on provided utility mapping, Lindero Canyon Rd appears to have several large existing utilities, which could make utility congestion a concern in this area. Along Agoura Rd, the purified water and concentrate lines will also be constructed adding to the difficulty of finding an open slot for the source water line.
- **Public Impacts** – Lindero Canyon Rd is a high traffic road with on and offramps to Highway 101 which will require special traffic control measures dictated by Caltrans. Agoura Rd is a relatively high trafficked street and has a dedicated bike lane that is well used. Bicycle traffic may be impacted during construction.
- **Operations and Maintenance** – Access for maintenance of the pipeline would be mostly on arterial streets. In addition, the segment located in the Caltrans bridge structure and storm channel crossing would have limited ability to access for maintenance.
- **Permitting** – The alignment shares the same corridor along Agoura Rd as the concentrate and purified water lines which increases the complexity of meeting DDW separation criteria. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate potential to encounter hard rock.
- **Pumping Requirements/Hydraulic Considerations** – This alignment has a connection point to the recycled water system at the end of the 24-inch recycled water system backbone at Lindero Canyon Rd and Thousand Blvd, which results in some hydraulic issues for the recycled water system based on modeling results summarized in Section 3.3. Under the maximum demand scenario evaluated, minimum service pressures (> 40 psi) are not able to be maintained for all recycled water customers, as detailed in Section 3.3. Delivery pressure to the AWPF is lower than those seen for a connection near the Indian Hills tank; however, the delivery pressure is anticipated to be adequate for the function of the AWPF. All source water alternatives would require a similar amount of pumping head and capacity from the RWPS West.

3.4.4 Alternative 3

- **Easements and Encroachments** – This alternative has segments located within private property and would require easements for construction and maintenance of the pipeline on the north side of Highway 101 (Parcel Nos. 2054-030-084, 2054-030-114, 2054-030-112) and on the south side of Highway 101 (Parcel No. 2057-001-014 or 2061-001-016) depending on the selected alignment). The risk of negotiations failing, and the unknown costs of easement acquisition are reflected in the score for this criterion. An encroachment permit from Caltrans would also be required for the trenchless crossing under Highway 101.
- **Constructability** – Construction in the private properties will require access and staging on those properties, including for the trenchless crossing. The depth of the trenchless installation will need to comply with Caltrans requirements, and a geotechnical evaluation will be needed to evaluate the feasibility of trenchless construction in this area.
- **Utilities** – A large portion of this alternative includes segments out of public right-of-way which have little utility congestion. The purified water and concentrate lines will also be constructed along Agoura Rd adding to the difficulty of finding an open slot for the source water line, however this is a limited portion of this alternative.
- **Public Impacts** – Much of the alignment is out of public right-of-way resulting in reduced impacts to vehicular, pedestrian, and cyclist traffic. Lindero Canyon Rd and Agoura Rd are high traffic roads, but the length of the segments on these roads is relatively short.
- **Operations and Maintenance** – Maintenance access may be more limited for portions of alignment on private property. In addition, the segment located under Highway 101 would be difficult to access for future maintenance.
- **Permitting** – A short segment of the alignment shares the same corridor along Agoura Rd as the concentrate and purified water lines which increases the complexity of meeting DDW separation criteria. Some construction on the private property is on unpaved land.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate potential to encounter hard rock. The risk is elevated on this alignment due to the deeper depths needed for the trenchless crossing of Highway 101.
- **Pumping Requirements/Hydraulic Considerations** – This alignment has a connection point to the recycled water system at the end of the recycled water system backbone at Lindero Canyon Rd and Thousand Blvd, resulting in some hydraulic issues for the recycled water system based on modeling results using LVMWD's recycled water system model. Under the max demand scenarios evaluated, minimum service pressures (> 40 psi) are not able to be maintained for all recycled water customers, as detailed in Section 3.3. Delivery pressure to the AWPF is lower than those seen for a connection near the Indian Hills tank, however the delivery pressure is anticipated to be adequate for the function of the AWPF. All source water alternatives would require a similar amount of pumping head from the RWPS West.

3.4.5 Alternative 4

- **Easements and Encroachments** – The alternative is within public right-of-way in the cities of Westlake Village and Agoura Hills.
- **Constructability** - The Los Angeles County flood control channel crossing can be constructed by attaching the pipe to the existing bridge. Multiple of the PWP conveyance lines will require crossing of the flood control channel, of which the bridge will likely not be able to accommodate all. Alternate construction methods include constructing the pipe via trenchless installation under the channel, or to span the walls of the channel on the downstream side of the bridge. For the remainder of the segment length typical open cut construction is anticipated.

- **Utilities** – Along Agoura Rd, the purified water and concentrate lines will also be constructed which could increase the difficulty of finding an open slot for the source water line.
- **Operations and Maintenance** – There may be access requirements for maintenance on arterial streets. The segment located at the storm channel crossing would have more limited ability to access for maintenance, however overall there are no anticipated major maintenance access concerns.
- **Permitting** – A short segment of the alignment shares the same corridor along Agoura Rd as the concentrate and purified water lines which increases the complexity of meeting DDW separation criteria. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate to high potential to encounter hard rock.
- **Pumping Requirements/Hydraulic Considerations** – A connection point to the recycled water system at the 20-inch line at Agoura Rd and Lindero Canyon Rd results in some hydraulic issues for the recycled water system based on modeling results using LVMWD's recycled water system model. Under the max demand scenarios evaluated, some customers would receive reduced service pressures (> 40 psi), as detailed in Section 3.3. Customer pressures Alternative 4 are the lowest for among all the alternatives. Delivery pressure to the AWPF is lower than those seen for a connection near the Indian Hills tank, however the delivery pressure is anticipated to be adequate for the function of the AWPF. All source water alternatives would require a similar amount of pumping head from the RWPS West.

A summary of the scores is presented in **Table 3-5**.

Table 3-5: Source Water Pipeline Alternatives Scoring Summary

Highest score = Highest-Ranking alternative. Criteria are scored from 0 - 5 based on the total number of alternatives.																	
TOTAL SCORE		**67.5**			**65.0**			**58.5**			**52.0**			**74.5**			
	100	**Alternative 1 (Agoura Rd-Connection at Lewis Rd)**			**Alternative 1A (Agoura Rd/LACFCD Access Road)**			**Alternative 2 (Lindero Canyon/Agoura Rd)**			**Alternative 3 (Russell Ranch Rd/Private Parcels)**			**Alternative 4 (Agoura Rd-Connection at Lindero Canyon Rd)**		
Objective	**Max Score**	*Score*		*Criterion*	*Score*		*Criterion*	*Score*		*Criterion*	*Score*		*Criterion*	*Score*		*Criterion*
1. Easements and Encroachments	10.0	10.0			6.0			4.0			0.0			10.0		
1.1 Potential Easements, Right-of-Way Encroachments	10.00	5		Public right-of-way	3		Easement required through LACFCD Property	2		Caltrans easement for installation in bridge	0		Easement through private property, Caltrans easement for tunneling under freeway	5		Public right-of-way
2. Constructability	15.0	12.0			13.5			9.0			4.5			13.5		
2.1 Access	7.50	5		No significant issues	5		No significant issues	3		Access for bridge crossing installation	1		Access through private property required	5		No significant issues
2.2 Construction Method	7.50	3		Open cut construction through concrete paving on Agoura Rd; Madea Creek trenchless crossing	4		Open cut construction through concrete paving on Agoura Rd (reduced length vs Alt 1); Madea Creek trenchless crossing	3		Installation in open utility bridge cell for Highway 101 crossing. Bridge or trenchless crossing of storm channel	2		Trenchless installation under Highway 101	4		Bridge or trenchless crossing of storm channel
3. Utilities	10.0	6.0			7.0			7.0			9.0			8.0		
3.1 Congestion	5.00	3		Some segments of Agoura Rd with tight utility congestion	4		Reduced utility congestion along LACFCD access road	2		Shared alignment with concentrate line and purified water line on Agoura Rd. Congestion on Lindero Canyon Rd.	4		Reduced utility congestion out of public right-of-way. Shared alignment with concentrate line and purified water line	3		Shared alignment with concentrate line and purified water line on Agoura Rd
3.2 Critical Utility Conflict Potential	5.00	3		Shallow storm drain crossings along Agoura Rd	3		Shallow storm drain crossings along Agoura Rd	5		Minimal	5		Minimal	5		Minimal
4. Public Impacts	10.0	3.0			5.0			5.0			9.0			8.0		
4.1 Pedestrian and Bicyclist Impacts	5.00	1		Impacts to Agoura Rd biking corridor (dedicated bike lane) along entire alignment	2		Some impact to Agoura Rd biking corridor reduced from alignment out of public R/W	4		Impacts to Agoura Rd biking corridor (dedicated bike lane) along portion of alignment	5		Minimal pedestrian impacts	4		Impacts to Agoura Rd biking corridor (dedicated bike lane) along portion of alignment
4.2 Vehiclular Impacts	5.00	2		Agoura Rd high traffic street; Segment with narrow width; Kanan Rd critical intersection	3		Reduced traffic impact from alignment out of public R/W; Kanan Rd critical intersection	1		Traffic impacts on Lindero Canyon Rd/ Agoura Rd. Highway 101 on/off ramps	4		Minimal traffic impacts. Much of alignment off public R/W	4		Agoura Rd high traffic street. Length lower than other alternatives.
5. Operation and Maintenance	20.0	13.0			10.0			12.0			10.0			17.0		
5.1 Safety/Access	15.00	4		Access on major road (Agoura Rd)	3		-Access on major road (Agoura Rd) -Access in LACFCD R/W, but out of traffic	3		Access on major roads; segment installed in bridge requires more difficult access	2		Access through private property required. Limited access for segment under 101	4		Access on major road (Agoura Rd)
5.2 Number of Appurtenances	5.00	1		More appurtenances needed for additional length	1		More appurtenances needed for additional length	3		Fewer appurtenances needed for shorter length	4		Fewer appurtenances needed for shorter length	5		Fewer appurtenances needed for shorter length
6. Permitting	10.0	9.0			9.0			8.0			8.0			8.0		
6.1 DDW Separation	5.00	4		Multiple water lines in narrow segment of Agoura Rd	5		No significant separation issues	3		Separation from other PWP conveyance lines	4		Separation from other PWP conveyance lines (short segment)	3		Separation from other PWP conveyance lines
6.2 Environmental	5.00	5		No anticipated environmental constraints	4		Segment in unpaved roadway	5		No anticipated environmental constraints	4		Segment in unpaved roadway	5		No anticipated environmental constraints
7. Geotechnical Considerations	10.0	4.0			4.0			6.0			4.0			4.0		
7.1 Geotechnical Considerations	10.00	2		Unconsolidated soils, possible oversized materials, moderate to high potential to encounter hard rock	2		Unconsolidated soils, possible oversized materials, moderate to high potential to encounter hard rock	3		Unconsolidated soils, possible oversized materials, moderate potential to encounter hard rock	2		Unconsolidated soils, possible oversized materials, moderate to high potential to encounter hard rock. Risk increased from trenchless construction	2		Unconsolidated soils, possible oversized materials, moderate to high potential to encounter hard rock
8. Pumping Requirements/Hydraulic Considerations	15.0	10.5			10.5			7.5			7.5			6.0		
8.1 Pumping Head*	7.50	3		Similar RWPS West pumping needed for all alternatives	3		Similar RWPS West pumping needed for all alternatives	3		Similar RWPS West pumping needed for all alternatives	3		Similar RWPS West pumping needed for all alternatives	3		Similar RWPS West pumping needed for all alternatives
8.2 Hydraulic Considerations*	7.50	4		Minimal impact to RW customer pressure, and RW backbone system	4		Minimal impact to RW customer pressure, and RW backbone system	2		Service pressure to RW customers impacted	2		Service pressure to RW customers impacted	1		Service pressure to RW customers impacted, lowest service pressures among

3.5 Construction Cost Estimates

The detailed estimates for each alternative are provided in **Appendix B**. The estimates are summarized in **Table 3-6** below.

The source water pipeline cost estimates presented in **Table 3-6** assume the pipe material is cement-mortar lined and coated (CML&C) steel. Final pipe selection and bid environment could have a significant effect on the total construction cost. The estimates in this report were developed for the purposes of comparing the relative costs of the alternatives. Cost estimates for the source water alternatives assuming PVC pipe were also developed for comparison and are included in **Appendix B**. Costs also do not include any improvements to the existing recycled water system such as upgrades to RWPS West.

Table 3-6: Source Water Alternative Construction Cost Estimate Summary Table

Alternative No.	Estimated Construction Costs[1]
1	$19,645,000
1A	$21,726,000
2	$12,357,000
3	$7,997,000
4	$5,129,000

[1] Cost estimates assume pipe material CML&C steel. See Appendix B for detailed assumptions.

3.6 Recommendations

This section summarizes the results of the evaluation for the source water line.

3.6.1 Alignment Recommendation

The ranking of the alternatives was based on the results of the scoring on the non-monetary criteria, in addition to consideration for the relative costs of the alternatives. Alternative 4 received the highest score in the analysis. This alternative has reduced public impacts, constructability issues, operations and maintenance needs, and cost compared with the other alternatives. Because Alternative 4 received a high relative score on the non-monetary criteria while also being the lowest cost alternative by a large margin, it is the recommended alignment for the source water line, and it is recommended that the remaining alternatives be removed from further consideration. **Figure 3-6** provides an overview of the recommended alignment. Conceptual drawings of the recommended alignment are included in **Appendix C.**

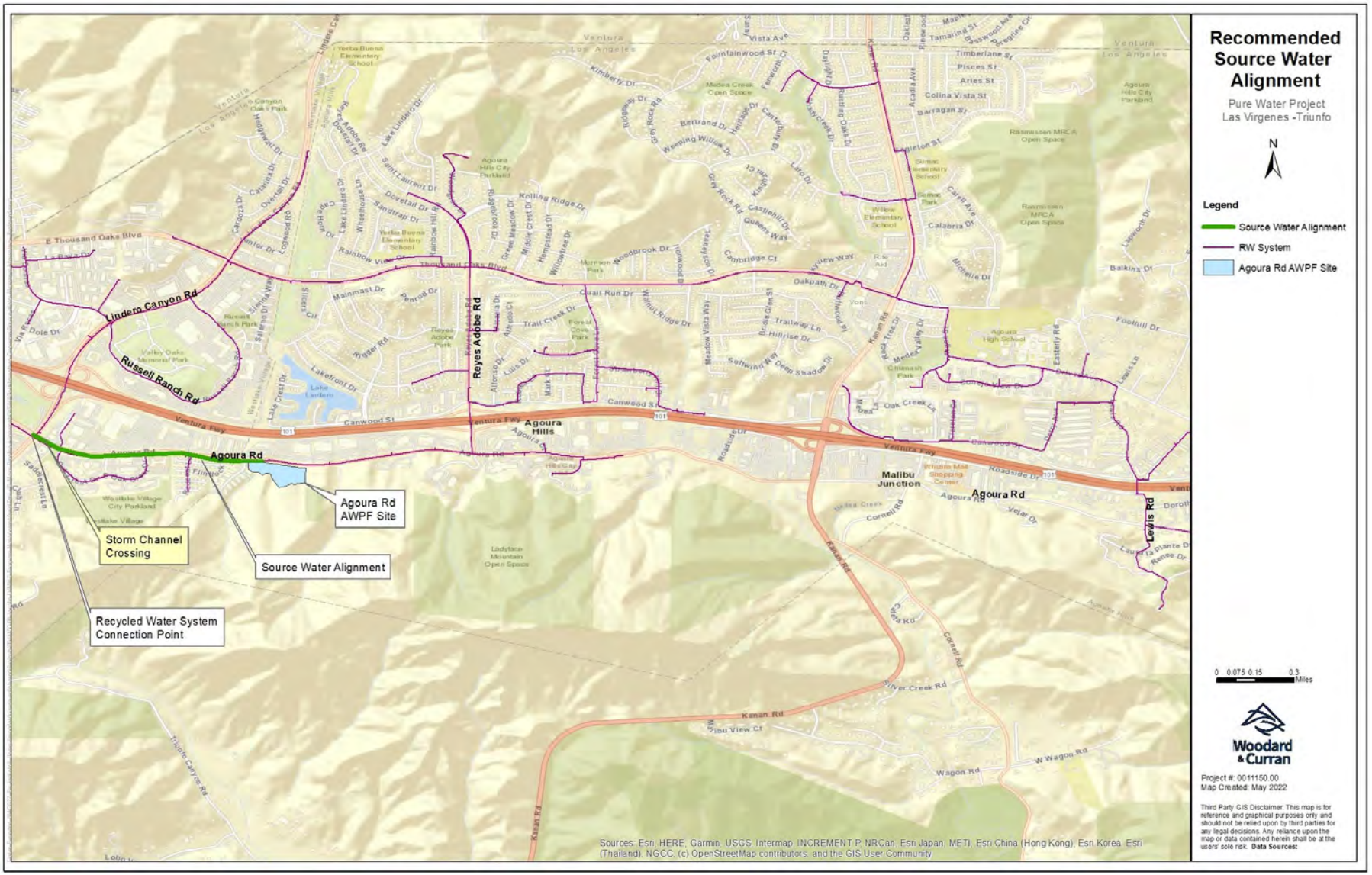
Table 3-7: Source Water Alternative Ranking

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Costs[1]	Advance for Further Consideration
1	Alt. 4	4,400 ft	74.5	$5,129,000	Yes
2	Alt. 1	15,210 ft	67.5	$19,645,000	No
3	Alt. 1A	15,360 ft	65.0	$21,726,000	No
4	Alt. 2	9,590 ft	58.5	$12,357,000	No
5	Alt. 3	6,070 ft	52.0	$7,997,000	No

[1] See Section 3.5 and Appendix B for cost estimate assumptions.

The modeling analysis of Alternative 4, detailed in Section 3.3, indicates that this alternative could result in some recycled water customers experiencing substandard pressures. Due to the connection point being located downstream of a large number of customers, this alternative is also the most challenging for managing flows to the AWPF. It is recommended that an evaluation of ways to mitigate these impacts be completed prior to finalizing selection of this alternative for design. This includes identifying potential impacted recycled water customers, assessing potential onsite mitigation measures such as onsite boosters, and managing demands on the recycled water system which could include putting larger customers on a watering schedule. A potential method of gauging system performance would be to exercise a large demand from an existing customer near the proposed AWPF site and evaluate the pressure impacts on the other customers.

Figure 3-6: Recommended Source Water Alignment Map



3.6.2 Design Criteria

A summary of the design criteria is presented in **Table 3-8** below. A target maximum head loss of 5 ft head loss per 1,000 ft was used to develop preliminary sizing. LVMWD typically uses CML&C steel pipe material for pipelines of this size. Polyvinyl chloride (PVC) and high-density polyethylene (HDPE) pipe would also be acceptable alternatives for this application.

Table 3-8: Source Water Pipeline Design Criteria

Item	Design Criteria
Hydraulics and Sizing	
Design Flow	7.5 mgd
Friction Coefficient (C value)	130
Target Maximum Head Loss	5 ft/1,000 ft
Design Pipeline Inside Diameter	20-inch
Pipe Material[1]	
Allowable Pipe Materials	CML&C Steel Pipe (AWWA C200, C205), PVC (AWWA C900), HDPE (AWWA C906)
Pipeline Appurtenances[1]	
Pipeline Appurtenances Required	Air valves (At high points) Blowoffs (Selected low points) Isolation valves (Min 2,500 ft spacing)

[1] Pipeline and appurtenances per LVMWD design standards

3.6.3 RWPS West Improvements

As part of a separate analysis a comprehensive flow balance model was developed using nearly 5 years of historical flow data from January 2017 through October 2021 for Tapia WRF and the recycled water system demands to simulate flow management under various scenarios. The results of the model indicate the maximum demand at RWPS West to meet both AWPF and irrigation customer demands is approximately 10 mgd. The current pump configuration at RWPS West does not have sufficient capacity to meet these estimated future demands, and currently during maximum flow conditions operates with all three pumps at capacity. Recommended improvements for the pump station include upsizing the existing pumps with added variable frequency drives, and installation of an additional pump for standby backup capacity.

As detailed in the hydraulic analysis, Section 3.3, the suction piping to RWPS West is too undersized to handle the increased flow to source the AWPF. An existing 16-inch suction line from Reservoir 2 feeds both the East and West pump stations. It is recommended that further evaluation be conducted to determine the improvements needed at the RWPS to meet the additional demand from the AWPF.

4. Purified Water Pipeline

The purified water pipeline will convey purified water produced at the AWPF to Las Virgenes Reservoir. This section describes the alignment development and evaluation for the purified water pipeline.

4.1 Preliminary Alternatives Development and Screening

The first step in the evaluation of purified water pipeline alternatives was to identify the breadth of potential alignments between the AWPF site and Las Virgenes Reservoir. Figure 4-1 provides an overview of the five alignments identified during this initial step. A preliminary screening was then performed to narrow the range of identified alternatives down to a set of the most viable alternatives to advance to the detailed evaluation. The preliminary screening was performed with input from LVMWD and readily available information which was used to remove alternatives from consideration that contained significant flaws affecting their viability.

The following alternatives were removed from future consideration during this step:

- An alignment following Three Springs Dr to the existing access road to Westlake Filtration Plant. Construction along Three Springs Dr would have extended impacts to the residents in this community. In addition, to construct the pipeline from the northwest of Las Reservoir around the perimeter to the discharge location in the southeast involves crossing the dam structure as well as an access road which is flooded during certain operating conditions (reservoir levels).

- An alignment following the ridge south of the AWPF site running parallel to Lindero Canyon Rd. This alternative would be a constructability challenge for equipment access on the ridge and crosses potentially environmentally sensitive areas, while not offering significant advantages to the alignments following existing roads.

The alternatives moved forward for further evaluation are described further in the following section and shown in **Figure 4-2**.

Figure 4-1: Initial Identified Purified Water Alternative Alignments

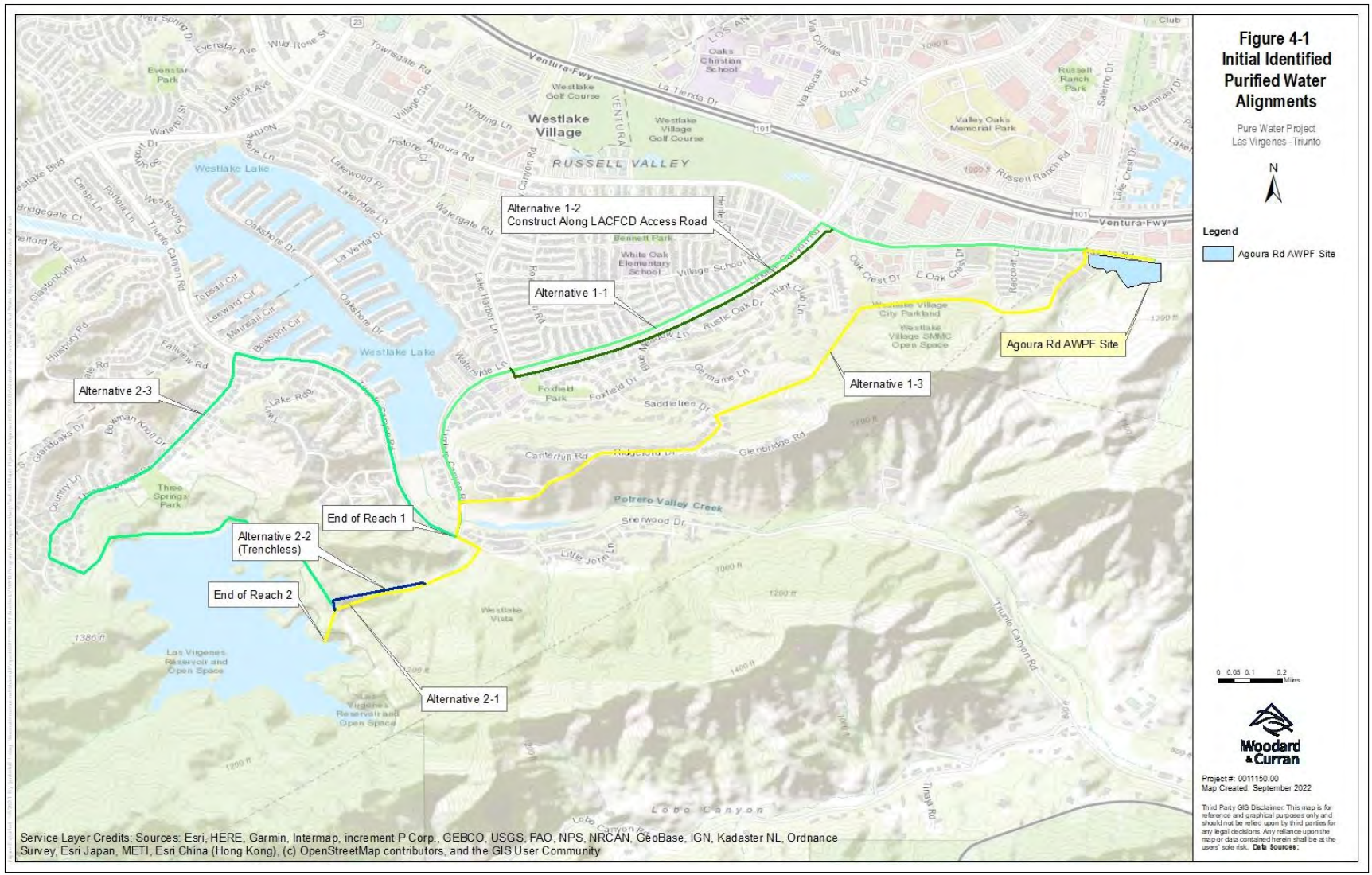
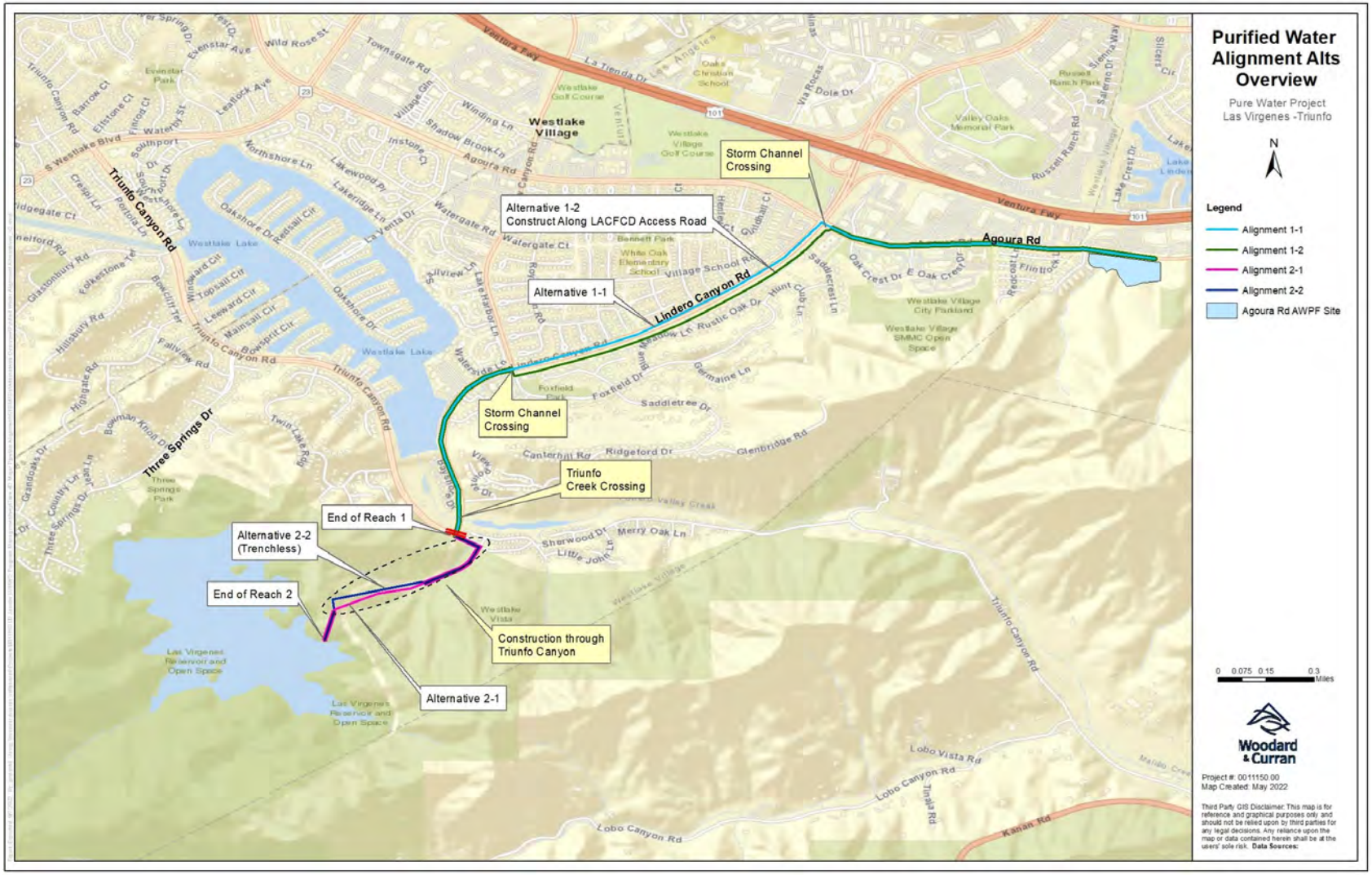


Figure 4-2: Purified Water Alignment Overview



4.2 Alternatives Descriptions and Evaluation

For ease of evaluating the various combinations of alignment routes, the routes have been divided into two reaches which have a shared start and end point among the alternative alignments. Alignment segments in Reach 1, denoted with prefix "1-", extend from the Agoura Rd AWPF site to the intersection of Lindero Canyon Rd and Triunfo Canyon Rd. Reach 2, denoted with prefix "2-", continues from the intersection of Lindero Canyon Rd and Triunfo Canyon Rd to the discharge at Las Virgenes Reservoir.

Table 4-1: Purified Water Alignment Alternatives Summary

No.	Alignment Streets	Length	Alternate Construction Methods
Reach 1 (Agoura Rd AWPF site to the intersection of Lindero Canyon Rd and Triunfo Canyon Rd)			
1-1	Agoura Rd, Lindero Canyon Rd	12,710 ft	- LACFCD channel bridge crossing at Agoura Rd (Trenchless installation under channel, attached to bridge, or spanning headwall) - Triunfo Creek bridge crossing at Lindero Canyon Rd
1-2	Agoura Rd, Lindero Canyon Rd, LACFCD Access Road, Foxfield Dr	12,760 ft	- LACFCD channel bridge crossing at Foxfield Dr (Trenchless installation under channel, attached to bridge) - Triunfo Creek bridge crossing at Lindero Canyon Rd
Reach 2 (Intersection of Lindero Canyon Rd and Triunfo Canyon Rd to Las Virgenes Reservoir)			
2-1	Triunfo Canyon Rd, Triunfo Creek Park (Mountains Recreation and Conservation Authority [MRCA] owned), LVMWD owned open space	3,500 ft	- Hard rock excavation through Triunfo Creek Park
2-2	Triunfo Canyon Rd, Triunfo Creek Park (MRCA owned), LVMWD owned open space	3,400 ft	- Hard rock excavation through Triunfo Creek Park - Trenchless installation through Triunfo Creek Park

4.2.1 Reach 1: Agoura Rd AWPF to Intersection of Lindero Canyon Rd and Triunfo Canyon Rd

Alternative 1-1 begins at the Agoura Rd AWPF site and extends west along Agoura Rd, turns south onto Lindero Canyon Rd, crosses Triunfo Creek, and ends at the intersection of Lindero Canyon Rd and Triunfo Canyon Rd.

- **Easements and Encroachments** – This segment is within public right-of-way within the jurisdictions of the cities of Agoura Hills and Westlake Village.
- **Constructability** – The LACFCD storm channel crossing on Agoura Rd can be constructed by attaching pipe to the existing bridge. However, multiple PWP conveyance lines will need to cross the flood control channel, of which the bridge will likely not be able to accommodate all. Alternate construction methods include installing the pipe via trenchless installation methods under the channel, or an aerial crossing, spanning the walls of the channel on the downstream side of the bridge. At the Triunfo Creek crossing, the pipeline could be installed by hanging the pipe beneath the concrete deck of the existing bridge between the interior girders. The storm drain double box culvert crossing on Lindero Canyon Rd also presents additional constructability challenges. If there is inadequate space to construct the pipe above the shallow storm drain using open cut methods, trenchless installation under the box culvert would be necessary.

- **Utilities** – Multiple conveyance lines for the PWP including the concentrate line, and potentially the source water line depending on the selected alignment, will be constructed in Agoura Rd which will add to the congestion along this segment. The remainder of the alignment has typical utility congestion for a major roadway. The alignment has a critical crossing with the large shallow storm drain box culvert to Westlake Lake. The crossing may require trenchless construction to avoid conflict if it is not feasible to construct the purified water line above the storm drain.
- **Public Impacts** – Lindero Canyon Rd experiences moderate amounts of traffic and contains a dedicated bicycle lane. The relatively large width of the street could result in minimal impacts due to construction activities if planned properly.
- **Operations and Maintenance** – Access for maintenance on arterial streets, but no major maintenance access concerns.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a slight to moderate potential to encounter hard rock.
- **Pumping Requirements** – There is no significant difference in the hydraulic considerations among the Reach 1 alternatives.

Alternative 1-2 begins at the Agoura Rd AWPF site and extends west along Agoura Rd before turning south onto the LACFCD storm channel access road which runs parallel to Lindero Canyon Rd. At the end of the access road at Foxfield Dr the alignment cuts back to Lindero Canyon Rd, then continues south before crossing Triunfo Creek and ending at the intersection of Lindero Canyon Rd and Triunfo Canyon Rd.

- **Easements and Encroachments** –An easement from LACFCD would be required for construction and maintenance of the pipeline along the storm channel access road. There is a risk of LACFCD rejecting the easement request, which is a factor reflected in the scoring for this alternative. The remainder of the alignment is within public right-of-way in the cities of Agoura Hills and Westlake Village.
- **Constructability** – The LACFCD access road is narrow, making for difficult access for construction equipment and likely having a negative impact on the pipe installation rate. The LACFCD storm channel crossing at Foxfield Dr could be constructed by attaching the pipe to the existing bridge. However, if it is not feasible to attach the pipe to the bridge, the pipe could be constructed via trenchless installation under the channel. At the Triunfo Creek crossing the pipeline can be installed hung under the concrete deck of the existing bridge between the interior girders. The storm drain double box culvert crossing on Lindero Canyon Rd also presents additional constructability complexity. If there is inadequate space to construct the pipe above the shallow storm drain with open cut methods, trenchless installation under the box culvert would be necessary.
- **Utilities** – An existing 18-inch sewer is located in the LACFCD access road. Due to the narrow width of the access road it would be difficult to locate the purified water pipeline within the access road while maintaining adequate separation from the sewer. The crossing of the large shallow storm drain box culvert to Westlake Reservoir may require trenchless construction to avoid conflict if it is not feasible to construct the purified water line above the storm drain.
- **Public Impacts** – Lindero Canyon Rd is a moderately trafficked street which contains a dedicated bike lane. Impacts along Lindero Canyon Rd would be reduced by moving construction out of public right-of-way onto the LACFCD access road.

- **Operations and Maintenance** – Access for maintenance on arterial streets and will be more limited in LACFCD right-of-way. Maintenance access along the access road however is safer as it is not in a traffic lane.
- **Permitting** – There is an anticipated issue in maintaining separation from the existing sewer located in the LACFCD access road due to the limited space. There are also potential environmental impacts relating to construction adjacent to the open storm channel.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a slight to moderate potential to encounter hard rock.
- **Pumping Requirements** – There is no significant difference in the hydraulic considerations among the Reach 1 alternatives.

4.2.2 Reach 2: Intersection of Lindero Canyon Rd and Triunfo Canyon Rd to Las Virgenes Reservoir

Alternative 2-1 begins at the intersection of Lindero Canyon Rd and Triunfo Canyon Rd, then turns south on Triunfo Canyon Rd for a short stretch before turning into Triunfo Creek Park. In Triunfo Creek Park the alignment generally follows the Pentachaeta Trail up through the canyon to its discharge point at Las Virgenes Reservoir.

- **Easements and Encroachments** – The portion of the segment in Triunfo Creek Park is owned by the MRCA. LVMWD has an existing 40-foot easement for construction, operation, and maintenance of pipelines, access road, utilities, and appurtenances through Triunfo Canyon Rd. Based on an initial evaluation of the existing easement, its path strays off the Pentachaeta trail into undeveloped land along portions of the route. Coordination with MRCA would be needed if the easement location is to be shifted to match the trail alignment. The parcel at the top of the hill adjacent to the reservoir is owned by LVMWD and no easement would be needed for construction within that property.
- **Constructability** – Specialized construction methods will be needed for open cut construction through Triunfo Creek Park due to the presence of hard rock in the area, and the difficulty of access. Special excavation methods that may be used include rockwheel trenching, jackhammering, or localized blasting (with small charges placed into drilled holes). Access will be difficult, especially along the narrow trail with a steep grade up the canyon, impacting the type of equipment which can be used and added complexity for removal of spoils and import of backfill. Pipeline installation rate along this segment is expected to be substantially slower compared to typical open cut installation.
- **Utilities** – There is not anticipated to be an issue with utility conflicts along this segment. The majority of the alignment is in undeveloped land with no existing utilities.
- **Public Impacts** – Considerations will be needed to minimize impacts and maintain access for homeowners at the end of Triunfo Canyon Rd during construction in Triunfo Creek Park. Public access to the trails in Triunfo Creek Park will be impacted during construction.
- **Operations and Maintenance** – Access for maintenance of the pipeline in Triunfo Creek Park would be difficult due to the terrain.
- **Permitting** – This segment includes open cut construction through the undeveloped area of Triunfo Creek Park. To lessen environmental impacts the pipeline alignment could follow the unpaved Pentachaeta Trail to minimize the amount of undisturbed land and plants which would be affected by construction.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of oversized materials and very hard rock which would require non-standard excavation methods. Further geotechnical explorations are needed to better characterize the ground surface and determine which excavation methods are most suitable.

- **Pumping Requirements** – There is no significant difference in the hydraulic considerations among the Reach 2 alternatives.

Alternative 2-2 begins at the intersection of Lindero Canyon Rd and Triunfo Canyon Rd, then turns south on Triunfo Canyon Rd for a short stretch before turning into Triunfo Creek Park. In Triunfo Creek Park the alignment generally follows the Pentachaeta Trail through the flat section to the base of the slope. The line would then be constructed by trenchless installation through the hill slope up to the LVMWD property, where it would continue with open cut construction to its discharge point at Las Virgenes Reservoir.

- **Easements and Encroachments** – The portion of the segment in Triunfo Creek Park is owned by MRCA. LVMWD has an existing 40-foot easement for construction, operation, and maintenance of pipelines, access road, utilities, and appurtenances through Triunfo Canyon Rd. Based on an initial evaluation of the existing easement, its path strays off the Pentachaeta trail into undeveloped along portions of the route. Portions of Segment 2-2 do not follow the existing easement and coordination with MRCA would be needed to either shift the easement to match the alignment or to grant an additional easement through the property. The parcel at the top of the hill adjacent to the reservoir is owned by LVMWD and no easement would be needed for construction within that property.
- **Constructability** – Specialized construction methods may be needed for the open cut construction sections through Triunfo Creek Park due to the presence of hard rock in the area, and the difficulty of access. Special excavation methods that may be used include rockwheel trenching, jackhammering, or localized blasting (with small charges placed into drilled holes). The feasibility of trenchless installation using methods such as horizontal directional drilling is dependent on the results of further geotechnical evaluation to better characterize the subsurface conditions. Hard rock drilling can significantly affect the difficulty and cost of installation, potentially to the point of infeasibility.
- **Utilities** – There is not anticipated to be an issue with utility conflicts along this segment. The majority of the alignment is in undeveloped land with no existing utilities.
- **Public Impacts** – Considerations will be needed to minimize impacts and maintain access for homeowners at the end of Triunfo Canyon Rd during construction in Triunfo Creek Park. Public access to the trails in Triunfo Creek Park will be limited during construction, although reduced compared to Segment 2-1 as the alignment follows the trail for a shorter length.
- **Operations and Maintenance** – Access for maintenance of the pipeline in Triunfo Creek Park would be difficult due to the terrain.
- **Permitting** – This segment includes some open cut construction through the undeveloped area of Triunfo Creek. To lessen environmental impacts the pipeline alignment could follow the unpaved Pentachaeta Trail to minimize the amount of undisturbed land and plants which would be affected by construction. Relative to Segment 2-1, less of the ground surface will be impacted by instead utilizing trenchless construction for a portion of the alignment.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of oversized materials and very hard rock. Further geotechnical explorations are needed to better characterize the ground surface and determine which construction methods are suitable. There is a potential that the results of the geotechnical evaluation indicate that trenchless construction is infeasible in this area.
- **Pumping Requirements** – There is no significant difference in the hydraulic considerations among the Reach 2 alternatives.

A summary of the scores is presented in **Table 4-2** and **Table 4-3**.

Table 4-2: Purified Water Line Reach 1 Alternatives Scoring Summary

Highest score = Highest-Ranking alternative. Criteria are scored from 0 - 5 based on the total number of alternatives.					
		Reach 1			
TOTAL SCORE		71.5		49.0	
	100	Alternative 1-1 (Lindero Canyon Rd)		Alternative 1-2 (LACFCD Access Road)	
Objective	Max Score	*Score*	*Criterion*	*Score*	*Criterion*
1. Easements and Encroachments	10.0	10.0		4.0	
1.1 Potential Easements, Right-of-Way Encroachments	10.00	5	Public right-of-way	2	Easement through LACFCD access road required
2. Constructability	15.0	10.5		6.0	
2.1 Access	7.50	5	No significant issues	2	Narrow access/difficult construction along access road
2.2 Construction Method	7.50	2	Bridge crossing of Triunfo Creek, bridge or trenchless crossing of storm channel	2	Bridge crossing of Triunfo Creek, bridge or trenchless crossing of storm channel
3. Utilities	10.0	5.0		0.0	
3.1 Congestion	5.00	3	Typical utility congestion	0	Trunk sewer along access road
3.2 Critical Utility Conflict Potential	5.00	2	Large storm drain to Westlake Reservoir crossing	0	Trunk sewer along access road
4. Public Impacts	10.0	6.0		8.0	
4.1 Pedestrian and Bicyclist Impacts	5.00	3	Lindero Canyon Rd/Agoura Rd with dedicated bike lanes	4	Reduced impacts on Lindero Canyon Rd, alignment out of public R/W for large segment
4.2 Vehiclular Impacts	5.00	3	Lindero Canyon Rd/Agoura Rd high traffic roads	4	Reduced traffic impacts on Lindero Canyon Rd
5. Operation and Maintenance	20.0	15.0		12.0	
5.1 Safety/Access	15.00	4	Access on major road (Lindero Canyon Rd)	3	Access in LACFCD R/W (private property), but out of traffic
5.2 Number of Appurtenances	5.00	3	Similar appurtenances requirements	3	Similar appurtenances requirements
6. Permitting	10.0	10.0		4.0	
6.1 DDW Separation	5.00	5	No significant separation issues	1	Trunk sewer along access road
6.2 Environmental	5.00	5	No anticipated environmental constraints	3	Potential impacts to storm channel; Segments in unpaved roadway
7. Geotechnical Considerations	10.0	6.0		6.0	
7.1 Geotechnical Considerations	10.0	3	Unconsolidated soils, possible oversized materials,slight to moderate potential to encounter hard rock	3	Unconsolidated soils, possible oversized materials,slight to moderate potential to encounter hard rock
8. Pumping Requirements/Hydraulic Considerations	15.0	9.0		9.0	
8.1 Pumping Head	15.00	3	All alternatives require similar pumping	3	All alternatives require similar pumping

Table 4-3: Purified Water Line Reach 2 Alternatives Scoring Summary

Highest score = Highest-Ranking alternative. Criteria are scored from 0 - 5 based on the total number of alternatives.					
		Reach 2			
TOTAL SCORE		54.5		56.0	
	100	Alternative 2-1 (Open Cut Through Triunfo Cyn)		Alternative 2-2 (Trenchless Through Triunfo Cyn)	
Objective	Max Score	*Score*	*Criterion*	*Score*	*Criterion*
1. Easements and Encroachments	10.0	6.0		6.0	
1.1 Potential Easements, Right-of-Way Encroachments	10.00	3	Public right of way, existing easement through Triunfo Creek Park (MRCA) but may need to be shifted	3	Public right of way, existing easement through Triunfo Creek Park (MRCA) needs to be shifted
2. Constructability	15.0	4.5		6.0	
2.1 Access	7.50	1	Difficult access in Triunfo Creek Park, and up canyon trail	3	Difficult access in Triunfo Creek Park, trenchless pits easier access than trail up canyon
2.2 Construction Method	7.50	2	Open cut installation through hard rock in Triunfo Creek Park	1	Trenchless construction through hard rock, hard rock could make trenchless construction infeasible
3. Utilities	10.0	9.0		9.0	
3.1 Congestion	5.00	4	Few utilities along alignment	4	Few utilities along alignment
3.2 Critical Utility Conflict Potential	5.00	5	Minimal	5	Minimal
4. Public Impacts	10.0	7.0		8.0	
4.1 Pedestrian and Bicyclist Impacts	5.00	3	Pentachaeta Trail closure during construction	4	Reduced impact to Pentachaeta Trail moving alignment off trail
4.2 Vehiclular Impacts	5.00	4	Some impacts to residents on Triunfo Canyon Rd access	4	Some impacts to residents on Triunfo Canyon Rd access
5. Operation and Maintenance	20.0	9.0		9.0	
5.1 Safety/Access	15.00	2	Difficult access in Triunfo Creek Park	2	Difficult access in Triunfo Creek Park
5.2 Number of Appurtenances	5.00	3	Similar appurtenances requirements	3	Similar appurtenances requirements
6. Permitting	10.0	6.0		7.0	
6.1 DDW Separation	5.00	5	No significant separation issues	5	No significant separation issues
6.2 Environmental	5.00	1	Open cut construction through environmentally sensitive area Triunfo Creek Park	2	Construction through environmentally sensitive area Triunfo Creek Park, reduced impact with trenchless construction
7. Geotechnical Considerations	10.0	4.0		2.0	
7.1 Geotechnical Considerations	10.0	2	Very high potential to encounter hard rock	1	Very high potential to encounter hard rock, could make trenchless install infeasible
8. Pumping Requirements/Hydraulic Considerations	15.0	9.0		9.0	
8.1 Pumping Head	15.00	3	All alternatives require similar pumping	3	All alternatives require similar pumping

4.3 Construction Cost Estimates

The detailed estimates for each alternative are provided in **Appendix B** and are summarized in **Table 4-4** below.

The purified water pipeline cost estimates summarized in **Table 4-4** assume the pipe material is CML&C steel. Final pipe selection and bid environment could have a significant effect on the total construction cost. The estimates in this report were developed for the purposes of comparing the relative costs of the alternatives. Cost estimates for the purified water alternatives assuming PVC pipe were also developed for comparison and are included in **Appendix B**.

Table 4-4: Purified Water Alternative Construction Cost Estimate Summary Table

Alternative No.	Estimated Construction Cost[1]
Reach 1	
1-1	$14,764,000
1-2	$15,949,000
Reach 2	
2-1	$4,916,000
2-2	$4,903,000

[1] Cost estimates assume pipe material CML&C steel. See Appendix B for detailed assumptions.

4.4 Recommendations

This section summarizes the results of the evaluation for the purified water line.

4.4.1 Alignment Recommendation

The ranking of the alternatives was based on the results of the scoring on the non-monetary criteria, in addition to consideration for the relative costs of the alternatives. For Reach 1, Segment 1-1 was the highest scoring alternative. Concerns on Segment 1-2 regarding constructability, access, easements, and utility separation in the storm channel access road led to it receiving a lower score compared to Segment 1-1 which is within public right-of-way in Lindero Canyon Rd. Segment 1-1 is the recommended alternative for Reach 1, with Segment 1-2 removed from further consideration.

The Reach 2 alternatives received close relative scores and have similar costs. Much of the difference in scoring between the alternatives is decided by factors regarding the subsurface conditions in Triunfo Creek Park. The subsurface conditions will dictate critical aspects of the alternatives including excavation method selection, difficulty of open cut construction, and the feasibility and risks of trenchless construction in the area. The desktop geotechnical study, included in **Appendix A**, includes findings based on available geotechnical information and includes a map of proposed boring locations for the alternatives. Because the findings of the future geotechnical exploration are key to selection of the alternative, the recommendation is to carry both alternatives through to the next phase of analysis and utilize the results of the geotechnical exploration to inform the ultimate alternative selection. As the alignment is further refined during the engineering design process, a next step is to work with MRCA on modifying the LVMWD easement through Triunfo Creek, if needed, to better suit the project objectives including constructability and minimizing environmental impacts.

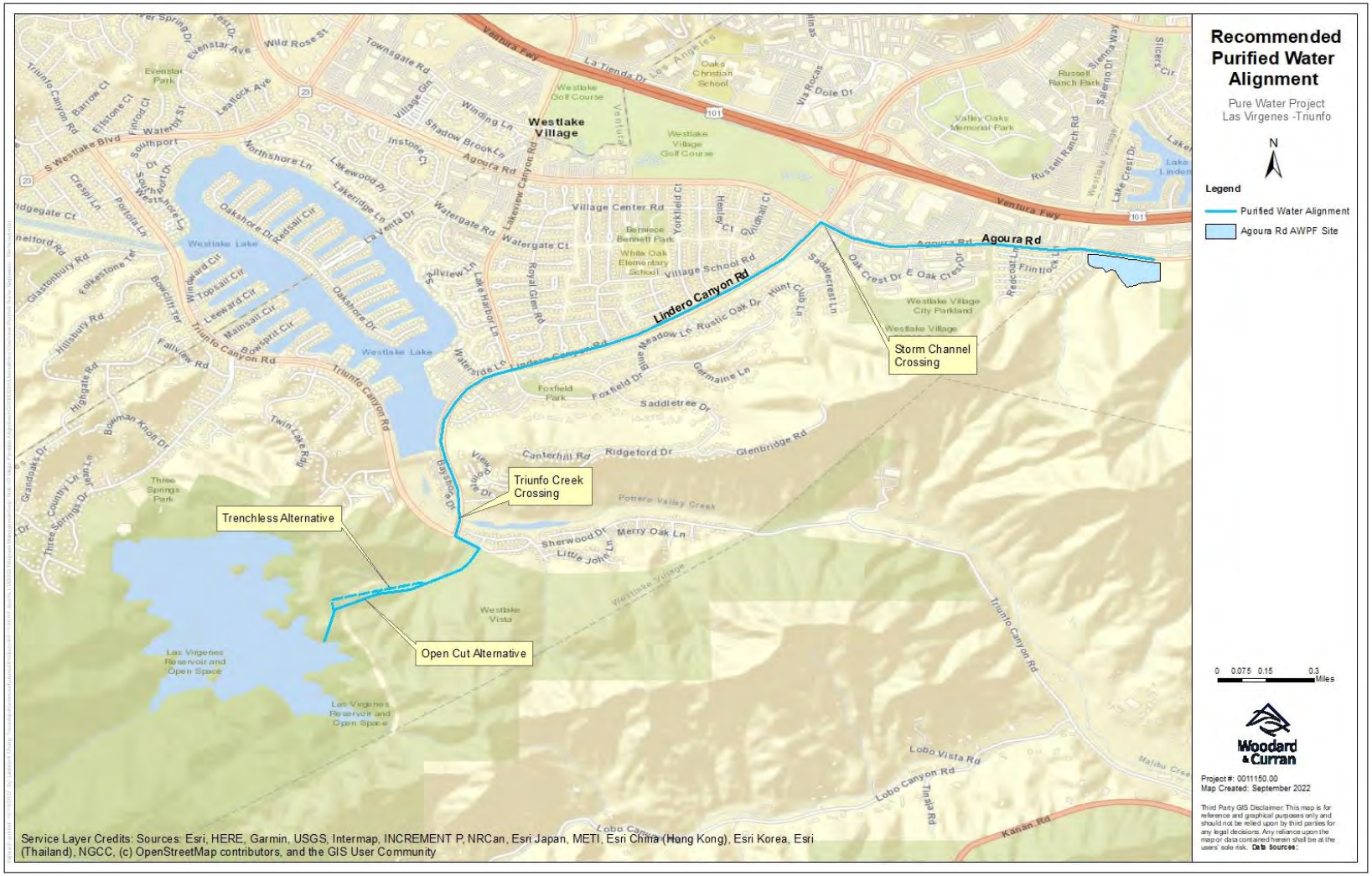
Table 4-5: Purified Water Alternative Ranking

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Costs[1]	Advance for Further Consideration
Reach 1					
1	Alt. 1-1	12,710 ft	71.5	$14,764,000	Yes
2	Alt. 1-2	12,760 ft	49.0	$15,949,000	No
Reach 2					
1	Alt. 2-2	3,400 ft	56.0	$4,903,000	Yes
2	Alt. 2-1	3,500 ft	54.5	$4,916,000	Yes

[1] See Section 4.3 and Appendix B for cost estimate assumptions.

Figure 4-3 presents an overview of the recommended alignment for the purified water pipeline. Conceptual drawings of the recommended alignment(s) are included in **Appendix C.**

Figure 4-3: Recommended Purified Water Alignment



4.4.2 Design Criteria

A summary of the design criteria is presented in **Table 4-6** below. A target maximum head loss of 5 ft head loss per 1,000 ft was used to develop preliminary sizing. LVMWD typically uses CML&C steel pipe material for pipelines of this size. HDPE and PVC pipe material would also be acceptable alternatives for this application. Additional considerations are provided as discussion below.

Table 4-6: Purified Water Pipeline Design Criteria

Item	Design Criteria
Hydraulics and Sizing	
Target Minimum Pressure at High Points	20 psi
Design Flow	6 mgd
Friction Coefficient (C value)	130
Target Maximum Head Loss	5 ft/1,000 ft
Design Pipeline Inside Diameter	20-inch
Pipe Material[1]	
Allowable Pipe Materials	CML&C Steel Pipe (AWWA C200, C205), PVC (AWWA C900), HDPE (AWWA C906)
Pipeline Appurtenances[1]	
Pipeline Appurtenances Required	Air valves (At high points) Blowoffs (Selected low points) Isolation valves (Min 2,500 ft spacing) Bypass valve assembly (At off-spec bypass)

[1] Pipeline and appurtenances per JPA design standards

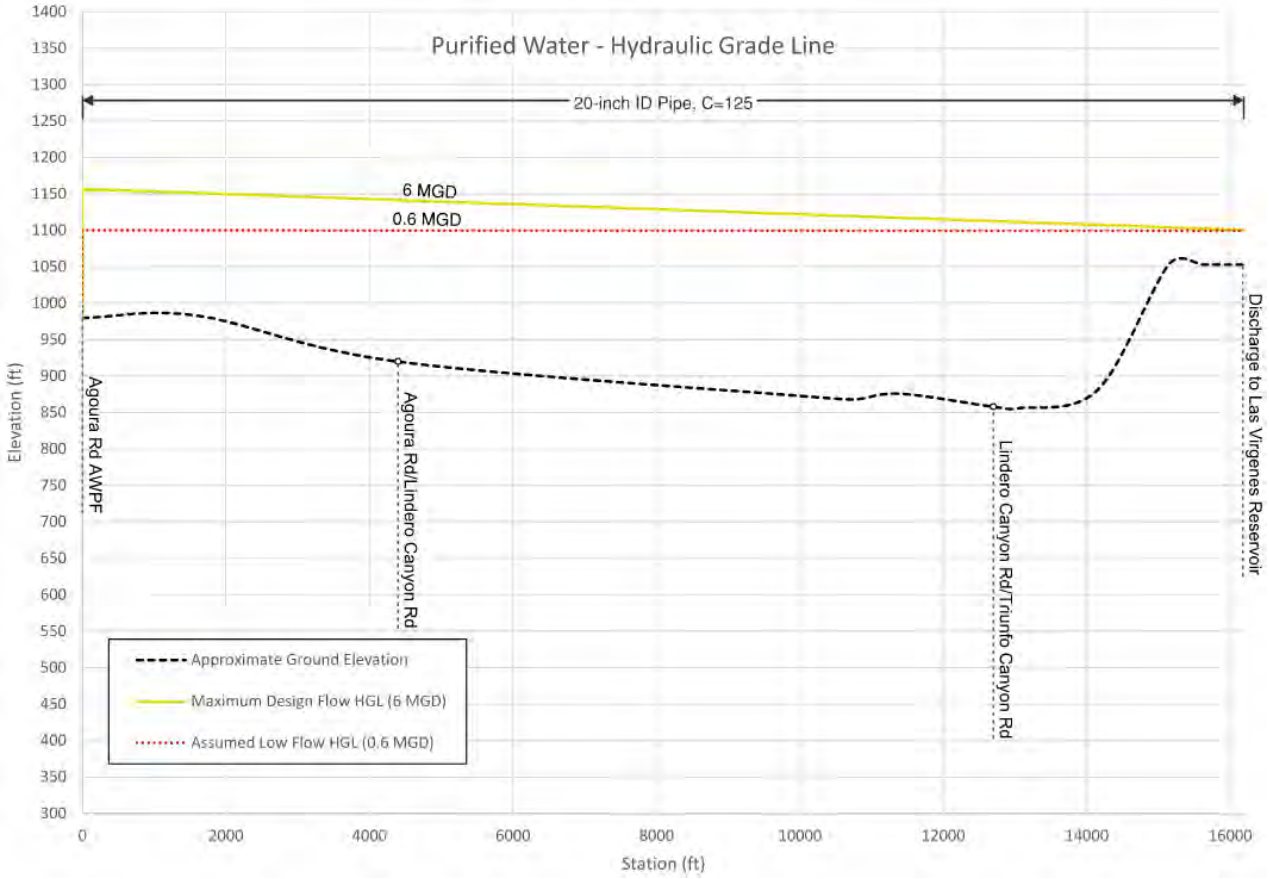
Backfill and Pavement Restoration

Final backfill and pavement restoration for open cut construction in public right-of-way will be in accordance with City of Westlake Village and City of Agoura Hills requirements. Both cities typically require controlled low strength material (CLSM) for trench backfill material. Surface restoration requirements in Triunfo Creek Park will be at the discretion of MRCA.

Pump Station

In addition to the above-described pipelines, a pump station will be needed to pump the purified water from the AWPF to Las Virgenes Reservoir. The pump station for the purified water line would be located at the AWPF site. The AWPF Conceptual Design includes additional details of the pump station including pump sizing and layout. **Figure 4-4** shows an approximate hydraulic profile for the purified water line preferred alignment.

Figure 4-4: Purified Water Pipeline Alignment Hydraulic Profile



5. Concentrate Pipeline

The concentrate pipeline will convey RO concentrate from the AWPF to the Calleguas Municipal Water District's (CMWD) Salinity Management Pipeline (SMP), a regional brine collection system which discharges to the ocean. The extension of the SMP to the proposed connection point is not yet constructed but is anticipated to be complete prior to the AWPF becoming operational. This section describes the alignment development and evaluation for the concentrate pipeline.

5.1 Preliminary Alternative Development and Screening

Identifying the range of potential alignments was the first step of the evaluation of concentrate pipeline alternatives. **Figure 5-1** provides an overview of the eight alignments identified during this initial step. A preliminary screening was then performed to narrow the range of identified alternatives down to a set of the most viable alternatives to advance to the detailed evaluation. The preliminary screening was performed with input from LVMWD and readily available information which was used to remove alternatives from consideration that contained significant flaws affecting their viability.

The following alternatives were screened out during this step:

- Moorpark Rd/Santa Rosa Rd connection – Various alignments were identified utilizing Moorpark Rd and would connect to an SMP extension at Moorpark Rd and Santa Rosa Rd. Construction along this segment, known as the Norwegian grade, presents significant challenges due to topography and traffic. Moorpark Rd along the Norwegian grade is highly trafficked with only a single lane of traffic in each direction. The topography would also require more pumping than the other alternatives under consideration.
- Highway 101 alignment – This alignment follows the other alignments west along Hillcrest Dr and then continues west along Hillcrest Dr, Grande Vista Dr before following Highway 101 Caltrans right-of-way to Pleasant Valley Rd, ending at a connection point with the existing SMP at Pleasant Valley Rd and Lewis Rd. This alternative does not require an extension of the SMP; however, the alignment is significantly longer than the other alternatives and also requires an easement from Caltrans for longitudinal construction along Highway 101 which was deemed to be impractical.
- Valley alignments – Alignments were also considered which follow the valley up to Hill Canyon Treatment Plant, then connect to the SMP at Hill Canyon Rd and Santa Rosa Rd. This includes following the North Fork Arroyo Conejo, and the South Fork Arroyo Conejo, following a similar alignment to the existing City of Thousand Oaks trunk sewer. Due to environmental impact and permitting challenges the alignment was removed from further consideration.
- Russell Ranch alignment – This alignment follows a similar alignment as Source Water Alternative 3, crossing Highway 101 via trenchless crossing, then through private property and Russell Ranch Rd to Thousand Oaks Blvd. This alternative would have a synergistic benefit if selected with Source Water Alternative 3 as the trenchless crossing of Highway 101 would be shared. However, because Source Water Alternative 3 ranked low in the evaluation and otherwise this alignment does not present benefits over the other alternatives, it was removed from consideration.

The alternatives moved forward for further evaluation are described in the next section and are shown in **Figure 5-2**.

Figure 5-1: Initial Identified Concentrate Alignments

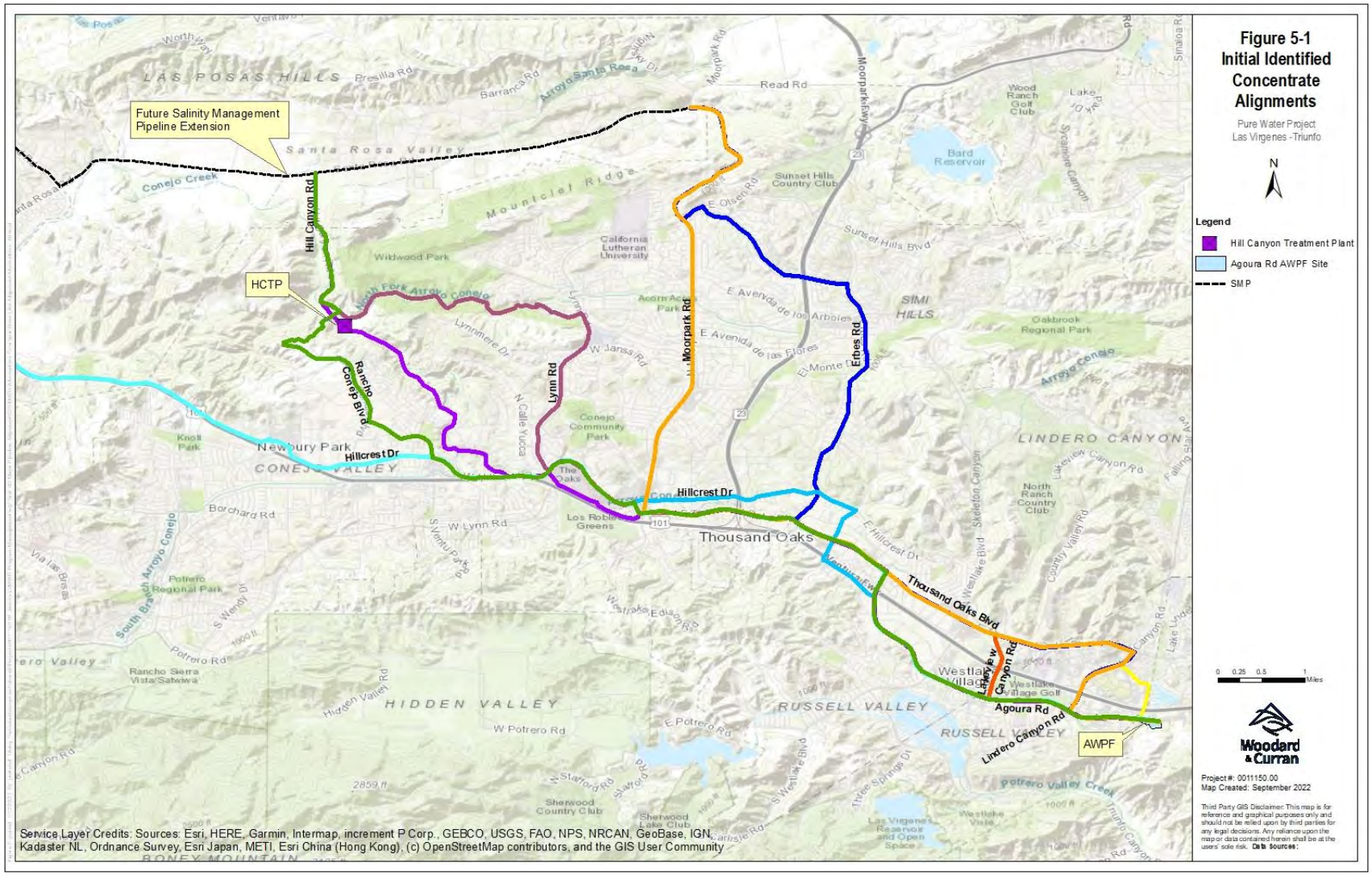
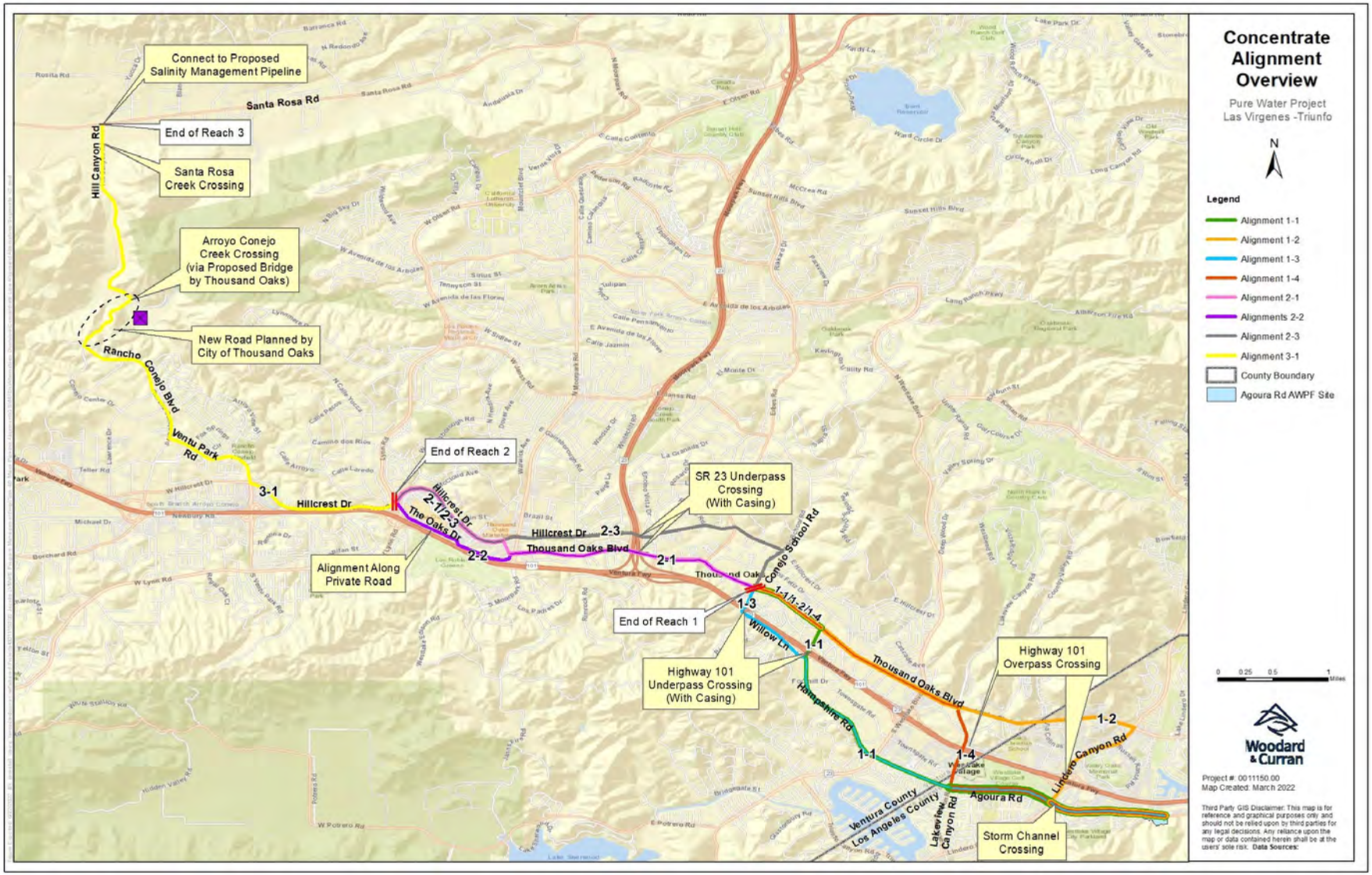


Figure 5-2: Concentrate Alignment Overview



5.2 Alternatives Descriptions and Evaluation

For ease of evaluating the various combinations of alignment routes, the routes have been divided into 3 reaches which have a shared start and end point among the alternative alignments. Alignment segments in Reach 1, denoted with prefix “1-”, extend from the Agoura Rd AWPF site to the intersection of Thousand Oaks Blvd and Conejo School Rd. Reach 2, denoted with prefix “2-”, continues from the intersection of Thousand Oaks Blvd and Conejo School Rd to the intersection of Hillcrest Dr and Lynn Rd. Reach 3 extends from the end of Reach 2 to the proposed connection point with the SMP on Santa Rosa Rd. **Table 5-1** summarizes the alignment segments, and **Table 5-2** indicates the areas identified where construction methods other than open cut installation would be required and identifies potential alternate construction methods for those areas.

Table 5-1: Concentrate Alignment Alternatives Summary

No.	Alignment Streets	Length
Reach 1 (Agoura Rd to Thousand Oaks Blvd/Conejo School Rd)		
1-1	Agoura Rd, Hampshire Rd, Thousand Oaks Blvd	22,820 ft
1-2	Agoura Rd, Lindero Canyon Rd, Thousand Oaks Blvd	26,930 ft
1-3	Agoura Rd, Hampshire Rd, Willow Ln, Conejo School Rd	22,680 ft
1-4	Agoura Rd, Lakeview Canyon Rd, Thousand Oaks Blvd	22,770 ft
Reach 2 (Thousand Oaks Blvd/Conejo School Rd to Hillcrest Dr/Lynn Rd)		
2-1	Thousand Oaks Blvd, Conejo Blvd, Hillcrest Dr	16,820 ft
2-2	Thousand Oaks Blvd, The Oaks Dr (Private), Hillcrest Dr	17,870 ft
2-3	Conejo School Rd, Hillcrest Dr	19,660 ft
Reach 3 (Hillcrest Dr/Lynn Rd to SMP Connection at Santa Rosa Rd)		
3-1	Hillcrest Dr, Ventu Park Dr, Rancho Conejo Blvd, Conejo Canyon Open Space Trail, Hill Canyon Rd	30,000 ft

Table 5-2: Concentrate Alternatives Alternate Construction Methods

No.	Alignment Streets	Alternate Construction Methods
Reach 1 **(Agoura Rd to Thousand Oaks Blvd/Conejo School Rd)**		
1-1	Agoura Rd, Hampshire Rd, Thousand Oaks Blvd	• Flood control channel crossing o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) o Attach to existing bridge o Span across walls of channel adjacent to existing bridge • Highway 101 underpass crossing - trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore), if open cut not approved by Caltrans
1-2	Agoura Rd, Lindero Canyon Rd, Thousand Oaks Blvd	• Flood control channel crossing o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) o Attach to existing bridge o Span across walls of channel adjacent to existing bridge • Highway 101 overpass crossing - construct in utility opening within bridge
1-3	Agoura Rd, Hampshire Rd, Willow Ln, Conejo School Rd	• Flood control channel crossing o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) o Attach to existing bridge o Span across walls of channel adjacent to existing bridge • Highway 101 underpass crossing - trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore), if open cut not approved by Caltrans
1-4	Agoura Rd, Lakeview Canyon Rd, Thousand Oaks Blvd	• Flood control channel crossing o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) o Attach to existing bridge o Span across walls of channel adjacent to existing bridge • Highway 101 overpass crossing - construct in utility opening within bridge

No.	Alignment Streets	Alternate Construction Methods
***Reach 2* (Thousand Oaks Blvd/Conejo School Rd to Hillcrest Dr/Lynn Rd)**		
2-1	Thousand Oaks Blvd, Conejo Blvd, Hillcrest Dr	• State Route 23 underpass crossing - trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore), if open cut not approved by Caltrans
2-2	Thousand Oaks Blvd, The Oaks Dr (Private), Hillcrest Dr	• State Route 23 underpass crossing - trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore), if open cut not approved by Caltrans
2-3	Conejo School Rd, Hillcrest Dr	• State Route 23 underpass crossing - trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore), if open cut not approved by Caltrans
***Reach 3* (Hillcrest Dr/Lynn Rd to SMP Connection at Santa Rosa Rd)**		
3-1	Hillcrest Dr, Ventu Park Dr, Rancho Conejo Blvd, Conejo Canyon Open Space Trail, Hill Canyon Rd	• Box culvert crossing o Hung from headwall structure o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore) • Arroyo Conejo crossing – construct in pipe sleeves in future bridge (by City of Thousand Oaks) • Arroyo Santa Rosa crossing o Attach to existing bridge o Trenchless installation (Jack and bore, Horizontal Directional Drilling, or Pilot Tube Guided Auger Bore)

5.2.1 Reach 1

Alternative 1-1 begins at the Agoura Rd AWPF site and extends west along Agoura Rd which transitions to Hampshire Rd, crosses under Highway 101, then turns on Thousand Oaks Blvd and continues west to its end at Conejo School Rd.

- **Easements and Encroachments** – An encroachment permit will be required from Caltrans for the underpass crossing of Highway 101 at Hampshire Rd. The remainder of the segment is within public right-of-way within the jurisdictions of the cities of Agoura Hills, Westlake Village, and Thousand Oaks.
- **Constructability** – Caltrans typically requires trenchless installation for construction in their right-of-way. Under certain conditions Caltrans may approve proposals for open cut construction. The Los Angeles County flood control channel crossing (common to all Reach 1 alternatives) can be constructed by attaching the pipe to the existing bridge. Multiple PWP pipelines will require crossing of the flood control channel, of which the bridge will likely not be able to accommodate all. Alternate construction methods include constructing the pipe to span the walls of the channel on the downstream side of the bridge, or to use trenchless installation methods to construct the pipe under the channel. Typical open cut construction is anticipated for the remaining segment length.
- **Utilities** – Hampshire Rd and Thousand Oaks Blvd are somewhat congested with existing utilities, leaving a smaller corridor for the concentrate line. Along Thousand Oaks Blvd a crossing of a potentially shallow large diameter storm drain may also require alternative construction methods if in conflict.

- **Public Impacts** – Agoura Rd and Hampshire Rd are relatively high trafficked streets but with less average daily traffic than Thousand Oaks Blvd. The street has a dedicated bike lane that is well used. Bicycle traffic may be impacted during construction.
- **Operations and Maintenance** – Access for maintenance on arterial streets, but no major maintenance access concerns.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a slight potential to encounter hard rock.
- **Pumping Requirements** – The alignment along Agoura Rd and Hampshire Rd requires the lowest pumping head required among the Reach 1 alternatives.

Alternative 1-2 begins at the Agoura Rd AWPF site and extends west along Agoura Rd, turns on Lindero Canyon Rd and crosses Highway 101 through the existing bridge superstructure. The alignment continues along Lindero Canyon Rd, turning on Thousand Oaks Blvd and extends to its end at Conejo School Rd.

- **Easements and Encroachments** – Segment requires an encroachment permit from Caltrans for a crossing of Highway 101 within the Lindero Canyon Rd bridge overpass structure. A review of the bridge record drawings provided by Caltrans indicate the bridge has an available utility opening. The process of obtaining an easement from Caltrans for construction and maintenance of the concentrate line within the bridge is more onerous than an underpass crossing and could cause delays in the project schedule. In addition, there is a risk of Caltrans rejecting the easement request. These factors are reflected in the scoring for this alternative.
- **Constructability** – Bridge as-builts provided by Caltrans indicate there are two open 2-foot-2-inch by 3-foot-6-inch wide utility cells in the bridge (the third occupied by LVMWD's 20-inch recycled pipeline). An inspection would be necessary to confirm the availability of these utility cells. Since this work will be done in the Caltrans right-of-way, it may be difficult to locate a staging area around Highway 101 and the high traffic area on Lindero Canyon Rd. Construction of this crossing is technically challenging due to traffic control requirements during construction, construction of piping within a confined space, and various other Caltrans requirements for work within their right-of-way.

  All Reach 1 alignments include a crossing of the LACFCD storm channel as described in the Segment 1-1 section. For the remainder of the segment length typical open cut construction is anticipated.
- **Utilities** – Lindero Canyon Rd and Thousand Oaks Blvd are somewhat congested with existing utilities, leaving a smaller corridor for the concentrate line. Along Thousand Oaks Blvd the alignment crosses multiple potentially shallow large diameter storm drains which may also require alternative construction methods if in conflict.
- **Public Impacts** – Lindero Canyon Rd is a high traffic road with on and offramps to Highway 101 which will require special traffic control measures dictated by Caltrans. Traffic to Westlake High School, located along Thousand Oaks Blvd and bordered to the west by Lakeview Canyon Rd, would be affected by construction of the pipeline. Special working hours may be required for construction near the school. The alignment also crosses through the critical intersection of Thousand Oaks Blvd and Westlake Blvd. Night work will likely be required by the City of Thousand Oaks for construction through the intersection.
- **Operations and Maintenance** – Access for maintenance on arterial streets. In addition, the segment located in the Caltrans bridge structure would have more limited ability to access for maintenance.

- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate potential to encounter hard rock.
- **Pumping Requirements** – The alignment requires the highest pumping head of the alternatives to clear the high elevation point on Thousand Oaks Blvd east of Lindero Canyon Rd, and longer length.

Alternative 1-3 begins at the Agoura Rd AWPF site and extends west along Agoura Rd which transitions to Hampshire Rd, turns on Willow Ln and crosses under Highway 101. After the crossing, the segment continues north along Conejo School Rd ending at Thousand Oaks Blvd.

- **Easements and Encroachments** – An encroachment permit will be required from Caltrans for the underpass crossing of Highway 101 at Conejo School Rd. The remainder of the segment is within public right-of-way within the jurisdictions of the cities of Agoura Hills, Westlake Village, and Thousand Oaks.
- **Constructability** – Caltrans typically requires trenchless installation for construction in their right-of-way. Under certain conditions Caltrans may approve proposals for open cut construction. All Reach 1 alignments include a crossing of the LACFCD storm channel as described in the Segment 1-1 section. Typical open cut construction anticipated for the remaining segment length.
- **Utilities** – Thousand Oaks Blvd is somewhat congested with existing utilities, leaving a smaller corridor for the concentrate line. Willow Ln and Conejo School Rd, however, have less utility congestion compared to the alternative segments. Along Thousand Oaks Blvd the alignment crosses a potentially shallow large diameter storm drain which may also require alternative construction methods if in conflict.
- **Public Impacts** – Agoura Rd and Hampshire Rd are relatively high trafficked streets but with less average daily traffic than Thousand Oaks Blvd. The street has a dedicated bike lane that is well used. Bicycle traffic may be impacted during construction. Willow Ln and Conejo School Rd are local streets with low average daily traffic.
- **Operations and Maintenance** – Some access for maintenance on arterial streets, but no major maintenance access concerns. Access on low traffic streets Willow Ln and Conejo School Rd safer than alternative alignments.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a slight potential to encounter hard rock.
- **Pumping Requirements** – The alignment along Agoura Rd and Hampshire Rd requires a low pumping head required among the Reach 1 alternatives.

Alternative 1-4 begins at the Agoura Rd AWPF site and extends west along Agoura Rd, turns on Lakeview Canyon Rd crossing Highway 101 through the existing bridge superstructure. The alignment continues along Lakeview Canyon Rd, turning on Thousand Oaks Blvd and extends to its end at Conejo School Rd.

- **Easements and Encroachments** – Segment requires an encroachment permit from Caltrans for a crossing of Highway 101 within the Lakeview Canyon Rd bridge overpass structure. A review of the bridge record drawings provided by Caltrans indicate the bridge has utility openings with existing utilities but may be able to accommodate the new line. There is a substantial risk there is not enough available space in the bridge openings to construct the

concentrate line. The process of obtaining an easement from Caltrans for construction and maintenance of the concentrate line within the bridge could cause delays in the project schedule. In addition, there is a risk of Caltrans rejecting the easement request. These factors are reflected in the scoring for this alternative.

- **Constructability** – Bridge as-builts provided by Caltrans indicate there are two 2'-2"x3'-6" wide utility cells in the bridge which each contain existing utilities. Due to the small size of the concentrate line, there may be adequate space in one of the utility cells to accommodate the new pipeline, however construction within an opening with an existing utility will be a constructability challenge. An inspection would be necessary to confirm the availability of these utility cells. Construction of this crossing is technically challenging due to traffic control requirements during construction, construction of piping within a confined space, and various other Caltrans requirements for work within their right-of-way. All Reach 1 alignments include a crossing of the LACFCD storm channel as described in the Segment 1-1 section.
- **Utilities** – The existing utilities in the Lakeview Canyon Rd bridge could make this alternative infeasible. The alignment also includes multiple crossings of large diameter, potentially shallow, storm drains which may require alternative construction methods to cross.
- **Public Impacts** – Traffic to Westlake High School, located along Thousand Oaks Blvd and bordered to the west by Lakeview Canyon Rd, would be affected by construction of the pipeline. Special working hours may be required for construction near the school. The alignment also crosses through the critical intersection of Thousand Oaks Blvd and Westlake Blvd. Night work will likely be required by the City of Thousand Oaks for construction through the intersection.
- **Operations and Maintenance** – Access for maintenance on arterial streets. In addition, the segment located in the Caltrans bridge structure would have more limited ability to access for maintenance.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a slight potential to encounter hard rock.
- **Pumping Requirements** – The alignment requires a moderate amount of pumping in relation to the alternatives.

5.2.2 Reach 2

Alternative 2-1 begins at the intersection of Thousand Oaks Blvd and Conejo School Rd, extends west along Thousand Oaks Blvd and crosses under State Route 23. The alignment turns up onto Conejo Blvd and then onto Hillcrest Dr where it continues to its end at Lynn Rd.

- **Easements and Encroachments** – An encroachment permit will be required from Caltrans for the underpass crossing of State Route 23 at Thousand Oaks Blvd. The remainder of the segment is within public right-of-way in the City of Thousand Oaks.
- **Constructability** – Caltrans typically requires trenchless installation for construction in their right-of-way. Under certain conditions Caltrans may approve proposals for open cut construction. Typical open cut construction anticipated for the remaining segment length.
- **Utilities** – Thousand Oaks Blvd is somewhat congested with existing utilities, leaving a smaller corridor for the concentrate line. Along Thousand Oaks Blvd the alignment crosses multiple potentially shallow large diameter storm drains which may also require alternative construction methods if in conflict.
- **Public Impacts** – City of Thousand Oaks' City Hall and downtown area is located along Thousand Oaks Blvd west of Conejo School Rd. Construction along this segment would

impact the busy city center. The intersections of Thousand Oaks Blvd and Erbes Rd, Thousand Oaks Blvd and Moorpark Rd as well as Hillcrest Dr and Lynn Rd are high traffic zones where night work will likely be required by the City of Thousand Oaks to minimize traffic impacts. Thousand Oaks Blvd is a designated bike route with a high propensity for cyclist travel.

- **Operations and Maintenance** – Access for maintenance on arterial streets, but no major maintenance access concerns.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate potential to encounter hard rock. Comments from the City of Thousand Oaks indicate that high groundwater has been an issue in this area on past projects.
- **Pumping Requirements** – The segment requires the least pumping head among the Reach 2 segment alternatives.

Alternative 2-2 begins at the intersection of Thousand Oaks Blvd and Conejo School Rd, extends west along Thousand Oaks Blvd and crosses under State Route 23. The alignment extends along Thousand Oaks Blvd to its transition to the private road The Oaks Dr, continuing to its end at Lynn Rd.

- **Easements and Encroachments** – The portion of this segment within Thousand Oaks Blvd is within public right-of-way. The portion of the segment along The Oaks Dr is part of The Oaks Mall, not within public right-of-way, and therefore would require an easement for construction and maintenance of the line through the private property. The risk of negotiations failing, and the unknown costs of easement acquisition are reflected in the score for this criterion. An encroachment permit will be required from Caltrans for the underpass crossing of State Route 23 at Thousand Oaks Blvd. The remainder of the segment is within public right-of-way in the City of Thousand Oaks.
- **Constructability** – Caltrans typically requires trenchless installation for construction in their right-of-way. Under certain conditions Caltrans may approve proposals for open cut construction. Typical open cut construction anticipated for the remaining segment length.
- **Utilities** – There are several existing utilities in The Oaks Blvd, which because it is a narrow roadway leaves a narrow corridor to slot the concentrate line. Along Thousand Oaks Blvd the alignment crosses multiple potentially shallow large diameter storm drains which may also require alternative construction methods if in conflict.
- **Public Impacts** – City of Thousand City Hall and downtown area is located along Thousand Oaks Blvd west of Conejo School Rd. Construction along this segment would impact the busy city center. The intersections of Thousand Oaks Blvd and Erbes Rd, Thousand Oaks Blvd and Moorpark Rd as well as Hillcrest Dr and Lynn Rd are high traffic zones where night work will likely be required by the City of Thousand Oaks to minimize traffic impacts. The Oaks Dr is a private street with lower traffic relative to the parallel arterial streets, however, construction along this route would impact access to the commercial businesses on the property. Thousand Oaks Blvd is a designated bike route with a high propensity for cyclist travel.
- **Operations and Maintenance** – Access for maintenance on arterial streets, but no major maintenance access concerns. Access for segment on private property also may be limited.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a moderate potential to

encounter hard rock. Comments from the City of Thousand Oaks indicate that high groundwater has been an issue in this area on past projects.

- **Pumping Requirements** – The segment requires relatively low pumping head among the Reach 2 segment alternatives.

Alternative 2-3 begins at the intersection of Thousand Oaks Blvd and Conejo School Rd, extends north along Conejo School Rd and turns on Hillcrest Dr. The alignment extends along Hillcrest Rd, crosses under State Route 23, and continues to its end at Lynn Rd.

- **Easements and Encroachments** – An encroachment permit will be required from Caltrans for the underpass crossing of State Route 23 at Hillcrest Dr. The remainder of the segment is within public right-of-way in the City of Thousand Oaks.
- **Constructability** – Caltrans typically requires trenchless installation for construction in their right-of-way. Under certain conditions Caltrans may approve proposals for open cut construction. Typical open cut construction anticipated for the remaining segment length.
- **Utilities** – Based on provided utility information there is not an issue with utility congestion along the alignment. Along Hillcrest Dr the alignment crosses multiple potentially shallow large diameter storm drains which may also require alternative construction methods if in conflict.
- **Public Impacts** – The segment includes construction in front of Conejo Elementary School, located along Conejo School Rd and Hillcrest Dr. Night work may be required by the City of Thousand Oaks along this section near the school. The intersections of Hillcrest Dr/Moorpark Rd and Hillcrest Dr/Lynn Rd are high traffic zones where night work will likely be required by the City of Thousand Oaks to minimize traffic impacts. However, relative to Thousand Oaks Blvd, Hillcrest Dr sees less average daily traffic. Hillcrest Dr is a designated bike route with a high propensity for cyclist travel.
- **Operations and Maintenance** – Access for maintenance on the arterial street Hillcrest Dr which has high traffic speeds, but otherwise no major maintenance access concerns.
- **Permitting** – There are no anticipated issues meeting DDW separation requirements. No environmental constraints are anticipated, and all work is within paved roadways.
- **Geotechnical Considerations** – The desktop geotechnical study results indicate the presence of unconsolidated soils, possible oversized materials, and a slight to moderate potential to encounter hard rock.
- **Pumping Requirements** – The segment requires some additional pumping head compared to the other Reach 2 segment alternatives.

5.2.3 Reach 3

Alternative 3-1 begins at the intersection of Hillcrest Dr and Lynn Rd, extends west along Hillcrest Rd, turns on Ventu Park Rd and then onto Rancho Conejo Blvd. Across from the City of Thousand Oaks Municipal Services Center near the end of Rancho Conejo Blvd, the alignment turns onto a private parcel continuing through to the Conejo Canyon Open Space Trail. The segment through the parcel will be through an existing City easement, while the segment along the open space trail is scheduled to be paved by the City of Thousand Oaks. At Arroyo Conejo Creek, the pipeline would cross via a bridge proposed by the City of Thousand Oaks, then continuing northwest on Hill Canyon Fire Rd. The alignment crosses the Arroyo Santa Rosa Creek on Hill Canyon Rd (via bridge or trenchless construction) and ends at the connection to the proposed Salinity Management Pipeline at Santa Rosa Rd.

Segment 3-1 did not receive scoring on the evaluation criteria because it is the only alternative under consideration for Reach 3.

A summary of the scores is presented in **Table 5-3** and **Table 5-4**.

Table 5-3: Concentrate Pipeline Alternatives Scoring Summary – Reach 1

		Reach 1							
TOTAL SCORE		**82.0**		**57.0**		**84.0**		**54.5**	
	100	**Alternative 1-1 (Agoura Rd/Hampshire Rd)**		**Alternative 1-2 (Lindero Canyon Rd/Thousand Oaks Blvd)**		**Alternative 1-3 (Willow Lane/Conejo School Rd)**		**Alternative 1-4 (Lakeview Canyon Rd)**	
Objective	**Max Score**	*Score*	*Criterion*	*Score*	*Criterion*	*Score*	*Criterion*	*Score*	*Criterion*
1. Easements and Encroachments	10.0	8.0		4.0		8.0		4.0	
1.1 Potential Easements, Right-of-Way Encroachments	10.00	4	Caltrans underpass, City of Agoura Hills, City of Westlake Village, City of Thousand Oaks	2	Caltrans in bridge structure, City of Agoura Hills, City of Westlake Village, City of Thousand Oaks	4	Caltrans underpass, City of Agoura Hills, City of Westlake Village, City of Thousand Oaks	2	Caltrans in bridge structure, City of Agoura Hills, City of Westlake Village, City of Thousand Oaks
2. Constructability	15.0	12.0		6.0		12.0		4.5	
2.1 Access	7.50	5	No significant issues	3	Access in Caltrans R/W, on arterial street. Bridge access may be limited	5	No significant issues	3	Access in Caltrans R/W. Bridge access may be limited
2.2 Construction Method	7.50	3	-Trenchless construction through Caltrans R/W (unless special approval granted). -Flood control channel crossing (all alternatives)	1	-Bridge overpass crossing of 101 at Lindero Canyon Rd. -Flood control channel crossing (all alternatives)	3	-Trenchless construction through Caltrans R/W (unless special approval granted). -Flood control channel crossing (all alternatives)	0	-Bridge overpass crossing of 101 at Lakeview Canyon Rd. Difficult installation in opening with exist utility -Flood control channel crossing (all alternatives)
3. Utilities	10.0	7.0		6.0		8.0		3.0	
3.1 Congestion	5.00	3	Some utility congestion along Thousand Oaks Blvd/Hampshire Rd	3	Some utility congestion along Thousand Oaks Blvd/Lindero Canyon Rd	4	Less congestion on Willlow Lane	2	Some utility congestion along Thousand Oaks Blvd. Exist utilities in bridge crossing
3.2 Critical Utility Conflict Potential	5.00	4	Large shallow storm drain on TO Blvd (one crossing)	3	Large shallow storm drains on TO Blvd (multiple crossings)	4	Large shallow storm drains on TO Blvd (one crossing)	1	Large shallow storm drains on TO Blvd (multiple crossings). Existing utilities in bridge crossing.
4. Public Impacts	10.0	6.0		5.0		7.0		5.0	
4.1 Pedestrian and Bicyclist Impacts	5.00	3	Agoura Rd/Hampshire Rd has a dedicated bike lane with heavy use	4	TO Blvd a designated bike route	3	Agoura Rd/Hampshire Rd dedicated bike lane	3	Agoura Rd and Lakeview Canyon Rd dedicated bike lane
4.2 Vehiclular Impacts	5.00	3	Agoura Rd relatively high trafficked, but lower traffic than Thousand Oaks Blvd	1	-TO Blvd/Westlake Blvd critical intersection -Lindero Canyon Rd and TO Blvd high traffic -Westlake HS, (Oaks Christian HS)	4	Willow Ln and Conejo School Rd lower traffic than alternatives	2	-TO Blvd/Westlake Blvd critical intersection. -TO Blvd high traffic -Westlake HS, (Oaks Christian HS)
5. Operation and Maintenance	20.0	16.0		11.0		19.0		13.0	
5.1 Safety/Access	15.00	4	Access on major street (Agoura Rd/Hampshire Rd)	3	-Bridge segment more difficult access -Access on major street (Lindero Canyon Rd/TO Blvd)	5	Easier access on Willow Ln/Conejo School Rd	3	-Bridge segment more difficult access -Access on major street (Agoura Rd/Hampshire Rd)
5.2 Number of Appurtenances	5.00	4	Relative lower length of pipeline/number of appurtenances	2	High relative length of pipeline/number of appurtenances to maintain	4	Relative lower length of pipeline/number of appurtenances	4	Relative lower length of pipeline/number of appurtenances
6. Permitting	10.0	10.0		10.0		10.0		10.0	
6.1 DDW Separation	5.00	5	No significant separation issues	5	No significant separation issues	5	No significant separation issues	5	No significant separation issues
6.2 Environmental	5.00	5	No anticipated environmental constraints	5	No anticipated environmental constraints	5	No anticipated environmental constraints	5	No anticipated environmental constraints
7. Geotechnical Considerations	10.0	8.0		6.0		8.0		6.0	
7.1 Geotechnical Considerations	10.0	4	Unconsolidated soils, possible oversized materials,slight potential to encounter hard rock	3	Unconsolidated soils, possible oversized materials,slight to moderate potential to encounter hard rock	4	Unconsolidated soils, possible oversized materials,slight potential to encounter hard rock	3	Unconsolidated soils, possible oversized materials,slight to moderate potential to encounter hard rock
8. Pumping Requirements/Hydraulic Considerations	15.0	15.0		9.0		12.0		9.0	
8.1 Pumping Head	15.00	5	Lowest pumping head required	3	Highest additional pumping head required (moderate increase relative to lowest alternative)	4	Slight increase of pumping head required relative to lowest alternative	3	Moderate increase of pumping head required relative to lowest alternative

Table 5-4: Concentrate Pipeline Alternatives Scoring Summary – Reach 2

		Reach 2					
TOTAL SCORE		**75.5**		**66.5**		**79.5**	
	100	**Alternative 2-1 (Thousand Oaks Blvd/Hillcrest Dr)**		**Alternative 2-2 (Thousand Oaks Blvd/The Oaks Dr)**		**Alternative 2-3 (Conejo School Rd/Hillcrest Dr)**	
Objective	**Max Score**	*Score*	*Criterion*	*Score*	*Criterion*	*Score*	*Criterion*
1. Easements and Encroachments	10.0	8.0		2.0		8.0	
1.1 Potential Easements, Right-of-Way Encroachments	10.00	4	Caltrans underpass, City of Thousand Oaks	1	Easement through private property (The Oaks Dr), Caltrans underpass, City of Thousand Oaks	4	Caltrans underpass, City of Thousand Oaks
2. Constructability	15.0	13.5		13.5		13.5	
2.1 Access	7.50	5	No significant issues	5	No significant issues	5	No significant issues
2.2 Construction Method	7.50	4	Trenchless construction through Caltrans R/W (unless special approval granted). Typical open cut construction remainder of segment.	4	Trenchless construction through Caltrans R/W (unless special approval granted). Typical open cut construction remainder of segment.	4	Trenchless construction through Caltrans R/W (unless special approval granted). Typical open cut construction remainder of segment.
3. Utilities	10.0	6.0		5.0		7.0	
3.1 Congestion	5.00	3	Some utility congestion along Thousand Oaks Blvd	2	Some utility congestion along Thousand Oaks Blvd	4	Less utilitty congestion than Thousand Oaks Blvd
3.2 Critical Utility Conflict Potential	5.00	3	Large shallow storm drains on TO Blvd (multiple crossings)	3	Large shallow storm drains on TO Blvd (multiple crossings)	3	Large shallow storm drains on Hillcrest Dr (multiple crossings)
4. Public Impacts	10.0	4.0		4.0		7.0	
4.1 Pedestrian and Bicyclist Impacts	5.00	2	-City Hall/Downtown TO impacts. - TO Blvd a designated bike route, moderate to high use	2	-City Hall/Downtown TO impacts -TO Blvd a designed bike route, moderate to high use	4	Hillcrest Dr a designated bike route, moderate to high use
4.2 Vehiclular Impacts	5.00	2	-TO Blvd and Moorpark Rd very high traffic streets. TO Blvd/Erbes Rd critical intersection -Downtown/City Hall area on TO Blvd	2	-TO Blvd and Moorpark Rd very high traffic streets. TO Blvd/Erbes Rd critical intersection -Downtown/City Hall area on TO Blvd -The Oaks Dr lower traffic but impact to shopping center	3	-Hillcrest Dr has less traffic than TO Blvd -Hillcrest Dr/Moorpark Rd critical intersection -Conejo Elem School
5. Operation and Maintenance	20.0	15.0		13.0		16.0	
5.1 Safety/Access	15.00	4	Access on major street (TO Blvd)	3	-Reduced accessibility for pipe on private property -Access on major street (TO Blvd)	4	Access on major street (Hillcrest Dr)
5.2 Number of Appurtenances	5.00	3	Moderate increase in length of pipeline/number of appurtenances to maintain	4	Relative lower length of pipeline/number of appurtenances	4	Relative lower length of pipeline/number of appurtenances
6. Permitting	10.0	10.0		10.0		10.0	
6.1 DDW Separation	5.00	5	No significant separation issues	5	No significant separation issues	5	No significant separation issues
6.2 Environmental	5.00	5	No anticipated environmental constraints	5	No anticipated environmental constraints	5	No anticipated environmental constraints
7. Geotechnical Considerations	10.0	4.0		4.0		6.0	
7.1 Geotechnical Considerations	10.0	2	Unconsolidated soils, possible oversized materials,moderate potential to encounter hard rock	2	Unconsolidated soils, possible oversized materials,moderate potential to encounter hard rock	3	Unconsolidated soils, possible oversized materials,slight to moderate potential to encounter hard rock
8. Pumping Requirements/Hydraulic Considerations	15.0	15.0		15.0		12.0	
8.1 Pumping Head	15.00	5	Lowest pumping head required	5	Low relative pumping head required	4	Slight increase of pumping head required relative to alternative segments

5.3 Construction Cost Estimates

The detailed estimate for each concentrate pipeline alternative is provided in **Appendix B**. The estimates are summarized in the table below.

The purified water pipeline cost estimates assume the pipe material is HDPE. Final pipe selection and bid environment could have a significant effect on the total construction cost. The estimates in this report were developed for the purposes of comparing the *relative* costs of the alternatives, which is not anticipated to be impacted by pipe material selection.

Table 5-5: Concentrate Alternative Construction Cost Estimate Summary Table

Alternative No.	Estimated Construction Cost
Reach 1	
1-1	$17,364,000
1-2	$19,629,000
1-3	$16,812,000
1-4	$16,951,000
Reach 2	
2-1	$13,068,000
2-2	$13,406,000
2-3	$14,915,000
Reach 3	
3-1	$21,140,000

5.4 Results and Recommendations

This section summarizes the results of the evaluation for the concentrate alternatives.

5.4.1 Alignment Recommendation

The ranking of the alternatives was based on the results of the scoring on the non-monetary criteria, in addition to consideration for the relative costs of the alternatives. Among the Reach 1 alternatives Segment 1-3 received the highest score in the analysis. Segments 1-1 and 1-3 cross Highway 101 at grade which is preferable for constructability, cost, and permitting among other factors compared to a bridge crossing as in Segments 1-2 and 1-4. Segments 1-1 and 1-3 received similar scores, but Segment 1-3's higher score was due to the alignment following the smaller streets of Willow Ln and Conejo School Rd resulting in reduced traffic impacts and utility congestion. The recommended alignment for Reach 1 is Segment 1-3. Segments 1-2 and 1-4, which scored considerably lower, be removed from further consideration.

For Reach 2, Segment 2-3 scored the highest. Segment 2-2, which involves construction on private property, received a much lower relative score and is recommended to be removed from further consideration. The primary benefit of Segment 2-3 is the corridor along Hillcrest Dr is expected to have less public impact compared to Segments 2-1 and 2-2, each of which follow the larger arterial street Thousand Oaks Blvd along which the City of Thousand Oak's downtown city center is located. Segment 2-3 is the longest alignment and is estimated to have the highest cost. However, construction through the downtown area on Thousand Oaks Blvd as in Segment 2-1 has a greater potential for additional costs not

captured in the estimate, such as more stringent traffic control requirements, utility relocation, and slower installation rates. Therefore, Segment 2-3 is the recommended alternative for Reach 2.

Reach 3 only had one alignment under consideration which is the recommended alignment. **Figure 5-3** provides an overview of the recommended alignment.

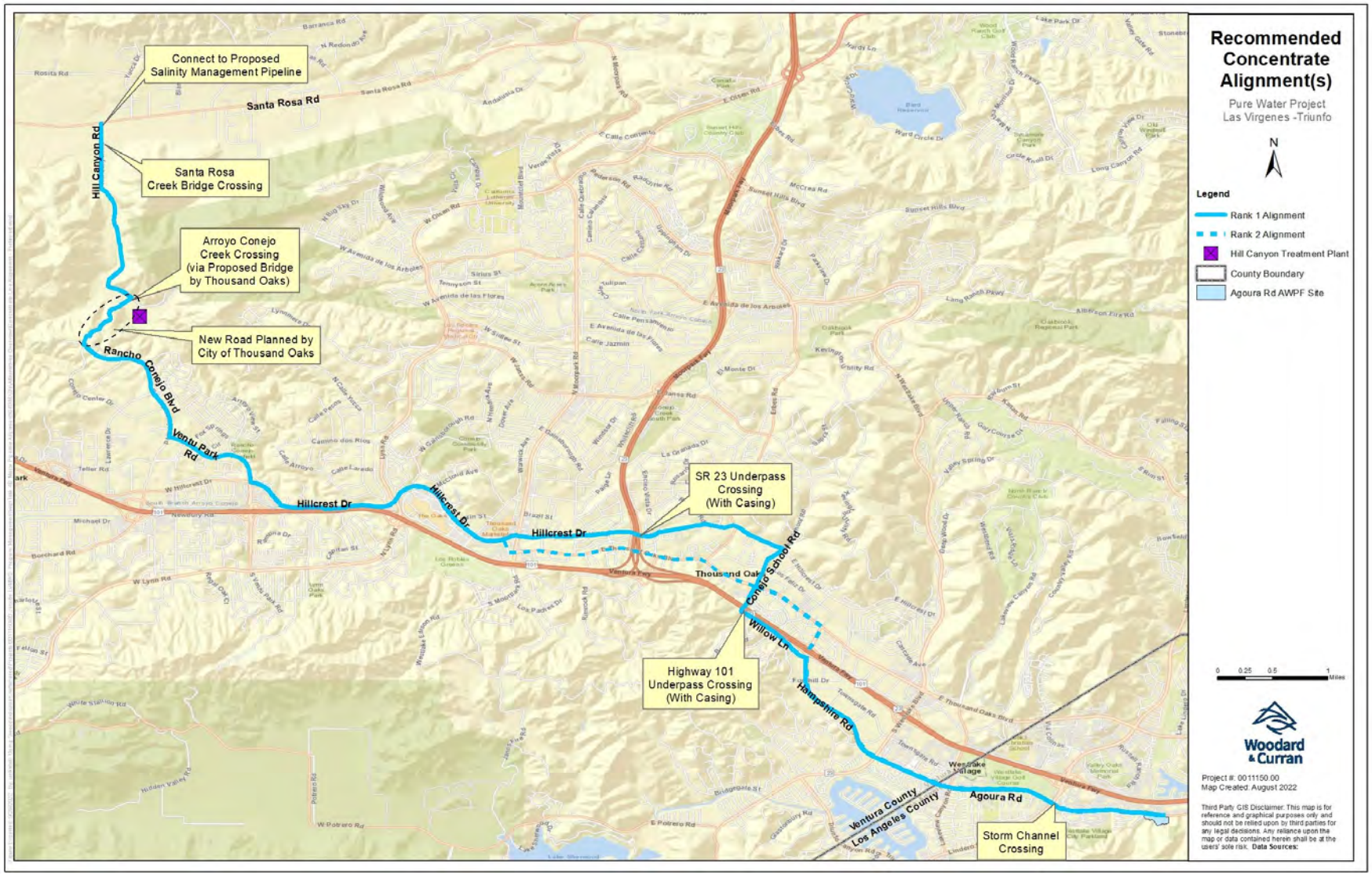
Conceptual drawings of the alignments are included in **Appendix C.**

Table 5-6: Concentrate Line Alternative Ranking

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Cost[1]	Advance for Further Consideration
Reach 1					
1	Segment 1-3	22,680 ft	84.0	$16,812,000	Yes
2	Segment 1-1	22,820 ft	82.0	$17,364,000	Yes
3	Segment 1-2	26,930 ft	57.0	$19,629,000	No
4	Segment 1-4	22,770 ft	54.5	$16,951,000	No
Reach 2					
1	Segment 2-3	19,660 ft	79.5	$14,915,000	Yes
2	Segment 2-1	16,820 ft	75.5	$13,068,000	Yes
3	Segment 2-2	17,870 ft	66.5	$13,406,000	No
Reach 3					
1	Segment 3-1	30,000 ft	-	$21,140,000	Yes

[1] See Section 5.3 and Appendix B for cost estimate assumptions.

Figure 5-3: Recommended Concentrate Pipeline Alignments



5.4.2 Design Criteria

A summary of the design criteria is presented in **Table 5-7**. A target maximum head loss of 5 ft head loss per 1,000 ft was used to develop preliminary sizing. RO concentrate is a waste solution of dissolved solids, typically inorganic salts. These dissolved solids can precipitate onto the surfaces of a pipe, known as scaling. The design criteria for the concentrate line must account for the potential of scaling, and selections made to minimize and mitigate scaling. Additional considerations are provided as discussion below.

Table 5-7: Concentrate Pipeline Design Criteria

Item	Design Criteria
Hydraulics and Sizing	
Target Minimum Pressure at High Points	20 psi
Design Flow	1 mgd
Friction Coefficient (C value)	130
Target Maximum Head Loss	5 ft/1,000 ft
Design Pipeline Outside Diameter (OD)/Inside Diameter (ID)[1]	10.75-inch OD 8.2-inch ID
Pipe Material[2]	
Allowable Pipe Materials	HDPE (AWWA C906), Fusible PVC (AWWA C900)
Pipeline Appurtenances and Facilities[1]	
Pipeline Appurtenances and Facilities Required	Air valves (At high points) Blowoffs (Selected low points) Access way/cleaning structures (Min 1,400 LF spacing) Energy dissipation facilities

[1] Assumes DR 9 IPS HDPE pipe

[2] Pipeline and appurtenances per LVMWD design standards

Backfill and Pavement Restoration

Final backfill and pavement restoration for open cut construction in the public right-of-way will be in accordance with City of Westlake Village, City of Thousand Oaks, Ventura County, and City of Agoura Hills requirements. Westlake Village and Thousand Oaks typically require CLSM for trench backfill material.

Pipe Material

HDPE and PVC pipe are commonly used for concentrate conveyance due to their chemical resistant properties. Pipes installed with bell and spigot joints have a gap at each joint which can induce turbulence and promote localized scale formation. Therefore, it is recommended that fusion welded joint pipe be used for the concentrate pipeline.

Valves

Isolation valves that produce a smooth flow path when open are preferred for service in concentrate conveyance because turbulence from valves can cause localized scaling. Plug and gate valves are available with full port opening such that minimum turbulence is created when the valve is open. Pinch valves also produce a smooth flow path and flex when actuated which can work to break off accumulated scale. Each of these valves is available in materials recommended for brine service.

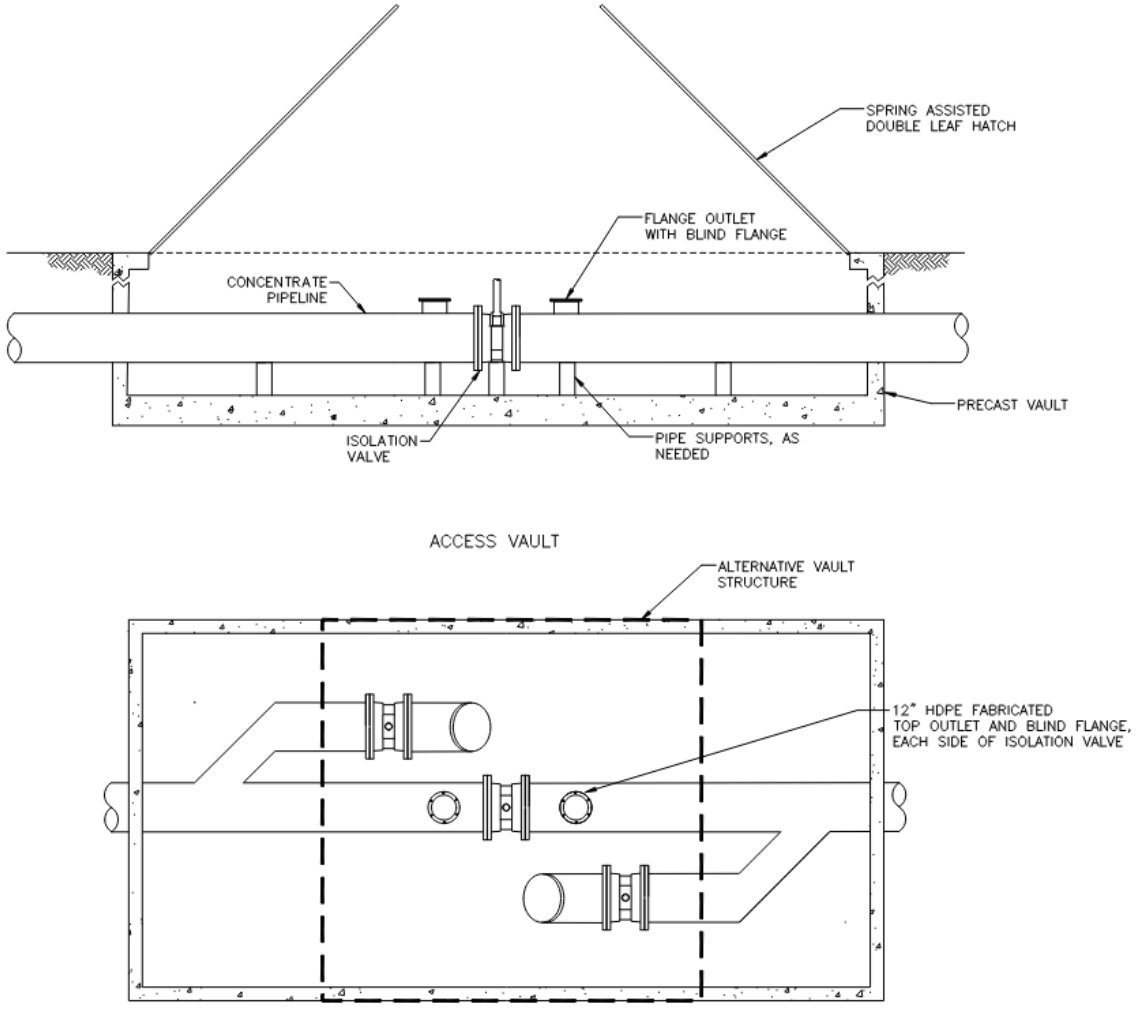
Air and vacuum valves are also prone to issues in concentrate conveyance systems due to susceptibility to corrosion of metal parts exposed to brine and formation of scale which inhibits proper functioning of the valve. Standard practices to mitigate these issues are to install non-metallic valves compatible with brine

service and adopt a practice of routine maintenance to swap out valves fouled by scale formation with acid cleaned valves, a practice currently in use by CMWD for the SMP.

Cleaning

It is recommended that sufficient access for pipeline cleaning and inspection is incorporated into the design of the conveyance line. LVMWD conducted a survey of operational RO facilities (LVMWD, 2021) to identify potential operational concerns and mitigation measures for the concentrate facilities. Of the survey participants only two have identified scaling issues in their brine and concentrate lines. Where scaling was present, participants noted that acid washing or physical cleaning via hydrojetting were proven to be adequate removal methods. In discussions with LVMWD operations staff, the combination trucks currently used by the staff for their sewer pipe maintenance have a maximum reach of 700 feet. Therefore, to maintain access to the entire pipeline length accessways would have to be provided at intervals of no more than 1,400-feet. **Figure 5-4** provides an example layout for an accessway.

Figure 5-4: Example Accessway Layout

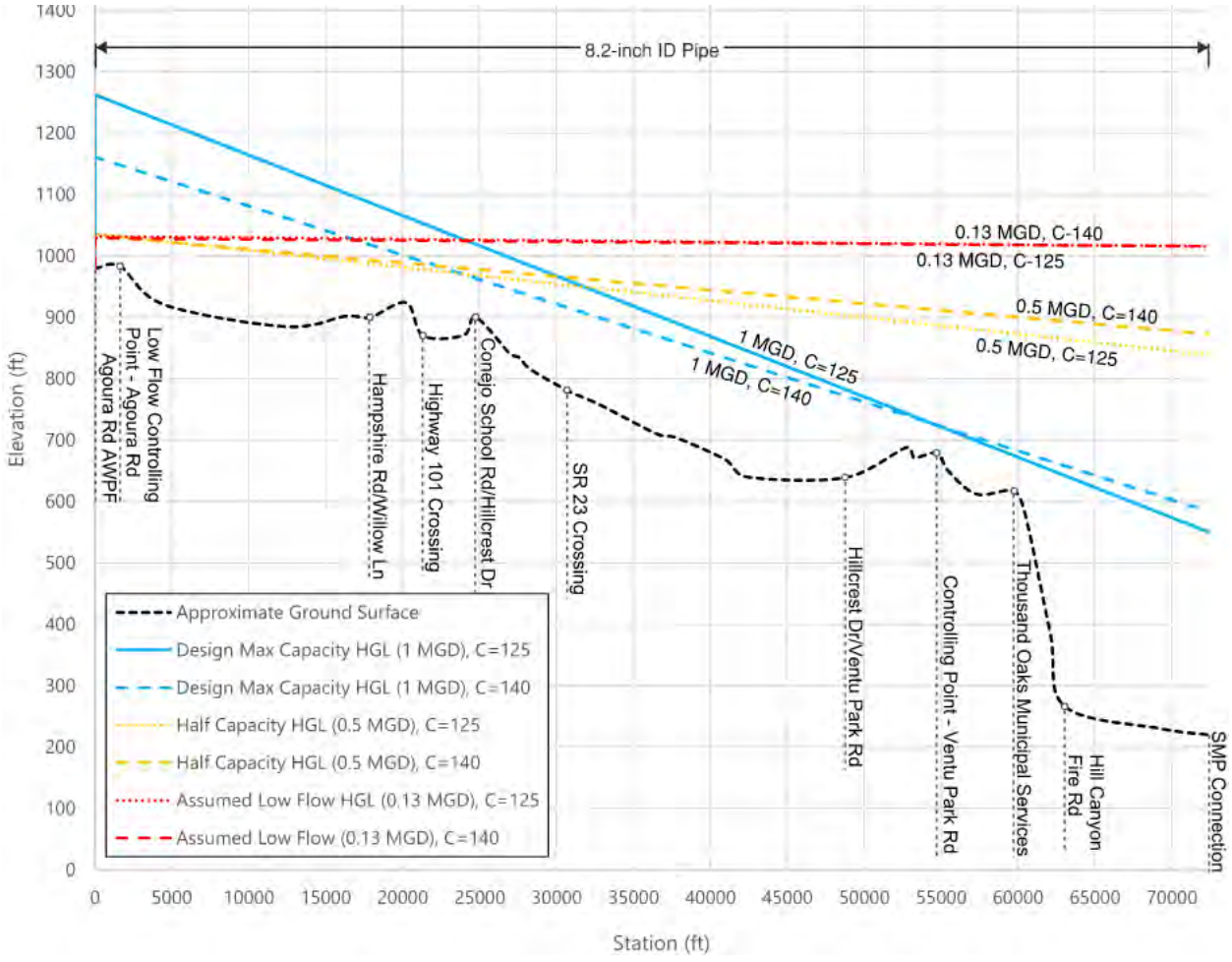


Energy Dissipation

An estimated hydraulic profile is shown in **Figure 5-5**. The flow scenarios were based on preliminary anticipated operating conditions for the AWPF. Under low flow conditions, due to lower friction head loss, the concentrate line would reach high pressures due to the elevation drop through Conejo Canyon. The hydr

aulic profile shows pressures over the pressure rating of available HDPE or FPVC pipe, requiring energy dissipation along this segment. It is anticipated that energy dissipation will be needed at two to three locations along the alignment including: at the top of the canyon near the City of Thousand Oaks Municipal Services, at the base of the canyon near Hill Canyon Treatment Plant, and along the segment on Hillcrest Rd, if necessary. A pressure reducing valve is also anticipated to be installed with the discharge station to the SMP, described in the following section. Valve manufacturer Cla-Val provided initial valve selections for this application based on preliminary design criteria which included the Model 90-01 pressure reducing valve with anti-cavitation trim and stainless-steel construction. Depending on design requirements, a combination pressure reducing and pressure sustaining valve, such as the Cla-Val 692-01, may be beneficial in preventing the pipeline from draining and maintaining upstream pressure. Pipe with higher pressure rating, such as DR 7 HDPE, may also be used, if needed, along segments anticipated to experience higher pressures. During the design phase, consideration should be made to identify and address the impact operation of energy dissipation facilities may have on flow parameters in the pipeline and effect on scaling.

Figure 5-5: Concentrate Alignment Hydraulic Profile



5.4.3 SMP Connection Requirements

CMWD owns and operates the SMP, and has created a website which provides information for discharging to the SMP. A summary of the SMP connection requirements is provided below. For full details of the connection requirements, refer to CMWD's Ordinance No. 19 in **Appendix D**.

LVMWD's will apply for a Service Connection and once approved, LVMWD will enter into an Agreement for Construction and Use of Salinity Management Pipeline Discharge Service Connection with CMWD.

CMWD will design, construct, operate, and maintain the Discharge Service Connection (Connection), which will be installed on the SMP. CMWD will also install and maintain flow rate signals, valve open and close control inputs, and rate-of-flow controls at the Connection. A typical discharge station section view found on the SMP website is shown in **Figure 5-6.** LVMWD will provide the easement and pay for all design, construction, operation, and maintenance expenses of the Connection. CMWD will have the sole ownership of this Connection. LVMWD will design, construct, operate, and maintain any facilities connecting to the Connection.

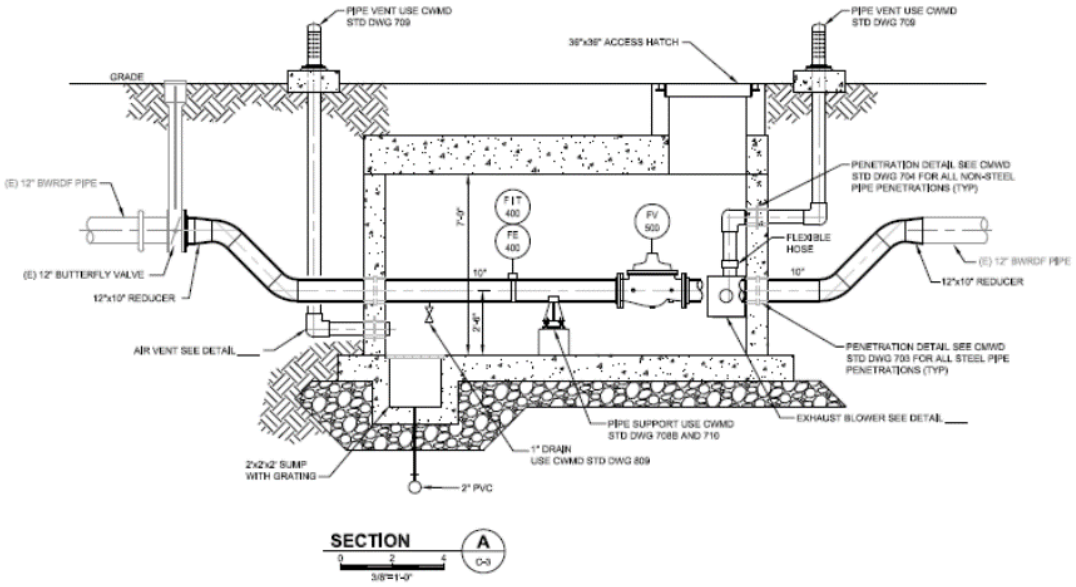
The SMP at the point of connection operates on gravity flow. The concentrate line will be pressured and will require energy dissipation upstream of the Connection. Existing dischargers to gravity segments of the SMP utilize an air gap style configuration to break head upstream of the Connection which is a potential consideration for this project in conjunction with energy dissipation valves. It is also a consideration for LVMWD to request a dual connection at the Discharge Service Connection for redundancy to avoid any interruptions of service.

Ordinance No. 19 calls for a surge analysis to be conducted prior to connection to the SMP. As the SMP is gravity at the concentrate line connection point, CMWD has indicated the surge analysis will not be required for this project.

CMWD will also conduct pre-connection sampling and water quality analysis to verify that the proposed connection discharge will comply with the Outfall Discharge Permit. LVMWD is required to pay for the costs of the sampling and water quality analysis. It is recommended that the data from the demonstration facility are used to check concentrate water quality results against the discharge requirements to get a predetermination that the expected water quality will meet the requirements.

LVMWD is responsible for adopting and implementing all necessary contingency plans to avoid, minimize, or mitigate any adverse consequences resulting from any delay in the use of the SMP arising from or related to CMWD's Outfall Discharge Permit compliance determination. LVMWD is responsible for ensuring that all of its discharges are in compliance with all water quality and other requirements of the NPDES Outfall Discharge Permit and California Ocean Plan.

Figure 5-6: Typical Discharge Station Section View



Source: CMWD Salinity Management Pipeline Website

6. Residuals Pipeline

This section describes the alternatives development and evaluation for the residuals pipeline which would be used to convey waste flows from the AWPF to the sanitary sewer.

6.1 Alternatives Development

The Agoura Rd AWPF site is situated between two sewersheds. Local city-owned sewers near the AWPF site convey flows to trunk sewers to the west and east. The potential connection points for discharge to the sanitary sewer are shown on **Figure 6-1**. The assumed design residuals flow based on preliminary sizing of the AWPF is 0.6 mgd. The estimated available capacities at the potential connection points are shown in **Table 6-1**.

Alternative 1 will connect to local small diameter sewers. The local small diameter (8") sewers are estimated to not have adequate capacity to accept the design residual flows. Discharge to the local sewer would require either upsizing of the existing sewer lines or on-site equalization at the AWPF to slowly discharge at a rate not exceeding the sewer capacity. Since space is limited on-site for storage, this alternative is not recommended. The City Agoura Hills is also recommending against discharging to the nearest local sewers due to the unknown potential for development and resulting increased discharges along the local sewers.

Alternative 2 will connect to local larger diameter city sewer. A larger diameter (18") city sewer located along Lindero Canyon Rd is estimated to have adequate capacity based on the assumptions made, however flow monitoring would be needed to verify available capacity if this connection point were selected. To reach this sewer, the residuals pipeline would need to be located in the alignment to the west of the AWPF site along Agoura Rd. This alignment would also be shared by up to three of the other conveyance lines for the PWP project in addition to the existing utilities, making this a highly conjected alignment.

Alternative 3 will connect to the LVMWD trunk sewer. LVMWD owns and operates a 24-inch trunk sewer along Agoura Rd east of the AWPF site. The trunk sewer enters Agoura Rd just east of the Ladyface Ct intersection. LVMWD does not currently have a sewer model for their trunk system, so the sewer flows were assumed as described in **Table 6-1**. It is anticipated that the trunk sewer has enough excess capacity to accept the residuals flow. The proposed connection point for discharge to the LVMWD trunk sewer is the 24-inch sewer located along Agoura Rd east of Ladyface Ct.

Table 6-1: Assumed Sewer Flows and Available Excess Capacities

Alternative No.	Connection Point	Size	Full Pipe Capacity	Assumed Sewer Flow[1]	Assumed Available Excess Capacity[2]
1	Local 8-inch Sewer[3]	8"	0.6 mgd	0.3 mgd	0.3 mgd
2	Local 18-inch Sewer	18"	6.3 mgd	3.2 mgd	2.5 mgd
3	LVMWD Trunk Sewer East	24"	10.5 mgd	5.3 mgd	4.3 mgd

[1] Assumes existing sewer pipes are flowing 50% full.

[2] Assumes existing sewer pipes are allowed to flow 75% full.

[3] Slope estimated based on ground surface slope for 8-inch sewer. Slopes from as-builts used for 18-inch sewer and LVMWD trunk sewer.

6.2 Recommendations

The recommended discharge approach for the residuals pipeline is to connect to the LVMWD trunk sewer on Agoura Rd to the east of the AWPF site (Alternative 3). This alternative requires the longest alignment, however, it was selected due to two key factors: 1) the corridor along the alignment is less congested with

utilities compared to the corridor to the west of the AWPF site, wherein multiple conveyance lines will already need to be constructed as part of the PWP; 2) connection to a sewer owned by LVMWD eliminates additional coordination and permitting required for connection to a city sewer which could add cost and delay the project schedule. The proposed alignment is shown in **Figure 6-2**.

The anticipated configuration is for the residuals flow to be pumped from the AWPF site via a force main to a new manhole that will discharge to the 24-inch trunk sewer at Agoura Rd, east of Ladyface Ct.

Conceptual drawings of the recommended alignment are included in **Appendix C.**

Table 6-2: Residuals Pipeline Design Criteria

Item	Design Criteria
Design Flow	0.6 mgd
Length	5,690 ft
Flow Type	Force main
Design Pipeline Inside Diameter (ID)	8-inch
Allowable Pipe Materials	PVC (AWWA C900), HDPE (AWWA C906)

Figure 6-1: Residuals Sewer Connection Point Alternatives

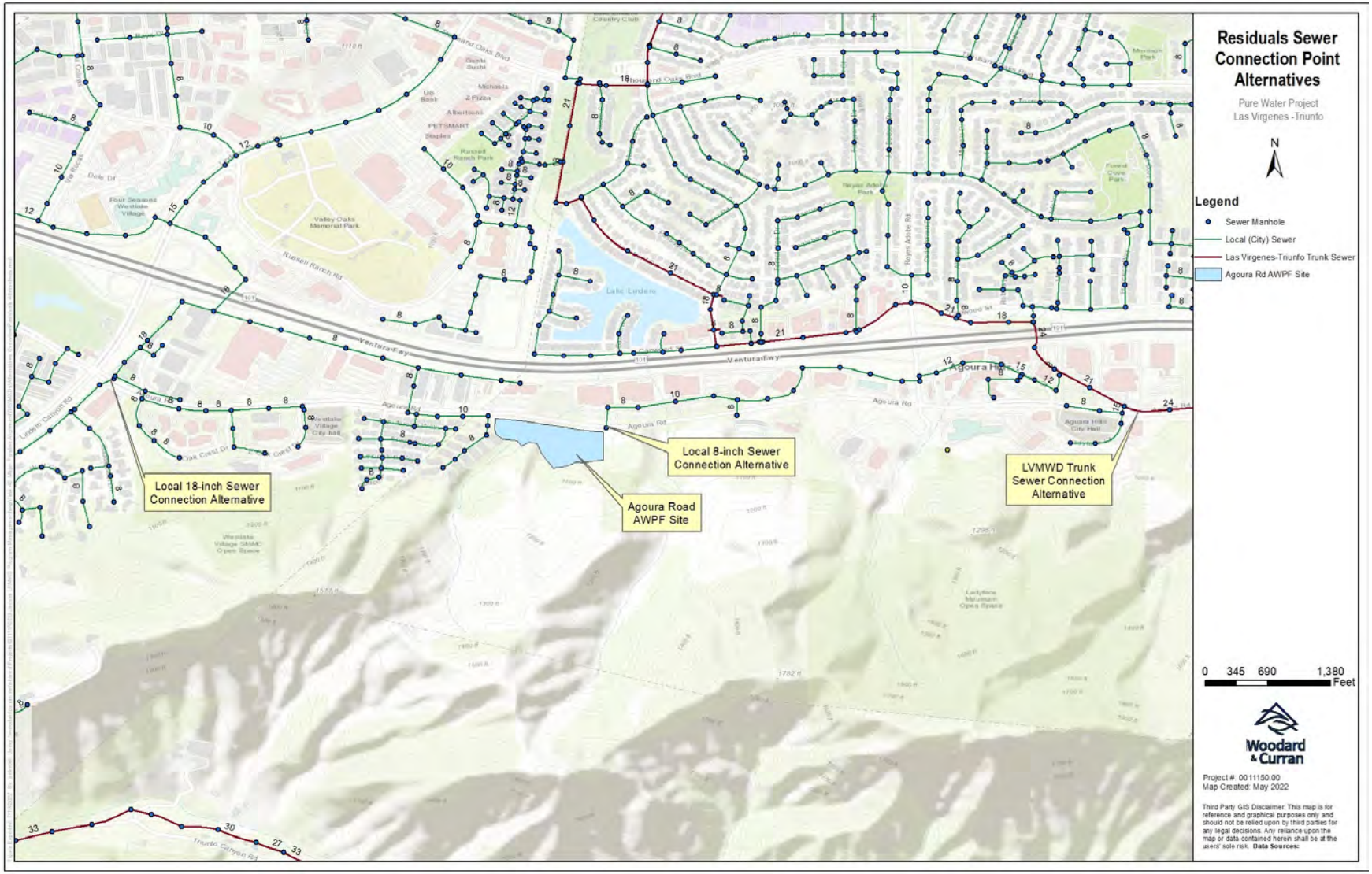
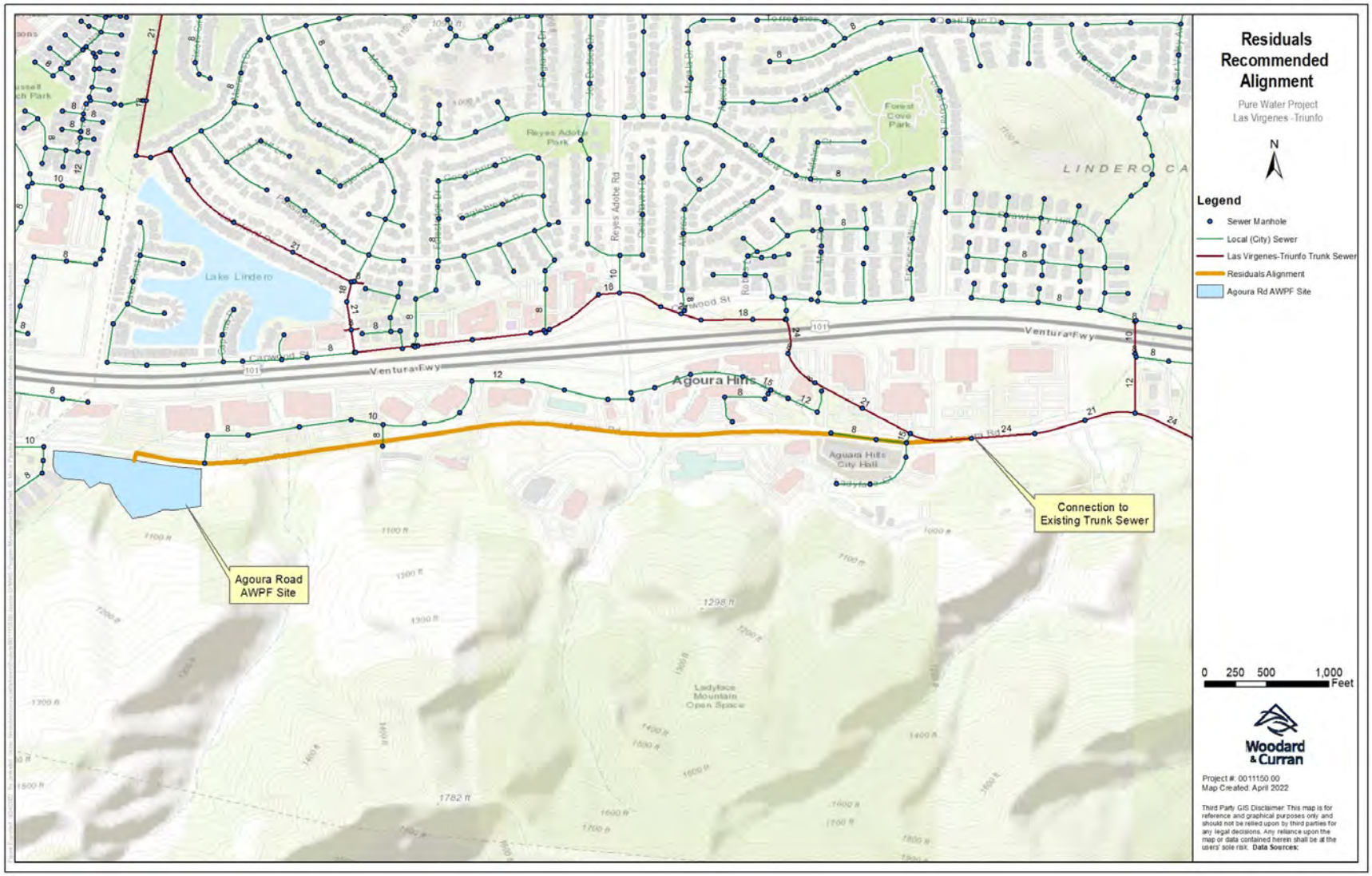


Figure 6-2: Recommended Residuals Alignment Map



7. Off-Specification Water Handling

In the event of a process upset at the AWPF where the product water from the AWPF does not meet minimum water quality requirements or an equipment malfunction that causes a treatment train to go offline, a short-term backing up and overflowing of head break tanks within the AWPF could result. It is anticipated based on preliminary design recommendations from the AWPF team that normal operating procedure upon detection of water not meeting minimum standard or equipment malfunction is to immediately shut down the trains causing issues, or the entire facility, if necessary, until the process issue is corrected and production can resume. For short duration product water quality excursions, it is expected that discharge to Las Virgenes Reservoir will continue and blending in the reservoir will be sufficient mitigation.

In cases where discharge to the Las Virgenes Reservoir is not permitted, the diverted water can be discharged into the sewer system for recirculation back to Tapia WRF or into the local storm drain/creek. Potential connection points, described further below, are located along the purified water line which would allow for the purified water line to be utilized to convey the flow to a turnout to the sanitary sewer or storm drain/creek. Regulatory requirements may call for the purified water line to be flushed prior to bringing discharges to Las Virgenes Reservoir back online, for which the flushing water can be discharged at the same locations.

Where process overflows occur, such as when a pump on a train fails suddenly, reducing the throughput of that train, water will back up in the upstream head break tank and if not corrected quickly, overflow the tank. An overflow would require the discharge of partially treated water, likely to the trunk sewer system for recirculation back to Tapia WRF. The LVMWD report *Tapia WRF and Pure Water AWPF Flow Management* (LVMWD, 2021), further discusses potential flow management scenarios.

7.1 Proposed Discharge Locations

The proposed method for discharge of off-specification water or AWPF overflow is to utilize the purified water line to convey flows to a turnout to the LVMWD trunk sewer system and/or storm drain system. An LVMWD trunk sewer is located along Triunfo Canyon Rd parallel to the proposed alignment for the purified water line. A storm drain main is also located along Triunfo Canyon Rd which discharges to Triunfo Creek. A turnout with bypass piping would be constructed which allow for flows to bypass Las Virgenes Reservoir and instead discharge into the sanitary sewer and/or the storm drain/creek. **Figure 7-1** shows the proposed location of the bypass, and **Figure 7-2** provides an example configuration of the bypass. An air gap would also be required at the point of connections with the sewer and storm drain (not depicted in Figure 7-2)

Figure 7-1: Proposed Purified Water Bypass Location

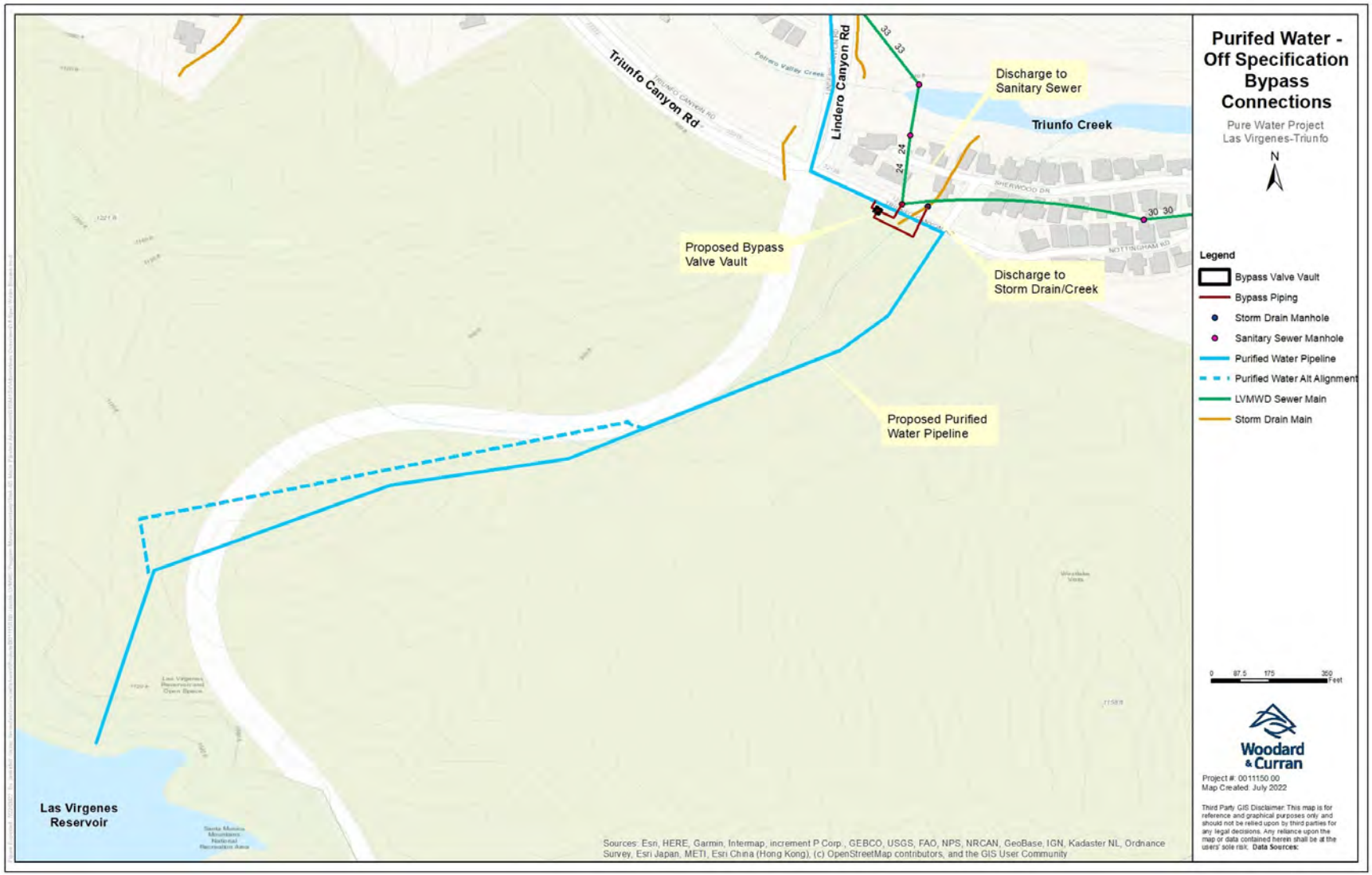
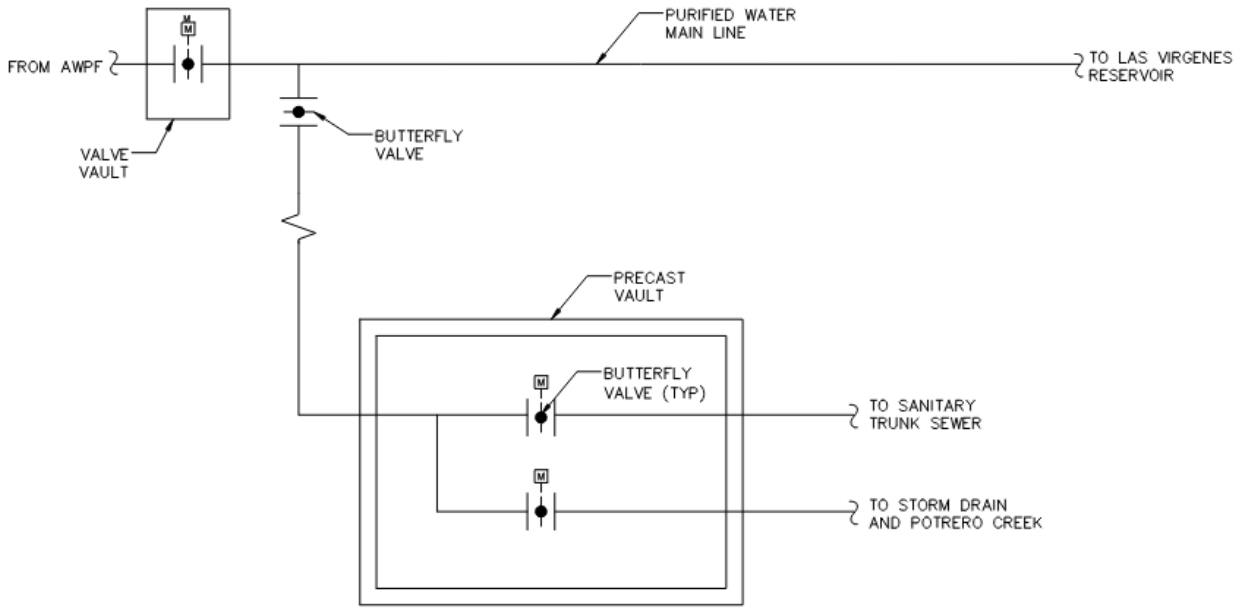


Figure 7-2: Example Purified Water Bypass Configuration



Bypass to Sanitary Sewer

The proposed sanitary sewer connection is a 30-inch trunk sewer located on Triunfo Canyon Rd. Discharges to the trunk sewer are sent to Tapia WRF, keeping the flows within the LVMWD system and maintained as a supply source for the AWPF.

LVMWD does not currently have a sewer model for their trunk system, so high-level analysis was performed to estimate the sewer flows and available capacity, as described in **Figure 7-1**. Because flow data is not available it was assumed that during peak wet weather flow the sewer is flowing at design capacity (d/D=0.75). Any additional capacity would be available for purified water bypass discharges.

The results of the analysis indicate that during peak flow conditions there is not sufficient capacity in the trunk sewer to take the maximum anticipated off-specification bypass flow of 7.5 mgd without surcharging. The recommended next step is to perform flow monitoring in the trunk sewer to further evaluate the available capacity and determine under which conditions the sewer can accommodate discharges from the purified water line bypass.

Table 7-1: 30-inch Trunk Sewer Estimated Flow and Available Excess Capacity

Parameter[2]	Flow (mgd)
Assumed Existing Peak Flow[1] (d/D=0.75)	17.5 mgd
Total Capacity (mgd) (d/D=1)	19.1 mgd
Available Capacity at Peak Flow	**1.6 mgd**

[1] Assumes existing sewer pipes design peak wet weather flow capacity of d/D=0.75

[2] Existing trunk sewer 30-inch AC pipe with a slope of 0.0052. Assumed hydraulic roughness (“n”) of 0.013.

Bypass to Storm Drain/Creek

The proposed storm drain connection on Triunfo Canyon Rd discharges into Triunfo Creek. Use of this discharge location would require an amendment of LVMWD's current NPDES permit for a new discharge location. Discharges to the creek may be subject to local limits and seasonal prohibitions which could restrict the use of this connection. In the case that discharges to the creek are not permissible, all bypass flows would need to be sent to the sanitary sewer.

8. Summary

The following are the recommendations based on the results of the analysis.

Source Water

Alternative 4 is the recommended alignment for the source water pipeline. Hydraulic modeling performed as part of this analysis indicates that Alternative 4 could have pressure impacts to customers on the LVMWD recycled water system, and results in more reactive flow control to the AWPF due to being connected downstream of large demands from customers and not directly from the Indian Hills Tank. Therefore, it is recommended that additional evaluation be conducted to determine which areas of the system may be sensitive to these impacts and determine potential mitigation measures, if necessary. In addition, improvements to RWPS West are needed to provide sufficient capacity to supply the AWPF including increasing pumping capacity and upsizing the pump station suction piping.

Table 8-1: Source Water Pipeline Scoring Summary

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Costs[1]	Advance for Further Consideration
1	Alt. 4	4,400 ft	74.5	$5,129,000	Yes
2	Alt. 1	15,210 ft	67.5	$19,645,000	No
3	Alt. 1A	15,360 ft	65.0	$21,726,000	No
4	Alt. 2	9,590 ft	58.5	$12,357,000	No
5	Alt. 3	6,070 ft	52.0	$7,997,000	No

[1] See Section 3.5 and Appendix B for cost estimate assumptions. Cost estimate assumes pipe material CML&C steel.

Table 8-2: Source Water Pipeline Design Summary

Item	Criteria
Design Flow	7.5 mgd
Design Pipeline Inside Diameter	20-inch
Allowable Pipe Materials	CML&C Steel Pipe (AWWA C200, C205), PVC (AWWA C900), HDPE (AWWA C906)

Purified Water

Segment 1-1 is the recommended alignment for Reach 1 of the purified water line. The Reach 2 alternatives received close relative scores. The critical differences between the Reach 2 alternatives are driven by the subsurface conditions in the area. The recommended next step is to perform the geotechnical exploration as outlined in **Appendix B** to inform the ultimate selection of the alignment and construction method for Reach 2.

Table 8-3: Purified Water Pipeline Scoring Summary

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Costs[1]	Advance for Further Consideration
Reach 1					
1	Alt. 1-1	12,710 ft	71.5	$14,764,000	Yes
2	Alt. 1-2	12,760 ft	49.0	$15,949,000	No
Reach 2					
1	Alt. 2-2	3,400 ft	56.0	$4,903,000	Yes
2	Alt. 2-1	3,500 ft	54.5	$4,916,000	Yes

[1] See Section 4.3 and Appendix B for cost estimate assumptions. Cost estimate assumes pipe material CML&C steel.

Table 8-4: Purified Water Pipeline Design Summary

Item	Criteria
Target Minimum Pressure at High Points	20 psi
Design Flow	6 mgd
Design Pipeline Inside Diameter	20-inch
Allowable Pipe Materials	CML&C Steel Pipe (AWWA C200, C205), PVC (AWWA C900), HDPE (AWWA C906)

Concentrate Pipeline

The recommended concentrate pipeline alignment for Reach 1 is Segment 1-3. Segments 1-2 and 1-4, which scored considerably lower, be removed from further consideration. For Reach 2 Segment 2-3 is the recommended alignment, with Segment 2-2 to be removed from consideration. The sole alternative presented is the recommended alignment for Reach 3. Secondary alternatives advanced for further consideration, Alternatives 1-1 and 2-1, may be considered by the design team if additional factors that become apparent during the design phase make these alternatives preferable.

Table 8-5: Concentrate Pipeline Scoring Summary

Rank	Alternative	Length	Non-Monetary Criteria Score	Estimated Construction Cost[1]	Advance for Further Consideration
Reach 1					
1	Alternative 1-3	22,680 ft	84.0	$16,812,000	Yes
2	Alternative 1-1	22,820 ft	82.0	$17,364,000	Yes
3	Alternative 1-2	26,930 ft	57.0	$19,629,000	No
4	Alternative 1-4	22,770 ft	54.5	$16,951,000	No
Reach 2					
1	Alternative 2-3	19,660 ft	79.5	$14,915,000	Yes
2	Alternative 2-1	16,820 ft	75.5	$13,068,000	Yes
3	Alternative 2-2	17,870 ft	66.5	$13,406,000	No
Reach 3					
1	Alternative 3-1	30,000 ft	-	$21,140,000	Yes

[1] See Section 5.3 and Appendix B for cost estimate assumptions. Cost estimate assumes pipe material HDPE.

Table 8-6: Concentrate Pipeline Design Summary

Item	Criteria
Design Flow	1 mgd
Design Pipeline Outside Diameter (OD)/Inside Diameter (ID)[1]	10.75-inch OD 8.2-inch ID
Allowable Pipe Materials	HDPE (AWWA C906), Fusible PVC (AWWA C900)

[1] Assumes DR 9 IPS HDPE pipe

Residuals Pipeline

The recommendation for the residuals line is an alignment connecting to the 24-inch LVMWD trunk sewer located along Agoura Rd to the east of the Agoura Rd AWPF site. Flow monitoring is recommended to verify the sewer has sufficient capacity to handle the residual flows.

Table 8-7: Residuals Pipeline Design Summary

Item	Criteria
Design Flow	0.6 mgd
Length	5,690 ft
Flow Type	Force main
Design Pipeline Inside Diameter (ID)	8-inch
Allowable Pipe Materials	PVC (AWWA C900), HDPE (AWWA C906)

Construction Costs for Recommended Alignments

Table 8-8 provides a summary of the estimated construction costs for the recommended alignment of each of the conveyance pipelines described above. For comparison to the source water and purified water line estimates which assumed CML&C steel pipe material, cost estimates assuming PVC pipe were developed and are also presented in **Table 8-8**.

Table 8-8: Conveyance Construction Costs Summary

Conveyance Line	Recommended Alignment Estimated Construction Cost
Source Water	$3.1M (PVC), $5.1M (CML&C Steel)
Purified Water	$12.4M (PVC), $19.7M (CML&C Steel)
Concentrate	$52.9M (HDPE)
Residuals	$2.3M (PVC)
Total	**$70.7M - $80.0M**

9. References

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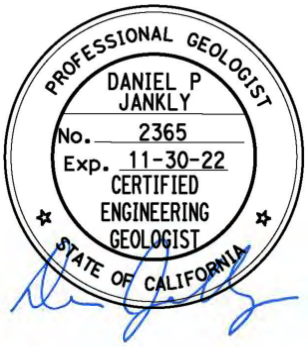
Appendix A
Summary of Preliminary Geotechnical Study and Proposed Investigation for Conveyance Alignments

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

Technical Memo

Summary of Preliminary Geotechnical Study and Proposed Investigation for Conveyance Alignments

Project Name	Las Virgenes-Triunfo Pure Water Project
Attention	Michael Matson, PE, Woodard & Curran
From	Daniel P. Jankly, PG, CEG, Jacobs
Reviewed By	Ping Tian, PE, GE, Jacobs
Date	March 9, 2022
Copies to	Jennifer Phillips, Jacobs





1. Introduction

The Las Virgenes-Triunfo Joint Powers Authority (JPA) is planning a conveyance project to connect various facilities, including:

- A proposed Advanced Water Purification Facility (AWPF)
- The existing Las Virgenes reservoir
- The future Calleguas Municipal Water District Salinity Management Pipeline (SMP)
- The existing JPA trunk sewer system

The AWPF is expected to require three major pipelines to support operation: (1) a recycled water supply pipeline to the AWPF (source water pipeline), (2) a purified or product water pipeline from the AWPF to Las Virgenes Reservoir (purified water pipeline), and (3) a discharge pipeline from the AWPF to the Salinity Management Pipeline for reverse osmosis concentrate (concentrate pipeline). Additionally, a comparatively short pipeline is required for discharge of AWPF waste streams (residuals pipeline) to a nearby JPA sewer main.

To select optimized conveyance corridors, various pipeline alignment alternatives have been proposed for this feasibility-level study. Along these various alignments, up to six trenchless crossings are proposed to cross the following locations:

1) Moorpark Road along Thousand Oaks Boulevard
2) Lynn Road along Hillcrest Drive
3) Santa Rosa Creek along Hill Canyon Fire Road
4) Moorpark Road along Hillcrest Drive
5) U.S. Route 101 (US 101) east of Russell Ranch Road
6) Steep hillside terrain near the Las Virgenes reservoir

This memorandum is based on the existing information listed in the References section, and no geotechnical explorations were conducted. The objectives of this feasibility-level memorandum are to summarize the generalized subsurface conditions for each of the conveyance alignment alternatives and generate a geotechnical exploration plan for future design and construction of the project. The findings from this preliminary study can be used as a baseline reference document by the Las Virgenes Municipal Water District (LVMWD) for capturing the subsurface conditions along the alignments and preparing a geotechnical field investigation for final design and construction of the project.

Attachment 1 provides the subsurface summary tables that show the anticipated generalized subsurface conditions along each of the conveyance alignment alternatives. Attachment 2 provides Boring Location Map figures that show the various alignments and the associated proposed exploration locations. Attachment 3 includes a geologic map with the conveyance alignment corridors to provide a regional perspective.

2. Subsurface Conditions

Several geologic units have been mapped in the area of the various conveyance alignment alternatives, as listed in Attachment 1. Artificial fill soils are also present in the project area related to past construction activities; however, these local fill soils have not been mapped, and their distribution is unknown.

The following generalized unit descriptions are summarized from the California Geological Survey (CGS) map covering the project area (Campbell et al. 2014). As discussed in Section 3, a geotechnical investigation is needed to determine the actual subsurface conditions present for the conveyance alignment alternatives.

2.1 Soil Units

In addition to the artificial fill soils present along the conveyance alignments, the following soil units have been mapped in the project area (Campbell et al. 2014):

- Qw - Wash deposits (late Holocene), including unconsolidated gravel, sand, and silt in active or recently active streambeds; chiefly stream-deposited but includes some debris flow deposits.
- Qya, Qya1, Qya2 - Young alluvium (Holocene and late Pleistocene), including unconsolidated, generally friable, stream-deposited silt, sand, and gravel on flood plains. Deposits are clearly related to depositional processes that are still ongoing. Subunits are distinguished by relative ages: Qya1 is oldest, and Qya2 is younger.
- Qyf2- Young fan deposits (Holocene and late Pleistocene), including unconsolidated gravel, sand, and silt, and is bouldery along mountain fronts; deposited chiefly from flooding streams and debris flows. Deposits are clearly related to depositional processes that are still ongoing.
- Qoa - Old alluvium (late to middle Pleistocene), including unconsolidated to moderately indurated gravel, sand, and silt deposited on flood plains. Deposits have been uplifted or otherwise removed from the locus of recent sedimentation.
- Qof - Old fan deposits, undivided (late to middle Pleistocene), including slightly to moderately consolidated silt, sand, and gravel deposits. Deposits have been uplifted or otherwise removed from the locus of recent sedimentation.

2.2 Bedrock Units

The following bedrock units have been mapped in the project area (Campbell et al. 2014):

- Tm - Modelo Formation, undivided (late and middle Miocene), including thin-bedded mudstone, diatomaceous clay shale, or siltstone, with interbeds of very fine-grained to coarse-grained sandstone.

- Tcb - Calabasas Formation, undivided (early late Miocene and late middle Miocene), including interbedded clayey to silty sandstone and silty shale, with local beds of sedimentary breccia.
- Tcbvc - Calabasas Formation, Volcanic conglomerate (late middle Miocene).
- Tco - Conejo Volcanics, undivided (middle Miocene), including basalt, andesitic basalt, basaltic andesite, andesite, and dacite in extrusive volcanic flows, flow-breccias, agglomerates, and epiclastic volcanic breccias, volcanic sandstones, and siltstones.
- Tcod - Conejo Volcanics, dacite-bearing upper zone (middle Miocene), including interlayered dacite, andesite, and basalt flows as well as pyroclastics; minor volcanic sandstone.
- Tcoa - Conejo Volcanics, andesitic central zone (middle Miocene), including interlayered andesite, andesitic basalt, and basaltic andesite flows, agglomerates, and flow-breccias; including some crystal tuff, vesicular andesite, pyroclastics, and volcanic sandstone.

2.3 Excavation Characteristics

2.3.1 Conveyance Pipelines

The following discussion is provided as a feasibility-level analysis for conveyance pipelines with an invert depth of 6 to 7 feet below ground surface (bgs). As discussed in Section 3, a geotechnical investigation is needed to determine the actual subsurface conditions and excavation properties present below the conveyance alignments.

In general, all soil units discussed in Section 2.1 are anticipated to be excavated using standard construction methods (trenching with a full-sized excavator). However, local conditions, such as caving soils or oversized materials (cobbles and boulders), may result in more difficult conditions for excavations.

Bedrock units Tm, Tcb, and Tcbvc (Section 2.2) are also anticipated to be excavated using standard construction methods. However, local conditions, such as well-cemented layers or oversized materials (large, cemented fragments, cobbles, and boulders) may result in harder and more difficult conditions for excavations. Although not anticipated to be present over large areas, the well-cemented zones may require nonstandard excavation methods, such as using an excavator mounted with pneumatic hammers.

Bedrock units Tco, Tcod, and Tcoa (Section 2.2) will yield highly variable excavation characteristics. Highly weathered or highly fractured areas may be excavated using standard construction methods. In other areas where the rock is fresh or unfractured, very hard excavations could be encountered that would require nonstandard excavation methods over significant areas. These methods include using an excavator mounted with pneumatic hammer, excavation with a trencher and rock wheel or rock saw, or blasting techniques.

2.3.2 Conveyance Trenchless Crossings

The following discussion is provided as a feasibility-level analysis for conveyance trenchless crossings. As discussed in Section 3, a geotechnical investigation is needed to determine the actual subsurface conditions present at the conveyance trenchless crossings. Up to six trenchless crossings are currently proposed for the various alternatives, as summarized in Section 1 and as shown on Attachment 1. The depth of the trenchless crossing is unknown at this time.

Based on the generalized subsurface conditions listed in Attachment 1, the five trenchless crossings included as part of Concentrate Alternatives 1 and 3, and Source Water Alternative 4 may cross through alluvial soils above and below the groundwater table, and bedrock above and below the groundwater table. Caving and flowing conditions, oversized materials (cobbles and boulders), and hard rock tunneling conditions may be encountered.

The trenchless crossing included as part of Purified Water Alternative 1B is anticipated to be in relatively fresh rock of the Conejo Volcanics. Hard rock tunneling conditions should be anticipated. Seasonal groundwater seepages may develop in fracture zones within the volcanic rock.

2.4 Residuals Alignment

The residuals alignment is approximately 400 feet long and is planned along the eastbound side of Agoura Road, in front of the Agoura AWPF site option. The residuals alignment is anticipated to be underlain by artificial fill and units Qya and Qoa. Compacted fill soils and unconsolidated alluvial soils are anticipated along the alignment. Due to the proximity of the residuals alignment to the Agoura AWPF site option, the subsurface data that has and would be developed for the Agoura AWPF would likely provide the information needed for the short residuals alignment. Therefore, no geotechnical borings are proposed for the residuals alignment.

3. Geotechnical Exploration Plan

Geotechnical investigations are needed to determine the actual subsurface conditions and excavation properties present below the conveyance alignment alternatives. Attachment 2 shows the proposed exploration plan for each conveyance. The exploration locations are approximate and subject to change based on many factors, including:

- Alignment changes
- The presence of overhead and belowground obstructions and utilities
- Lane closure restrictions from the governing agencies

For the conveyance pipelines, we have assumed an invert depth of 6 to 7 feet bgs. The pipeline explorations should be drilled to a minimum depth of 15 feet bgs or 5 feet below invert, whichever is deeper. The pipeline borings should be sampled at 2.5foot vertical intervals using standard penetration testing (SPT) and modified California ring samplers, alternately. The drilling methods can be hollow-stem auger, mud rotary wash, or rock coring, as needed to drill the borings to the target depth based on the site conditions. These pipeline borings are generally spaced 2,500 feet apart, with additional borings added as warranted by the anticipated subsurface conditions.

For the conveyance trenchless crossings, the depths of the crossings are unknown at this time. As such, it is recommended to drill borings with a minimum target depth of 50 feet bgs or 10 feet below invert, whichever is deeper, and sampled at 5-foot intervals using SPT and modified California ring samplers alternately are recommended. The rotary wash (or similar) drilling method is recommended due to potential shallow groundwater conditions. The rotary wash drill rigs can typically convert to rock coring should bedrock be encountered. Rock core borings are recommended for the Purified Water Alternative 1B trenchless crossing.

The exploration plan also includes Multi-channel Analysis of Surface Waves (MASW) geophysical surveys/seismic lines to aid in evaluating rippability in hard rock areas (portions of Concentrate Alignment 1, Source Water Alignments 1 and 1A, and Purified Water Alignments 1 and 1B). The length of each seismic line is about 500 feet, and the noninvasive equipment will be laid out on the ground surface during the survey.

4. References

California Division of Mines and Geology (CDMG). 2000). *Seismic Hazard Zone Report for the Thousand Oaks 7.5-minute Quadrangle, Ventura and Los Angeles Counties, California*. Seismic Hazard Zone Report 042. State of California, Department of Conservation.

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W.A. Whaler and Associates. 1970. *Site and Laboratory Investigation for Westlake Reservoir – Supplementary Report.* Project Number 0152A. March.

Woodard & Curran. 2022. *Las Virgenes-Triunfo Pure Water Project. Major Pipeline Alignment Study Maps for Concentrate, Purified Water, Source Water and Residuals.* January 2022.

Attachment 1
Subsurface Summary Tables

Las Virgenes-Triunfo Pure Water Project - Alignment Subsurface Summary

Concentrate Alignments (5)

Alternative	From	To	Mapped Geologic Unit [A]	Span Comments	Anticipated Subsurface Conditions [B]	Approximate Span Length (feet)	Proposed Geotechnical Explorations [C]	Approximate Total Alignment Length	Total Explorations for Alternative
1	(Start point at) Agoura Rd AWPF Site	~400 feet west of Park Terrace Dr	Qoa, Qof	Alignment in hilly area in and out from alluvium and Conejo Volcanics. Roadway fills also present locally. Crosses creek near the AWPF site.	Unconsolidated soils, possible oversized materials.	2,600	P-C1-1	70,000	36 borings and 1 seismic line
	~400 feet west of Park Terrace Dr	~400 feet west of Knightsgate Rd	Qya1, Tcb, Tco	Slightly hilly area. Crosses a tributary to Triunfo Canyon Creek at Agoura Rd at Lindero Canyon Rd.	Unconsolidated soils, possible oversized materials. Slight potential to encounter hard rock.	2,500	P-C1-2 and 3		
	~400 feet west of Knightsgate Rd	Evenstar Ave	Qya1, Qoa	Relatively flat, crosses creeks, near Greengate Court and near La Venta Rd	Unconsolidated soils, possible oversized materials.	7,300	P-C1-4 and 5		
	Evenstar Ave	Triunfo Canyon Rd	Tcb	Hilly area, parallels creek from Evenstar Ave to Lakefield Rd	Possible oversized materials. Slight potential to encounter hard rock.	2,200	P-C1-6		
	Triunfo Canyon Rd	Los Robles Rd	Qyf2, Qya2	Relatively flat, crosses US101	Unconsolidated soils, possible oversized materials.	4,000	P-C1-7		
	Los Robles Rd	Fairview Rd	Tcb	Slightly hilly.	Possible oversized materials. Slight potential to encounter hard rock.	1,000	P-C1-8		
	Fairview Rd	Los Feliz Dr	Qya1, Qoa	Relatively flat, crosses creek just east of Conejo School Rd.	Unconsolidated soils, possible oversized materials.	4,900	P-C1-9 and 10		
	Los Feliz Dr	Oak Ln	Tcbvc	Relatively flat	Possible oversized materials. Moderate potential to encounter hard rock.	1,500	P-C1-11 and 12		
	Oak Ln	~2,300 feet west of Lynn Rd	Qya1, Qoa, Qof	Mostly flat, locally hilly, crosses SR23, crosses Arroyo Conejo and tributaries	Unconsolidated soils, possible oversized materials.	15,000	C-C1-14, 15, 18, 19 and P-C1-13, 16, 17		

Concentrate Alignments (5)

Alternative	From	To	Mapped Geologic Unit [A]	Span Comments	Anticipated Subsurface Conditions [B]	Approximate Span Length (feet)	Proposed Geotechnical Explorations [C]	Approximate Total Alignment Length	Total Explorations for Alternative
	~2,300 feet west of Lynn Rd	Kalinda Pl	Tcoa	Hilly area, parallels creek from Evenstar Ave to Lakefield Rd	Possible oversized materials. Moderate potential to encounter hard rock.	1,000	P-C1-20		
	Kalinda Pl	~ 2,700 feet southwest of Hill Canyon Fire Rd	Qya, Qoa	Relatively flat to hilly, crosses creek near Citation Wy	Unconsolidated soils, possible oversized materials.	16,000	P-C1-21 to 26		
	~ 2,700 feet southwest of Hill Canyon Fire Rd	~ 250 feet southwest of Hill Canyon Fire Rd	Tco	Hilly	High potential to encounter hard rock and associated oversized materials.	2,500	P-C1-27 and 28; SL-C1-1		
	~ 250 feet southwest of Hill Canyon Fire Rd	Hill Canyon Plant	Qya1	Relatively flat, crosses Arroyo Conejo Creek near Hill Cyn Plant	Shallow groundwater conditions, unconsolidated soils, possible oversized materials.	250	P-C1-29		
	Hill Canyon Plant	~3,400 feet south of Santa Rosa Rd	Qya1 and Tco	Hilly access road to plant. Conejo Volcanics, alluvium, colluvium and debris flow deposits anticipated.	Possible oversized materials. Moderate potential to encounter hard rock.	5,900	P-C1-30 to 32		
	~3,400 feet south of Santa Rosa Rd	(End at) Santa Rosa Rd	Qya2	Relatively flat, crosses Santa Rosa Creek	Unconsolidated soils, possible oversized materials.	3,400	P-C1-33, 36 and C-C1-34, 35		
2	(Start at) Agoura Rd	Russell Ranch Rd	Qya1, Qoa	Alignment in alluvium	Unconsolidated soils, possible oversized materials.	4,100	P-C2-1 and 2	19,000	11 borings
	Russell Ranch Rd	600 feet west of Corsa Ave	Qoa, Tm, Tcb, Tcbvc	Alignment in alluvium and bedrock, traverses slightly hilly area	Unconsolidated soils, possible oversized materials. Moderate potential to encounter hard rock.	2,700	P-C2-3 and 4		
	600 feet west of Corsa Ave	Via Colinas	Qoa	Alignment slightly hilly, crosses creek near La Baya Dr and near Via Colinas	Unconsolidated soils, possible oversized materials.	1,900	P-C2-5		
	Via Colinas	Lakeview Canyon Rd	Tm	Alignment hilly, crosses creek near Via Merida	Possible oversized materials. Slight potential to encounter hard rock.	3,500	P-C2-6 and 7		
	Lakeview Canyon Rd	Sunset Dr	Qya2, Qoa	Alignment relatively flat, crosses creek near Prominade Way	Unconsolidated soils, possible oversized materials.	5,700	P-C2-8 and 9		

Las Virgenes-Triunfo Pure Water Project - Alignment Subsurface Summary

Concentrate Alignments (5)

Alternative	From	To	Mapped Geologic Unit [A]	Span Comments	Anticipated Subsurface Conditions [B]	Approximate Span Length (feet)	Proposed Geotechnical Explorations [C]	Approximate Total Alignment Length	Total Explorations for Alternative
	Sunset Dr	(End at) Hampshire Rd	Tcb	Alignment relatively flat	Possible oversized materials. Slight potential to encounter hard rock.	900	P-C2-10 and 11		
1A/2A	(Start at) Moorpark Rd.	(End at) Hillcrest Dr	Qya1	Alignment in alluvium	Unconsolidated soils, possible oversized materials.	6,500	P-C1A2A-1, 2 and 3	6,500	3 borings
1B	(Start at) Agoura Rd.	US 101	Qya1	Alignment hilly	Unconsolidated soils, possible oversized materials.	2,000	P-C1B-1	4,100	2 borings
	US 101	(End at) Thousand Oaks Blvd	Qoa, Tcbvc, Tm	Alignment hilly	Possible oversized materials. Slight potential to encounter hard rock.	2,100	P-C1B-2		
3	(Start at) Hampshire Rd	Skyline Dr	Qyf2, Qof	Alignment hilly, in alluvium	Unconsolidated soils, possible oversized materials.	1,800	P-C3-1	19,000	12 borings
	Skyline Dr	Conejo Ridge Ave	Tcbvc	Alignment hilly	Possible oversized materials. Slight potential to encounter hard rock.	1,200	P-C3-2		
	Conejo Ridge Ave	~800ft southwest of Hillcrest Dr	Qya2, Qof, Qoa	Slightly hilly, in alluvium	Unconsolidated soils, possible oversized materials.	3,200	P-C3-3		
	~800ft southwest of Hillcrest Dr	Erbes Rd	Tcb	Alignment hilly	Possible oversized materials. Slight to moderate potential to encounter hard rock.	3,000	P-C3-4 and 5		
	Erbes Rd	(End at) Conejo Blvd	Qw, Qya, Qoa	Slightly hilly, in alluvium	Unconsolidated soils, possible oversized materials.	10,000	P-C3-6, 7, 8, 11, 12 and C-C3-9, 10		

Notes

A From: Campbell, R.H., C.J. Wills, P.J. Irvine, and B.J. Swanson. 2014. Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, California. Version 2.1 Note Qya4 is youngest and Qya1 is oldest

B Upper 8 feet below ground surface. Based on Note 'A' and windshield reconnaissance.

C For pipeline borings: Depth of 15 feet below the ground surface or 5 feet below invert, whichever is deeper. Sampling at 2.5 feet interval using SPT and modified California ring samplers, alternately. May use hollow-stem auger, mud rotary wash, or rock coring methods that are feasible to drill the borings to the total depth based on the site conditions. For trenchless crossing borings, see Trenchless Crossing sheet. Geophysical survey transects in anticipated hard bedrock areas. Approximate average spacing of 2,500 feet between borings. Additional borings added as warranted by anticipated subsurface conditions, and one boring at each side of a trenchless crossing.

Pipeline boring: P-C[alignment]#-[boring]#
Trenchless crossing boring "C-C[alignment]#-[boring]#"
Geophysical survey MASW = SL-C[alignment]-[array]#

Las Virgenes-Triunfo Pure Water Project

Alignment Subsurface Summary

Source Water Alignments (4)

Alternative	From	To	Mapped Geologic Unit [A]	Span Comments	Anticipated Subsurface Conditions [B]	Approximate Span Length (feet)	Proposed Geotechnical Explorations [C]	Approximate Total Alignment Length	Total Explorations for Alternative
1 and 1A [D]	(Start point at) Lewis Rd	(End at) Agoura Rd AWPF Site	Qya1, Qof, Tcod and Tco	Alignment hugs toe of slope. Weaves in and out from alluvium and Conejo Volcanics. Roadway fills also present locally. Crosses Lindero Canyon Creek ~750 feet west of Kanan Rd.	Unconsolidated soils, possible oversized materials. Moderate to high potential to encounter hard rock.	14,800	P-S1-1 to 9 and SL-S1-1 to 3	14,800	9 Borings and 3 Seismic Lines
2	(Start point at) Thousand Oaks Blvd	Russell Ranch Rd	Qoa and Tcb	Alignment in alluvium and Conejo Volcanics, traverses slightly hilly area	Unconsolidated soils, possible oversized materials. Slight potential to encounter hard rock.	1,000	P-S2-1	10,500	5 [E]
	Russell Ranch Rd	Agoura Rd	Qoa	Alignment in alluvium slightly hilly area	Unconsolidated soils, possible oversized materials.	4,200	P-S2-2 and 3		
	Agoura Rd	~400 feet west of Park Terrace Dr	Qya1, Tco	Alignment in alluvium and Conejo Volcanics, traverses slightly hilly area	Unconsolidated soils, possible oversized materials. Moderate potential to encounter hard rock.	1,000	P-S2-4		
	~400 feet west of Park Terrace Dr	(End at) Agoura Rd AWPF Site	Qya1, Qoa, Qof	Alignment in alluvium in slightly and hilly area. Crosses US101	Unconsolidated soils, possible oversized materials.	4,300	P-S2-5		
4	Lindero Canyon Rd	~800 feet east of Lindero Canyon Blvd	Tco	Conejo Volcanics, traverses hilly areas	Moderate potential to encounter hard rock and associated oversized materials.	800	P-S4-1	5,000	4
	~800 feet east of Lindero Canyon Blvd	(End at) Agoura Rd AWPF Site	Qya, Qof, Qoa	Generally flat to slightly hilly. Crosses US101.	Unconsolidated soils, possible oversized materials.	4,200	P-S4-2, C-S4-3 and 4		

Notes

A From: Campbell, R.H., C.J. Wills, P.J. Irvine, and B.J. Swanson. 2014. Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, California. Version 2.1 Note Qya4 is youngest and Qya1 is oldest

B Upper 8 feet below ground surface. Based on Note 'A' and windshield reconnaissance.

C For pipeline borings: Depth of 15 feet below the ground surface or 5 feet below invert, whichever is deeper. Sampling at 2.5 feet interval using SPT and modified California ring samplers, alternately. May use hollow-stem auger, mud rotary wash, or rock coring methods that are feasible to drill the borings to the total depth based on the site conditions. For trenchless crossing borings, see Trenchless Crossing sheet. Geophysical survey transects in anticipated hard bedrock areas. Approximate average spacing of 2,500 feet between borings. Additional borings added as warranted by anticipated subsurface conditions, and one boring at each side of a trenchless crossing.

D If Alternative 1A is selected, the Alignment '1' borings shown on the accompanying Proposed Boring Location Maps would be moved perpendicular, from the '1' alignment, to the LACFCD channel area for '1A'.

E S2 alignment is redundant with a portion of concentrate alignment alternative C1 and C2

Pipeline boring: P-S[alignment]#-[boring]#

Trenchless crossing boring "C-S[alignment]#-[boring]#"

Geophysical survey MASW = SL-S[alignment]-[array]#

Las Virgenes-Triunfo Pure Water Project

Alignment Subsurface Summary

Purified Water Alignment (3)

Alternative	From	To	Mapped Geologic Unit [A]	Span Comments	Anticipated Subsurface Conditions [B]	Approximate Span Length (feet)	Proposed Geotechnical Explorations [C]	Approximate Total Alignment Length	Total Explorations for Alternative
1 and 1A [D]	(Start at) Agoura Rd AWPF Site	~400 feet west of Park Terrace Dr	Qoa, Qof	Alignment in hilly area in and out from alluvium and Conejo Volcanics. Roadway fills also present locally. Crosses creek near the AWPF site.	Unconsolidated soils, possible oversized materials.	3,700	P-P1-1 and 2	17,000	13 borings and 2 seismic lines
	~400 feet west of Park Terrace Dr	Baronsgate Rd	Qya1, Tcb, Tco	Slightly hilly area. Crosses a tributary to Triunfo Canyon Creek at Agoura Rd at Lindero Canyon Rd.	Unconsolidated soils, possible oversized materials. Slight potential to encounter hard rock.	2,200	P-P1-3 and 4		
	Baronsgate Rd	~1,800 feet northeast of Foxfield Dr	Qya1	Slightly hilly area.	Unconsolidated soils, possible oversized materials.	1,800	P-P1-5		
	~1,800 feet northeast of Foxfield Dr	~1,200 feet northeast of Foxfield Dr	Tcb	Slightly hilly area.	Slight potential to encounter hard rock.	600	P-P1-6		
	~1,200 feet northeast of Foxfield Dr	Summershore Ln	Qya1	Crosses two tributaries to Triunfo Canyon Creek	Unconsolidated soils, possible oversized materials.	2,800	P-P1-7		
	Summershore Ln	Ridgeford Dr	Tco, Tcod	Hillside area.	Bedrock on east side of Lindero Canyon Rd. Possible oversized materials. Moderate potential to encounter hard rock.	1,400	P-P1-8		
	Ridgeford Dr	~300 feet southwest of Triunfo Canyon Rd	Qya1	Triunfo Canyon Creek crossing.	Unconsolidated soils, possible shallow groundwater and oversized materials.	1,200	P-P1-9		
	~300 feet southwest of Triunfo Canyon Rd	(End at) Las Virgenes Reservoir	Tco	Relatively flat to steep hillside terrain. Crosses two tributaries to Triunfo Canyon Creek	Traverse from (southwest of) Triunfo Canyon Rd is relatively level across the open spaced alluvial plain - unconsolidated soils, possible oversized materials. The westernmost 2,000 feet are in steep hillside terrain, hard rock anticpated at or very near the surface.	2,900	P-P1-10 to 13; SL-P1-2 and 4		
1B	~350 feet east of Las Virgenes Reservoir	~1,700 feet east of Las Virgenes Reservoir	Tco	Steep hillside terrain	Hard rock.	1,500	C-P1B-1 to 3; SL-P1-2, SL-P1B-1 and 3	1,500	3 borings and 3 seismic lines

Notes

A From: Campbell, R.H., C.J. Wills, P.J. Irvine, and B.J. Swanson. 2014. Preliminary Geologic Map of the Los Angeles 30’ x 60’ Quadrangle, California. Version 2.1 Note Qya4 is youngest and Qya1 is oldest

B Upper 8 feet below ground surface. Based on Note 'A' and windshield reconnaissance.

C For pipeline borings: Depth of 15 feet below the ground surface or 5 feet below invert, whichever is deeper. Sampling at 2.5 feet interval using SPT and modified California ring samplers, alternately. May use hollow-stem auger, mud rotary wash, or rock coring methods that are feasible to drill the borings to the total depth based on the site conditions. For trenchless crossing borings, see Trenchless Crossing sheet. Geophysical survey transects in anticipated hard bedrock areas. Approximate average spacing of 2,500 feet between borings. Additional borings added as warranted by anticipated subsurface conditions, and one boring at each side of a trenchless crossing.

D If Alternative 1A is selected, the Alignment '1' borings shown on the accompanying Proposed Boring Location Maps would be moved perpendicular, from the '1' alignment, to the LACFCD channel area for '1A'.

Pipeline boring: P-P[alignment]#-[boring]#

Trenchless crossing boring "C-P[alignment]#-[boring]#"

Geophysical survey MASW = SL-P[alignment]-[array]#

Las Virgenes-Triunfo Pure Water Project

Summary of Trenchless Crossings

Trenchless Crossings *						
Alignment/Alternative	**Location**	**Mapped Geologic Unit [A]**	**Anticipated Tunneling and Subsurface Conditions [B]**	**Proposed Geotechnical Borings [C]**	**Borehole Target Depth**	**Suggested Drilling Method**
C1	Crossing Moorpark Rd along Thousand Oaks Blvd	Qya1	Unconsolidated alluvial soils, groundwater less than 50 feet deep anticipated. Alluvium overlies sedimentary bedrock (conglomerate, shale, siltstone and sandstone) likely in upper 50ft.	C-C1-14 and 15	50 feet or 10ft below invert (whichever is deeper)	Rotary Wash
C1	Crossing Lynn Rd along Hillcrest Dr	Qw, Qya1	Unconsolidated alluvial soils, groundwater less than 50 feet deep anticipated. Alluvium overlies sedimentary bedrock (conglomerate, shale, siltstone and sandstone) likely in upper 50ft.	C-C1-18 and 19	50 feet or 10ft below invert (whichever is deeper)	Rotary Wash
C1	Crossing Santa Rosa Creek along Hill Canyon Fire Road	Qya2	Unconsolidated soils, possible oversized materials. Groundwater less than 50 feet deep anticipated. Bedrock not anticipated at tunnel depth.	C-C1-34 and 35	50 feet or 10ft below invert (whichever is deeper)	Rotary Wash
C3	Crossing Moorpark Rd along Hillcrest Dr	Qw, Qya1	Unconsolidated alluvial soils, groundwater less than 50 feet deep anticipated. Alluvium overlies sedimentary bedrock (conglomerate, shale, siltstone and sandstone) likely in upper 50ft.	C-C3-9 and 10	50 feet or 10ft below invert (whichever is deeper)	Rotary Wash
S4	Crossing US101 east of Russell Ranch Rd	Qya, Qof, Qoa, Tcb, Tco	Unconsolidated alluvial soils, groundwater less than 50 feet deep anticipated. Alluvium overlies sedimentary (conglomerate, shale, siltstone and sandstone) and igneous (Conejo Volcanics) bedrock likely in upper 50ft.	C-S4-3 and 4	50 feet or 10ft below invert (whichever is deeper)	Rotary Wash
P1B	Ridgeline near Las Virgenes Reservoir	Tco	Tunneling through hard rock - basalt and basaltic breccia - beginning at the ground surface. Seasonal groundwater seepages possible at any depth.	C-P1B-1 to 3	50 feet or 10ft below invert (whichever is deeper)	Rock Core

* The crossing borings tabulated on this sheet are accounted for on the individual alignment sheets

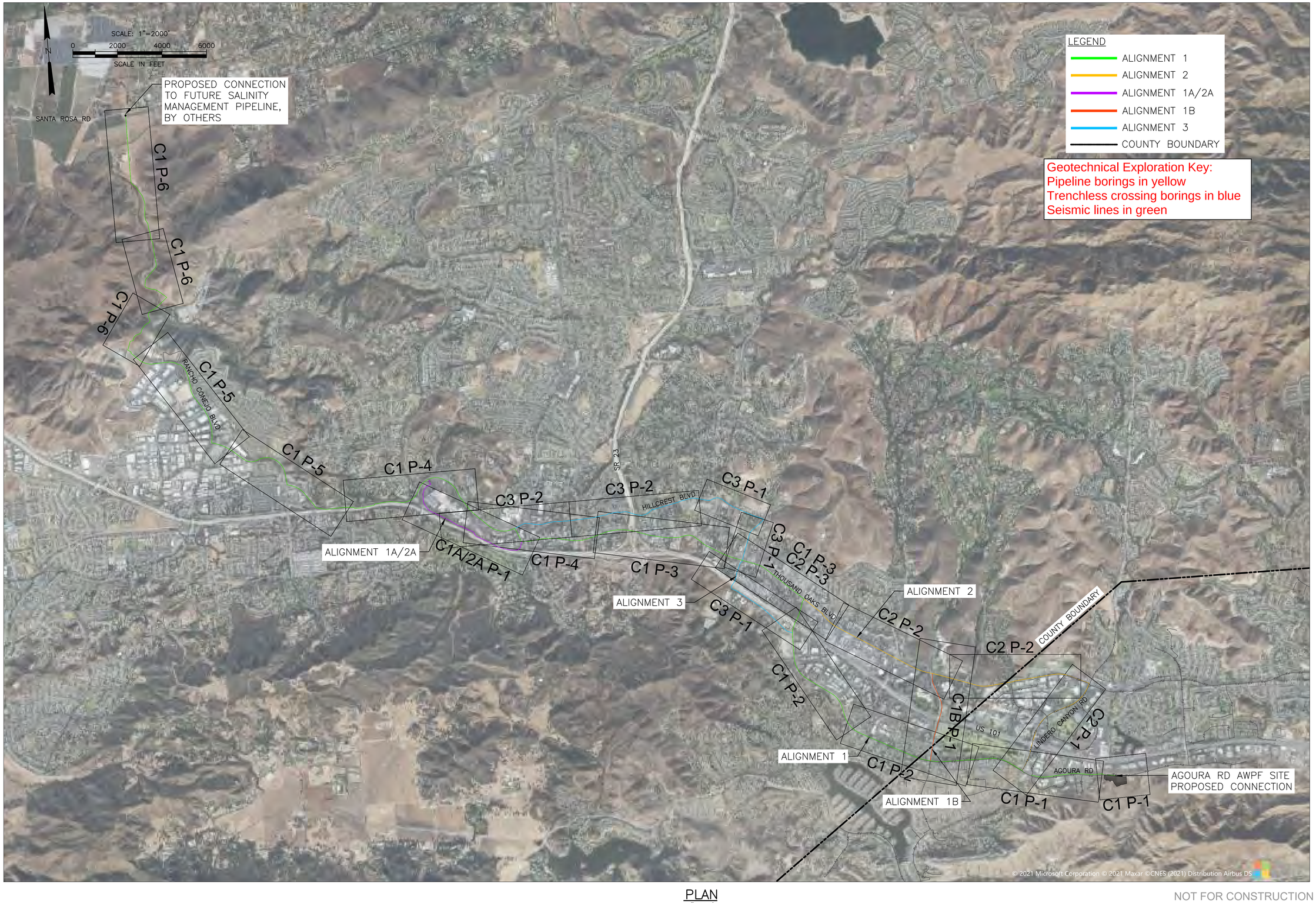
Notes

A From: Campbell, R.H., C.J. Wills, P.J. Irvine, and B.J. Swanson. 2014. Preliminary Geologic Map of the Los Angeles 30’ x 60’ Quadrangle, California. Version 2.1 Note Qya4 is youngest and Qya1 is oldest

B Based on Note 'A' and nearby Caltrans LOTB (where available).

C For trenchless crossing borings: Depth to 50 feet below the ground surface or 10 feet below invert, whichever is deeper. Sampling at 5.0 feet interval using SPT and Modified California Ring samplers, alternately. Drill to the total depth using drilling methods that are feasible to the site conditions. One boring at each side of a trenchless crossing.

Attachment 2
Boring Location Maps



PLAN
1"=200'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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REV	DESCRIPTION	DATE
DESIGNED BY: XXX	CHECKED BY: XXX	
DRAWN BY: XXX	0011150.00-CONCENTRATE.dwg	

CONCENTRATE PIPELINE ALTERNATIVES
KEY MAP

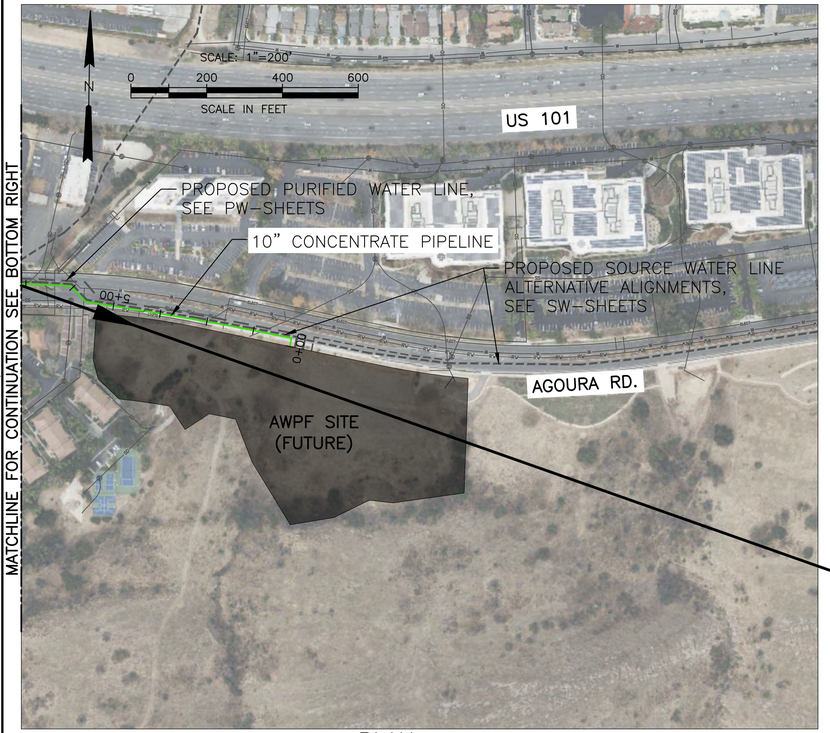
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

P-0

\\woodardcurran.net\shared\Projects\0011150.00 jacobs \vmwd program management\wip\task 4d major pipeline alignment\CAD\0011150.00-Concentrate.dwg, Jan 07, 2022 - 9:02am JANKETELL



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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REV	DESCRIPTION	DATE
DESIGNED BY: XXX	CHECKED BY: XXX	
DRAWN BY: XXX	0011150.00-CONCENTRATE.dwg	

CONCENTRATE ALIGNMENT 1

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C1 P-1

\\woodardcurran.net\shared\Projects\0011150.00 jacobs lvmwd program management\wip\task 4d major pipeline alignment\CAD\0011150.00-Concentrate.dwg, Jan 07, 2022 - 9:02am JANKETELL

SCALE: 1"=200'

0 200 400 600

SCALE IN FEET

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

MATCHLINE FOR CONTINUATION SEE DWG C1 P-1

HAMPSHIRE RD.

WESTLAKE BLVD

AGOURA RD.

ALTERNATIVE ALIGNMENT 1B, SEE SHEET C1B P-1

VENTURA COUNTY (CITY OF THOUSAND OAKS)

LOS ANGELES COUNTY (CITY OF WESTLAKE VILLAGE)

LAKEVIEW CANYON RD.

AGOURA RD.

10" CONCENTRATE PIPELINE

P-C1-4

P-C1-5

PLAN
1"=200'

MATCHLINE
SAME POINT

P-C1-6

OPEN CUT, BURIED, ENCASED CROSSING AT US 101 OVERPASS

US 101

LAKEFIELD RD.

10" CONCENTRATE PIPELINE

WILLOW LN.

HAMPSHIRE RD.

TOWNSGATE RD.

P-C1-7

HAMPSHIRE RD.

ALTERNATIVE ALIGNMENT 3, SEE SHEET C3 P-1

MATCHLINE FOR CONTINUATION SEE TOP LEFT

MATCHLINE FOR CONTINUATION SEE DWG C3 P-3

PLAN
1"=200'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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CONCENTRATE ALIGNMENT 1

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO: 0011150.00
DATE: DECEMBER 2021
SCALE: XXX
SHEET: ---- OF XX

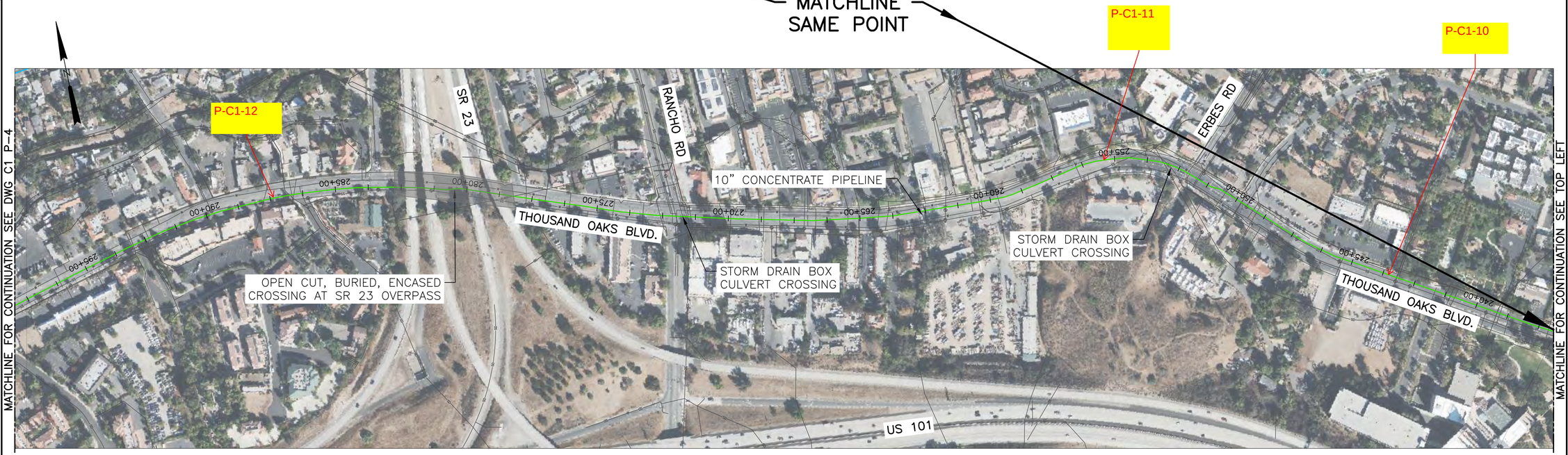
C1 P-2

\\woodardcurran.net\shared\Projects\0011150.00 jacobs lvmwd program management\wip\task 4d major pipeline alignment\CAD\0011150.00-Concentrate.dwg, Jan 07, 2022 - 9:03am JANKETELL



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

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CONCENTRATE ALIGNMENT 1

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

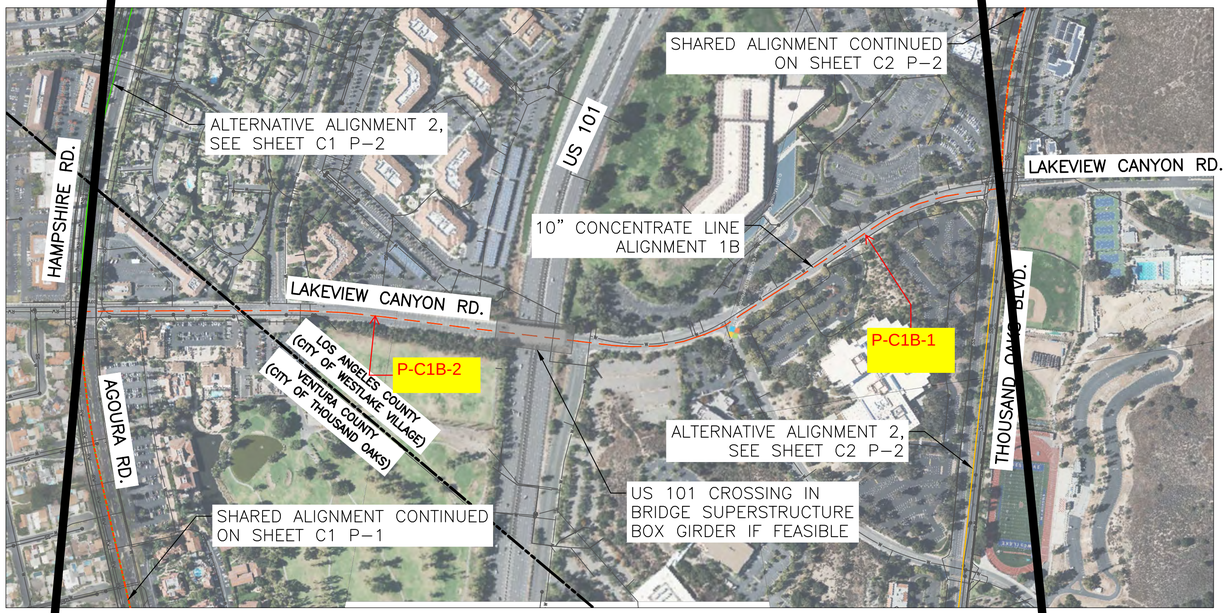
C1 P-3

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SCALE: 1"=200'

0 200 400 600

SCALE IN FEET



PLAN
1"=200'

LIMITS OF 1B BETWEEN BLACK LINES. OUTSIDE BLACK IS COVERED BY OTHER Alts

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LAS VIRGENES-TRIUNFO
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CONCENTRATE ALIGNMENT 1B

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO: 0011150.00
DATE: DECEMBER 2021
SCALE: XXX
SHEET: ---- OF XX

C1B P-1

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PLAN
1"=200'

MATCHLINE
SAME POINT

P-C2-1



PLAN
1"=200'

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CONCENTRATE ALIGNMENT 2

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C2 P-1

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SCALE: 1"=200'

0 200 400 600

SCALE IN FEET

N



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

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CONCENTRATE ALIGNMENT 2

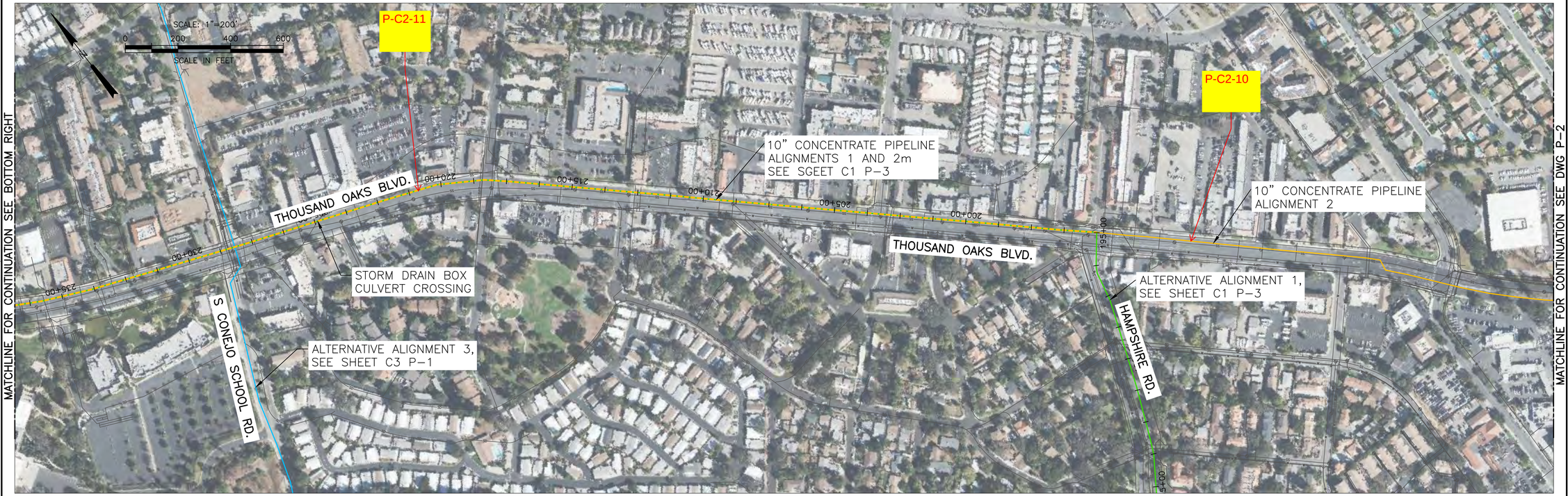
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
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SCALE:	XXX
SHEET:	---- OF XX

C2 P-2

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PLAN
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CONCENTRATE ALIGNMENT 2

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LAS VIRGENES - TRIUNFO

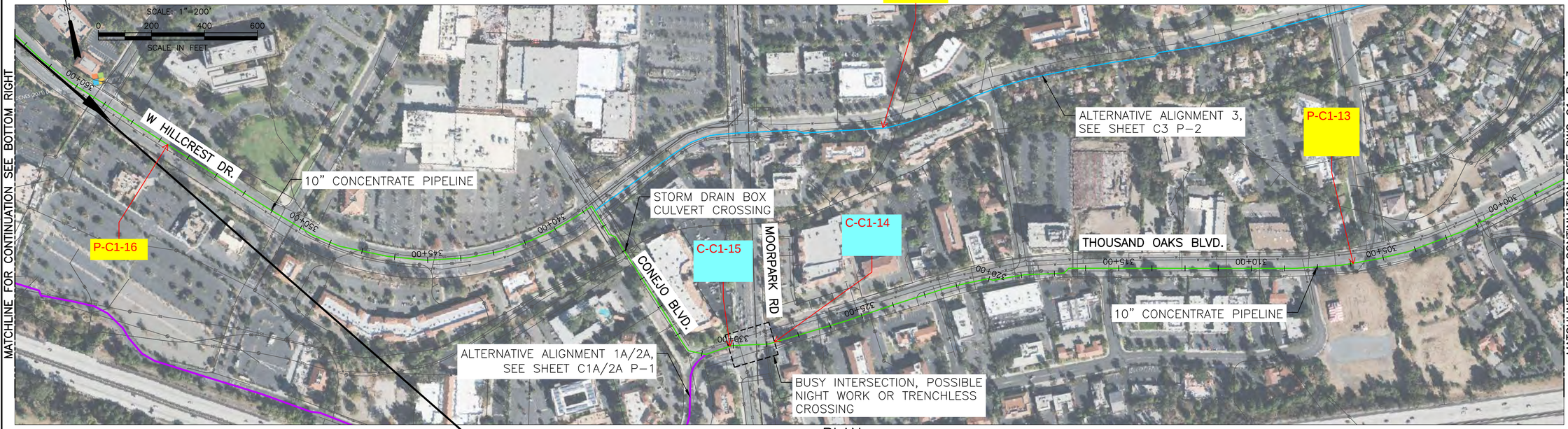
MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C2 P-3

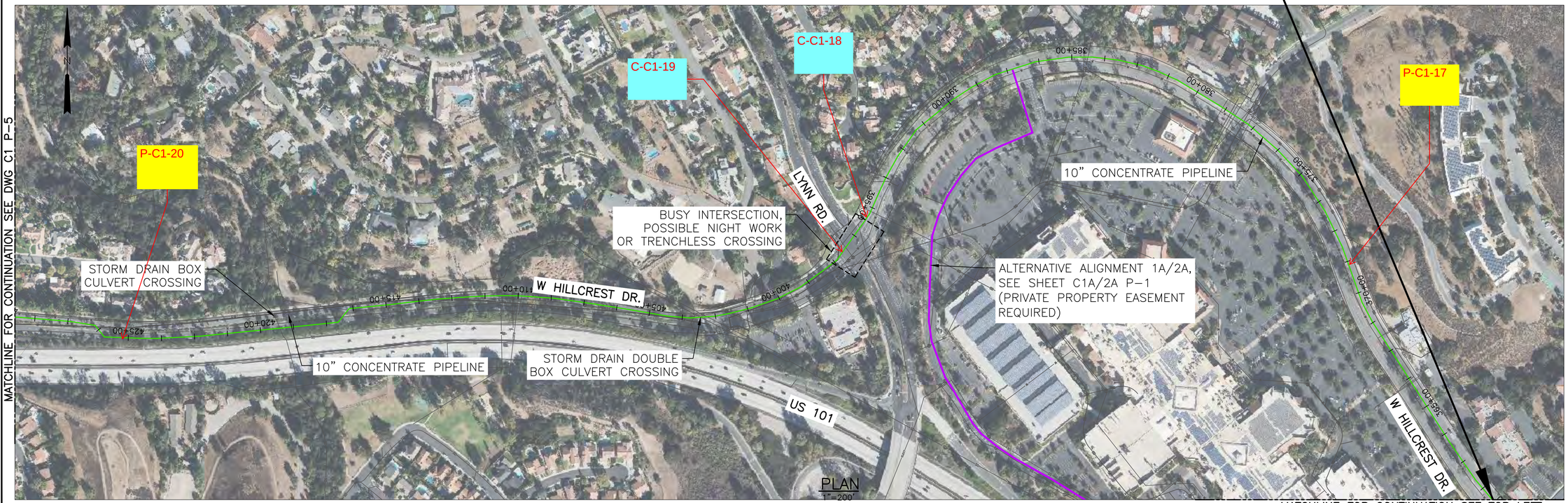
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MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT



MATCHLINE FOR CONTINUATION SEE DWG C1 P-3

MATCHLINE
SAME POINT



MATCHLINE FOR CONTINUATION SEE TOP LEFT

NOT FOR CONSTRUCTION

MATCHLINE FOR CONTINUATION SEE DWG C1 P-5

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CONCENTRATE ALIGNMENT 1

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C1 P-4

SCALE: 1"=200'

0 200 400 600

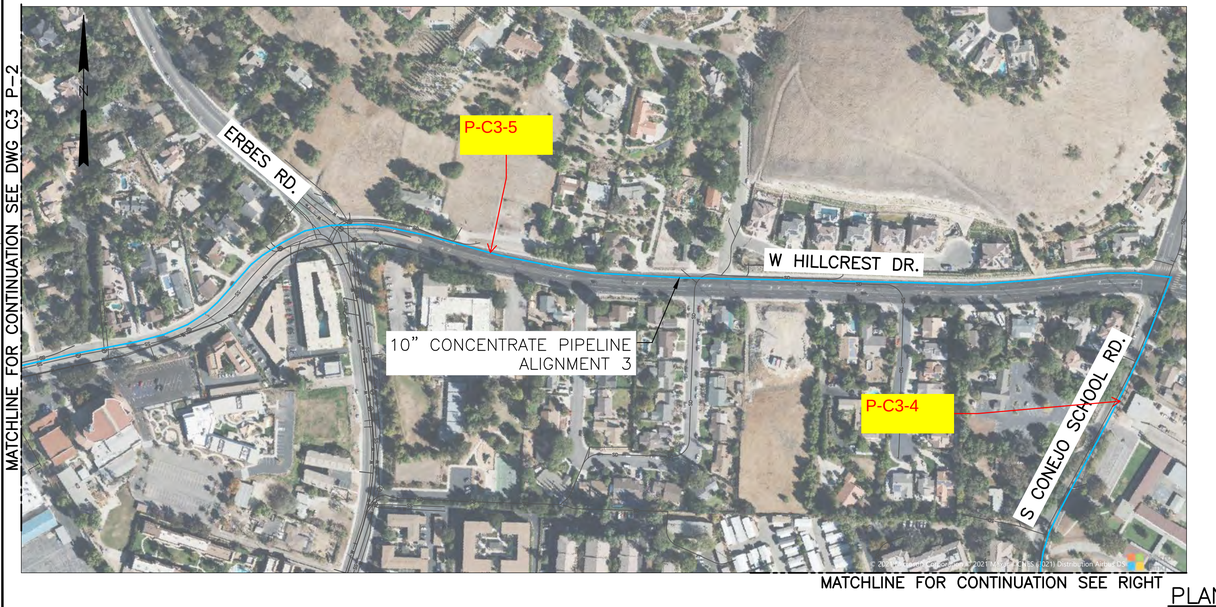
SCALE IN FEET

N

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT



PLAN
1"=200'



MATCHLINE FOR CONTINUATION SEE RIGHT

PLAN
1"=200'



MATCHLINE FOR CONTINUATION SEE LEFT

MATCHLINE FOR CONTINUATION SEE TOP LEFT

MATCHLINE FOR CONTINUATION SEE DWG C3 P–2

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PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
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CONCENTRATE ALIGNMENT 3

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO: 0011150.00
DATE: DECEMBER 2021
SCALE: XXX
SHEET: ---- OF XX

C3 P-1

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SCALE: 1"=200'

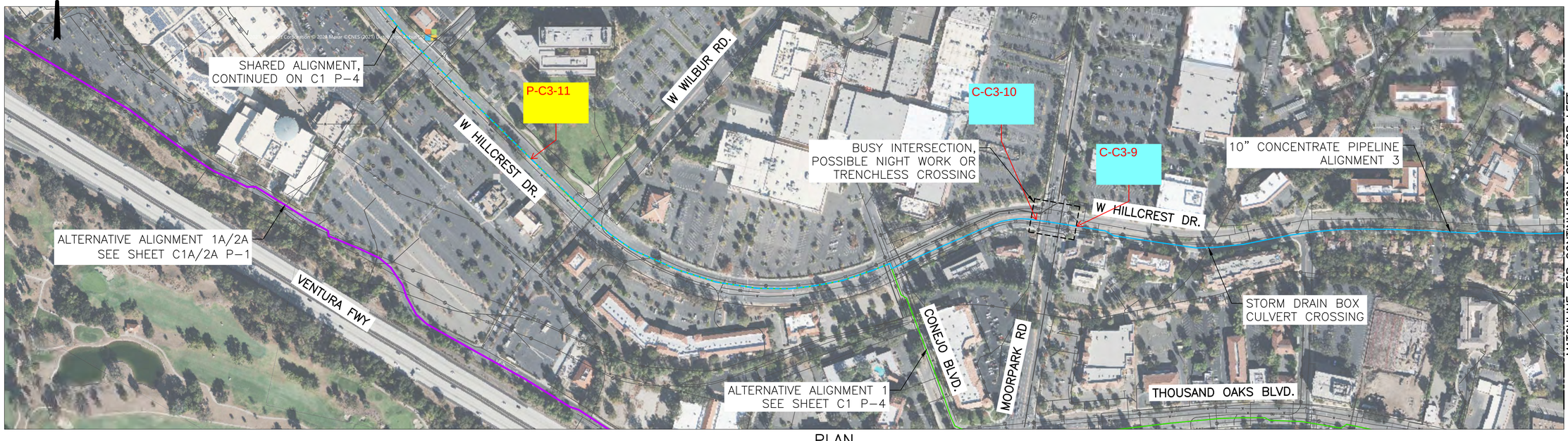
0 200 400 600

SCALE IN FEET

N



PLAN
1"=200'



PLAN
1"=200'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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CONCENTRATE ALIGNMENT 3

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

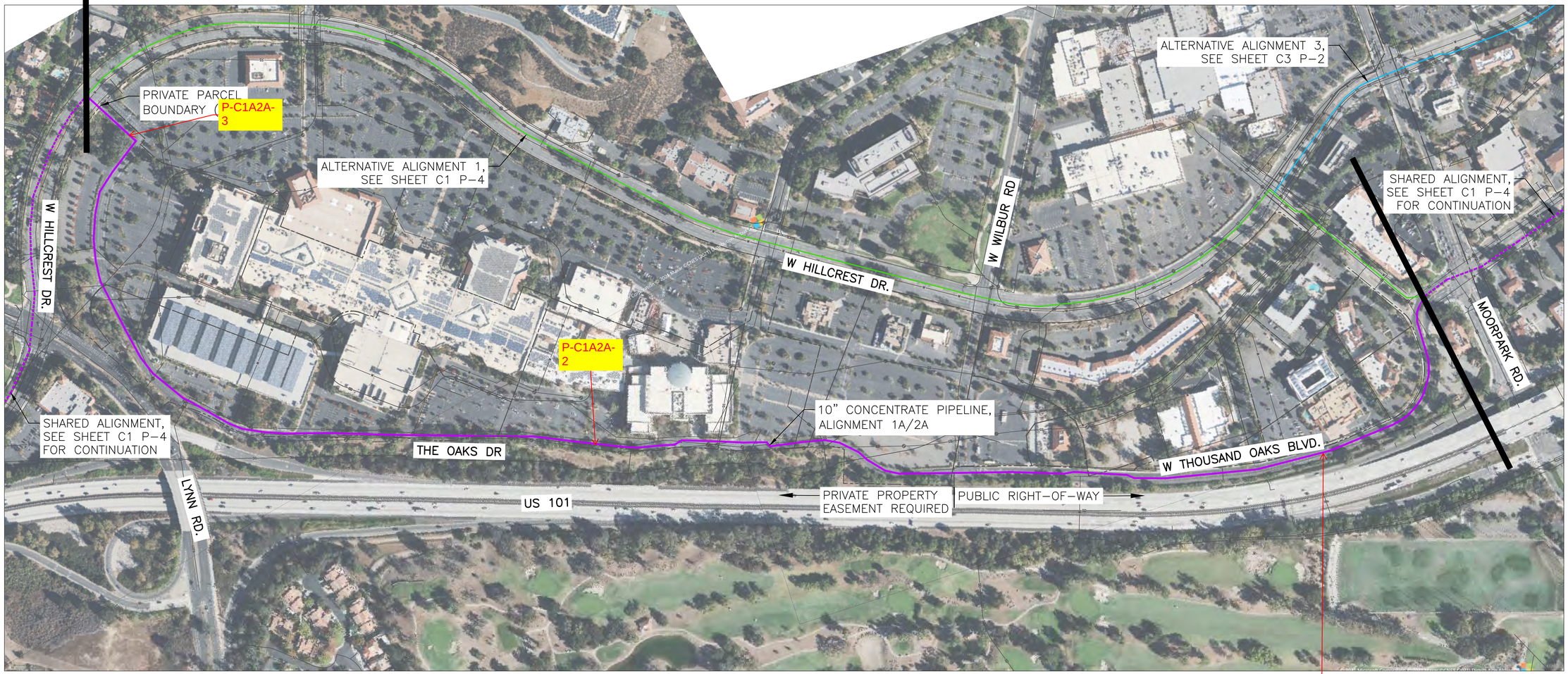
MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C3 P-2

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SCALE: 1"=200'
0 200 400 600
SCALE IN FEET



PLAN
1"=200'

LIMITS OF 1A/2A BETWEEN BLACK LINES. OUTSIDE BLACK IS COVERED BY C1

NOT FOR CONSTRUCTION

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CONCENTRATE ALIGNMENT 1A/2A

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	XXX
SHEET:	---- OF XX

C1A/2A P-1



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
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CONCENTRATE ALIGNMENT 1

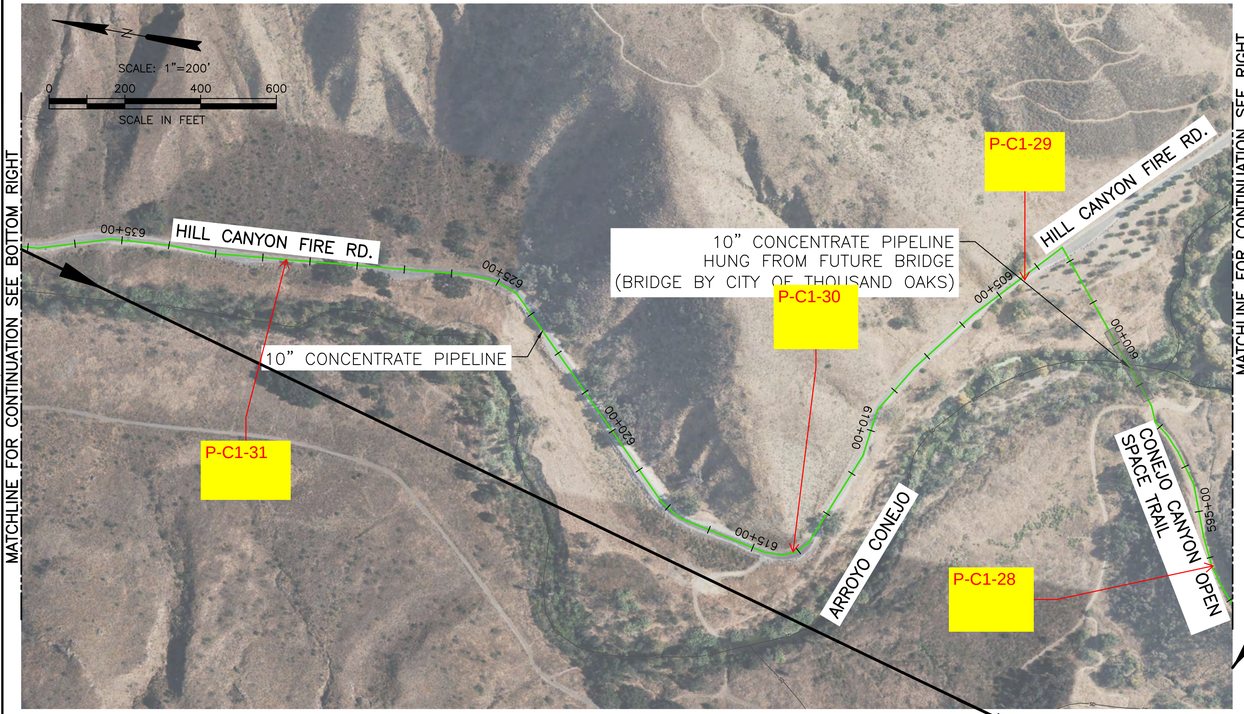
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

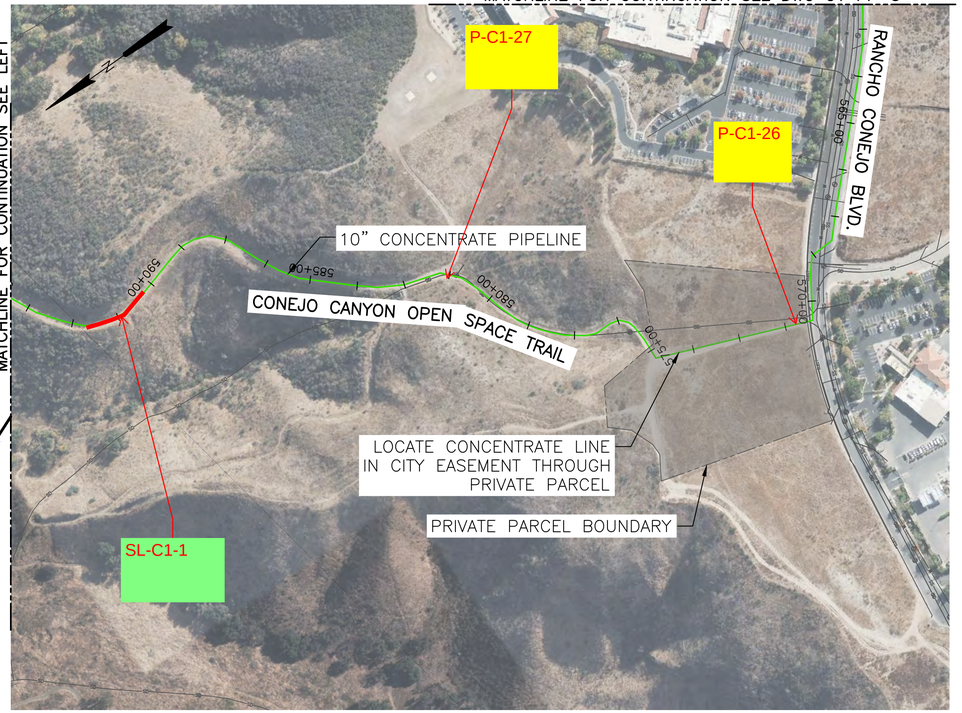
JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C1 P-5

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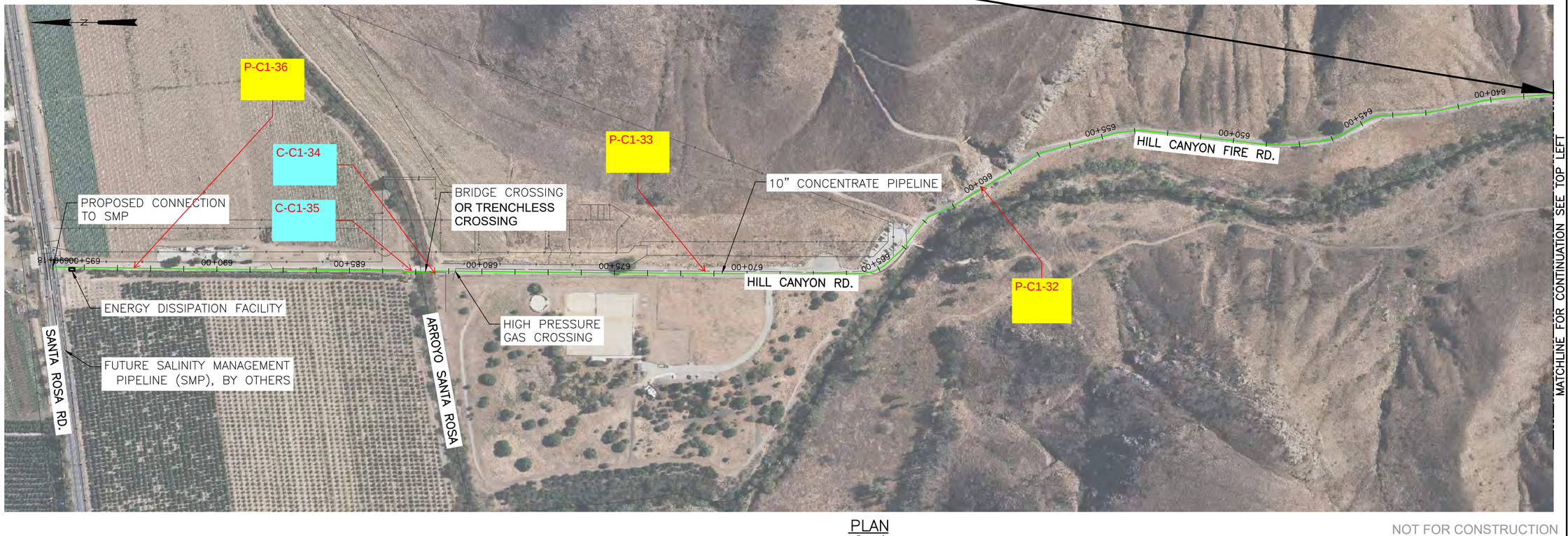


PLAN
1"=200'



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

NOT FOR CONSTRUCTION

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LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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CONCENTRATE ALIGNMENT 1

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	XXX
SHEET:	---- OF XX

C1 P-6

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PLAN
1"=800'

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PURIFIED WATER ALIGNMENT
KEY MAP

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	AS NOTED
SHEET:	1 OF 4

PW P-0

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MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT



PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE DWG P-2



PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE TOP LEFT

NOT FOR CONSTRUCTION

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PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
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PURIFIED WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	AS NOTED
SHEET:	2 OF 4

PW P-1

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT



PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE DWG P-1

MATCHLINE FOR CONTINUATION SEE DWG P-3



PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE TOP LEFT

NOT FOR CONSTRUCTION

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LAS VIRGENES-TRIUNFO
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PURIFIED WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	AS NOTED
SHEET:	3 OF 4

PW P-2

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MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

N

SCALE: 1"=100'

0 100 200 300

SCALE IN FEET

EXISTING 40–FOOT JPA EASEMENT THROUGH TRIUNFO CANYON, LOCATION TO BE VERIFIED

P-P1-9

TRIUNFO CANYON RD.

POTRERO CREEK

P-P1-8

20" PURIFIED WATER PIPELINE ALIGNMENT 1

PUBLIC RIGHT–OF–WAY

BRIDGE CROSSING, HANG PIPE UNDER CONCRETE DECK BETWEEN GIRDERS

LINDERO CANYON RD.

BYPASS VALVE VAULT

TRIUNFO CREEK PARK (MOUNTAINS RECREATION AND CONSERVATION AUTHORITY)

TO TRUNK SEWER

TO STORM DRAIN AND POTRERO CREEK

P-P1-10

PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE DWG P–2

N

LVMWD PARCEL ... RY

P-P1-12

ALIGNMENT 1B – TRENCHLESS INSTALLATION, APPROXIMATE LOCATION OF INSERTION/EXTRACTION PIT

SL-P1-2

P-P1-11

SL-P1B-1

PUBLIC RIGHT–OF–WAY

SL-P1B-3

20" PURIFIED WATER PIPELINE ALIGNMENT 1

ALIGNMENT 1B – APPROXIMATE ALIGNMENT

EXISTING 40–FOOT JPA EASEMENT THROUGH TRIUNFO CANYON, LOCATION TO BE VERIFIED

ALIGNMENT 1B – TRENCHLESS INSTALLATION, APPROXIMATE LOCATION OF INSERTION/EXTRACTION PIT

P-P1-13

C-P1B-3

C-P1B-2

TRIUNFO CREEK PARK (MOUNTAINS RECREATION AND CONSERVATION AUTHORITY)

C-P1B-1

LAS VIRGENES RESERVOIR

CONNECT TO LAS VIRGENES RESERVOIR DISCHARGE FACILITIES

SL-P1-4

PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE TOP LEFT

NOT FOR CONSTRUCTION

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PURIFIED WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	DECEMBER 2021
SCALE:	AS NOTED
SHEET:	4 OF 4

PW P-3



PLAN
1"=800'

NOT FOR CONSTRUCTION

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LAS VIRGENES-TRIUNFO
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SOURCE WATER ALIGNMENT KEYMAP

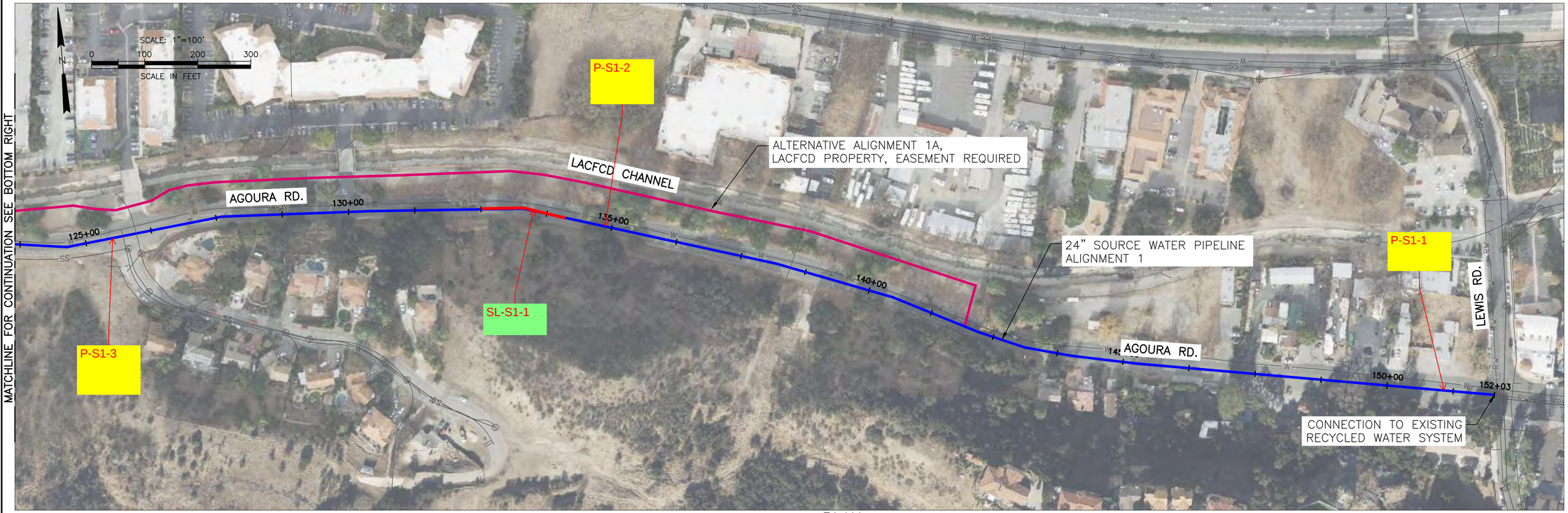
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE ALIGNMENT STUDY

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SCALE:	AS NOTED
SHEET:	1 OF XX

SW P-0

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PLAN
1"=100'



PLAN
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NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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REV	DESCRIPTION	DATE
DESIGNED BY:	XXX	
DRAWN BY:	XXX	
CHECKED BY:	XXX	
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SOURCE WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	2 OF XX

SW1 P-1

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SOURCE WATER ALIGNMENT

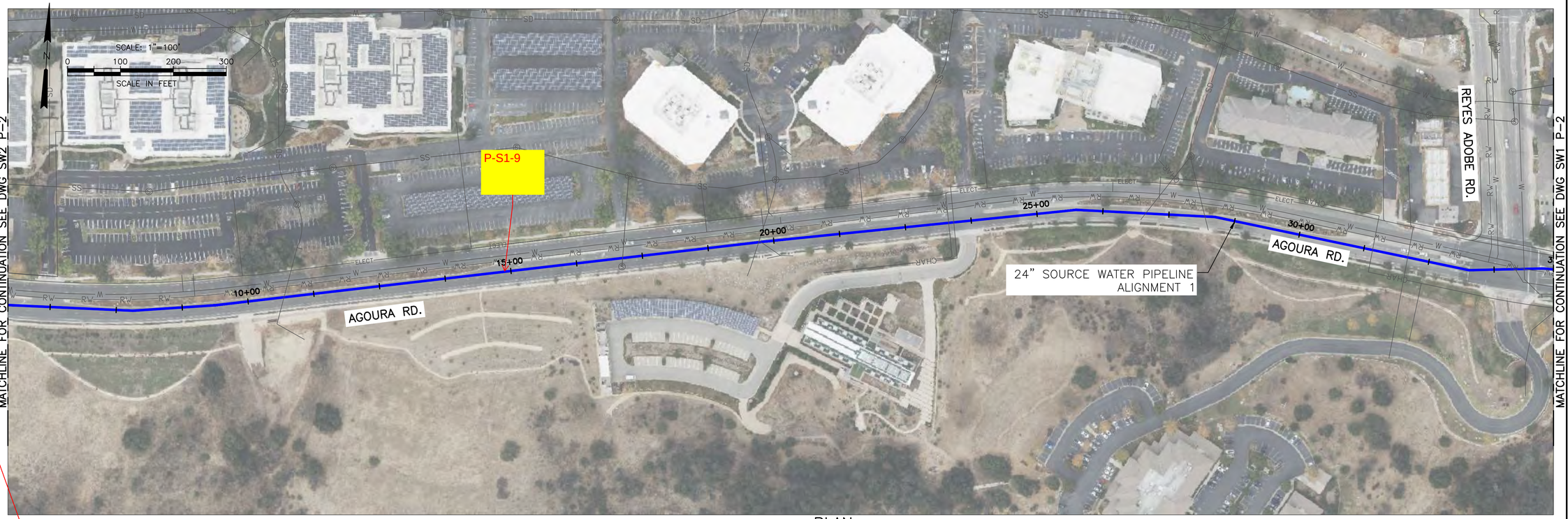
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	3 OF XX

SW1 P-2

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SOURCE WATER ALIGNMENT

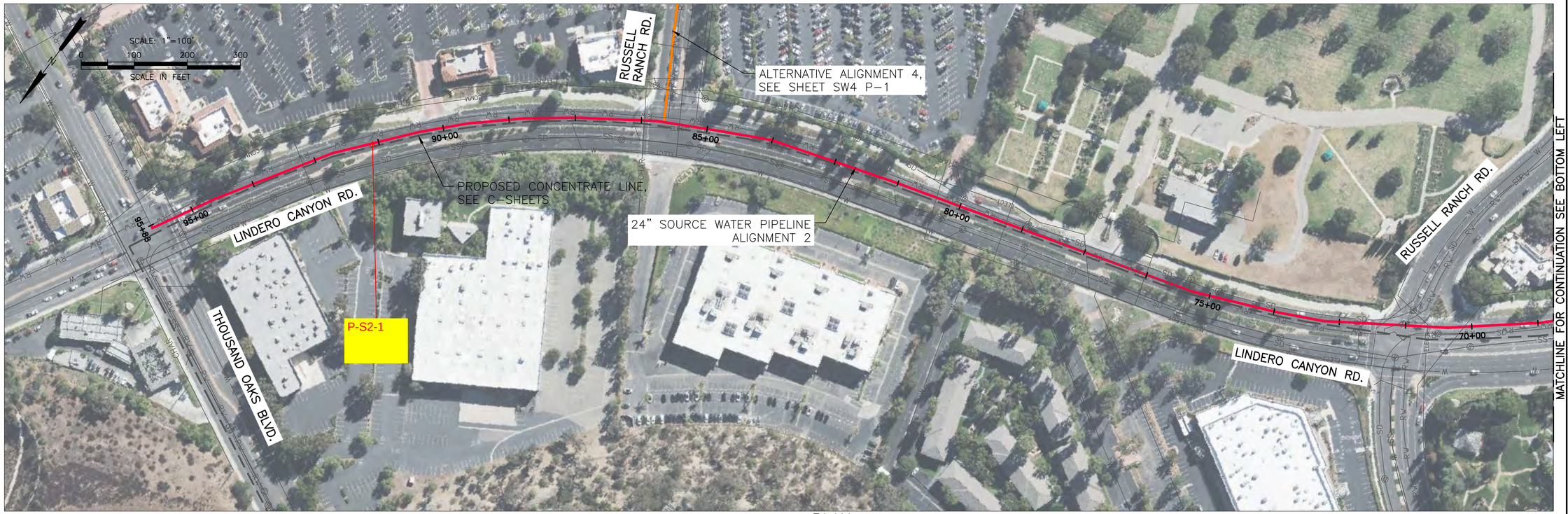
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	4 OF XX

SW1 P-3

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PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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SOURCE WATER ALTERNATE 2

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	5 OF XX

SW2 P-1

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LAS VIRGENES-TRIUNFO
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SOURCE WATER ALIGNMENT
ALTERNATE 2

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	6 OF XX

SW2 P-2

SCALE: 1"=100'

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SCALE IN FEET



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1"=100'

NOT FOR CONSTRUCTION

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SOURCE WATER ALIGNMENT ALTERNATE 4

PURE WATER PROJECT LAS VIRGENES - TRIUNFO

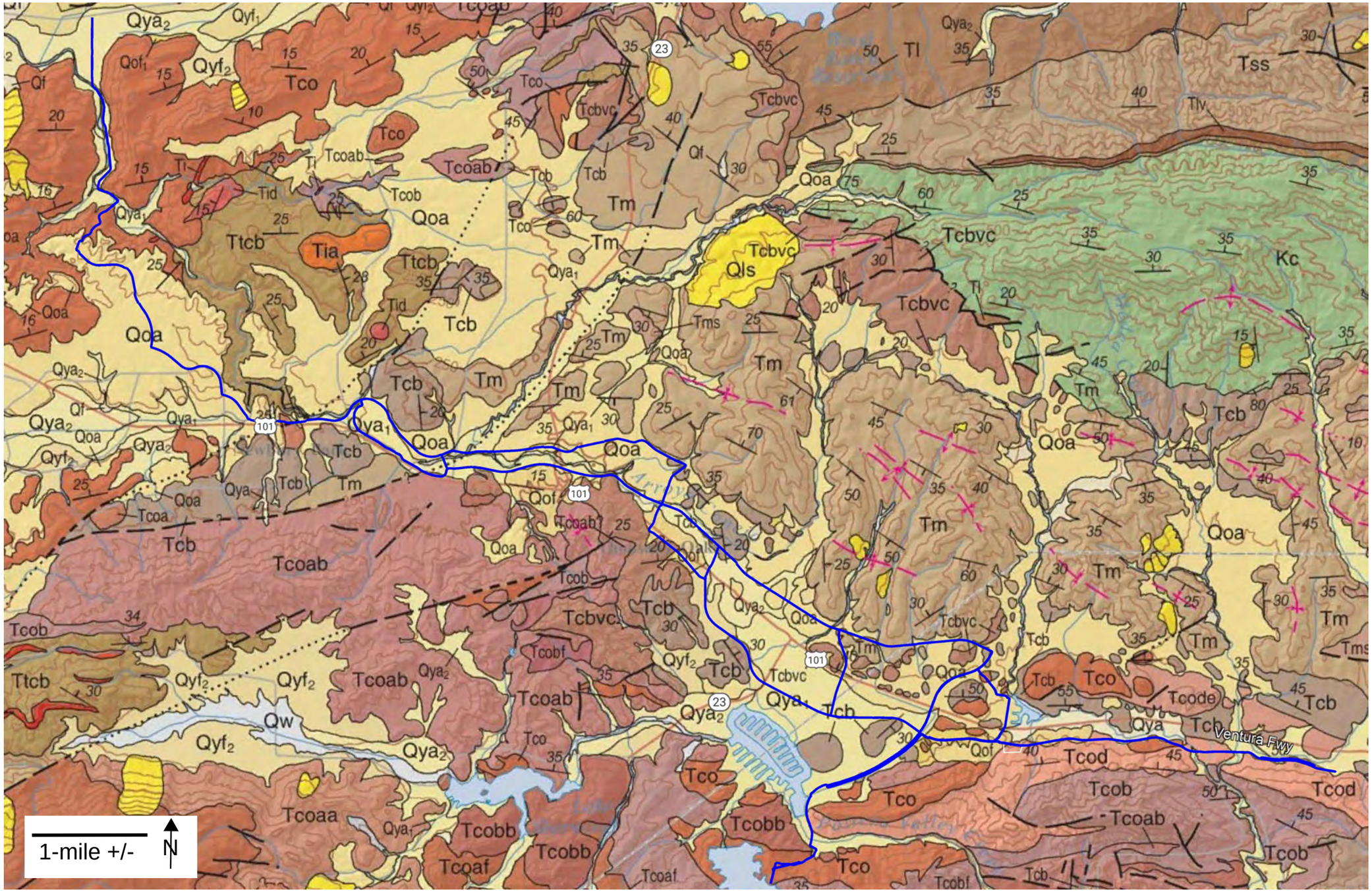
MAJOR PIPELINE ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	7 OF XX

SW4 P-1

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Attachment 3
Geologic Map



Conveyance Alignment

References:
Geologic Map: Campbell, R.H., C.J. Wills, P.J. Irvine, and B.J. Swanson. 2014. Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, California. Version 2.1. Published by the California

Geological Survey.

Conveyance Alignments: Woodard & Curran. 2022. Las Virgenes-Triunfo Pure Water Project. Major Pipeline Alignment Study Maps for Concentrate, Purified Water, Source Water and Residuals. Received in January 2022.

Note: See accompanying technical memorandum for description of geologic units and conveyance alignment details.

Geologic Map
Pure Water Project
Conveyance Alignment Alternatives
Las Virgenes-Truinfo JP
Thousand Oaks Area, California

Appendix B
Conceptual Cost Estimates

Jacobs

Las Virgenes-Triunfo Source Water Line Rev. #1

Agoura Hills and Westlake Village CA.

Class 5

Prepared:
November 17, 2022

Jacobs

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2. Purpose of Estimate **1**

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Project Cost Estimate 1

Jacobs

Basis of Estimate

Jacobs

Basis of Estimate

1. Project Information

Client/Owner:	Las Virgenes-Triunfo
Project Manager:	Jennifer Phillips
Design Manager:	TBD
Architect:	TBD
Project Description:	Source Water Line Rev#1
Location:	Agoura Hills and Westlake Village Ca.
Estimate Date:	November 17, 2022
Design Level:	Conceptual
Estimate Classification	Class 5
Estimate Number:	W9Y31200
Contracting Method:	Design, Bid, Build
Project Size:	See Each Estimate for the size and scope.
Construction Budget:	See Section 4. Overall Cost
Construction Start:	TBD
Construction Duration:	TBD

2. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer's opinion of probable construction cost at the 10% level of design development.

3. General Project Description

This project is for the construction of Source Water Pipelines as detailed in estimates below in the cities of Agoura Hills and Westlake Village CA.

Jacobs

4. Overall Costs

No. 1 Blue Alignment

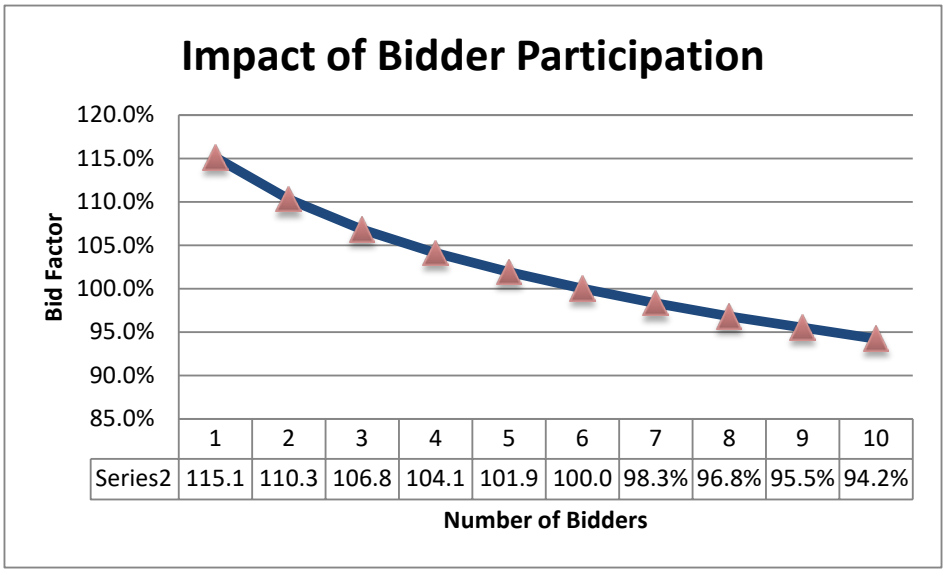
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$13,752,000	**$19,645,000**	$29,468,000
No. 1A Orange Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$15,208,000	**$21,726,000**	$32,589,000
No. 2 Red Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$8,650,000	**$,12,357,000**	$18,536,000
No. 3 Yellow Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$5,598,000	**$7,997,000**	$11,996,000
No. 4 Green Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$3,590,000	**$5,129,000**	$7,694,000

5. General Qualifications

A. We recommend the Owner and/or designated representatives review the estimate in detail for items that may not be consistent with the program intent.

B. The final costs of the project will depend on actual labor and material costs, competitive market conditions, actual project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein.

C. This estimate is based upon a competitive bid contracting method with five to seven responsible bidders (see chart below for modifications due to number of responsible bidders). Any single source specification selection will have an increased impact on the overall cost.



No. Bidders	Bid Factor
1	115.1%
2	110.3%
3	106.8%
4	104.1%
5	101.9%
6	100.0%
7	98.3%
8	96.8%
9	95.5%
10	94.2%

Data Source: PACES 2007, Mark-ups Screen, Prime and Subcontractor Profit Calculation Factors

D. The estimate does not include impacts due to contracting methods other than "open" competitive procurement. Pricing is not valid for negotiated contracts.

E. Pricing is not valid for HUB Zone and "set-aside" contract award.

6. Estimate Basis

A. Basis

- Other: Word documenting the scope of work with Google Earth KMZ files showing the approximate alignment of the pipeline.

B. Format

- This estimate is presented in CSI Masterformat 2004.
- The following Work Breakdown Structure (WBS) has been utilized to further segregate cost:
  - Area
  - Bid Item
  - Work Package
  - Trade Package
  - Work Activity
  - Unit Price

C. Labor Rates

Labor rates are based on local prevailing wages and are fully burdened to include both direct and indirect subcontract mark-ups. Labor Rates include base, fringes, payroll taxes and insurance, small tools, consumables, field supervision and field overhead as well as subcontractor overhead and profit. ENR CCI at the time of this estimate is 13575.17 for July 2022.

The estimate has been adjusted for local area labor rates, based upon 2022 RS Means National Average labor rates for the state of California. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index for Los Angeles CA. Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

D. Material Pricing

Materials pricing is based upon the national average as determined by RS Means or other data sources. Quotes on certain items may have been obtained and included in this estimate. Many quotes given for engineering estimates are budgetary and may not reflect actual contractor pricing.

E. Subcontracted Costs

It is assumed that General Contractors will subcontract a portion of the work. Items listed in the cost estimate as subcontractor includes all anticipated markups that a general contractor would receive.

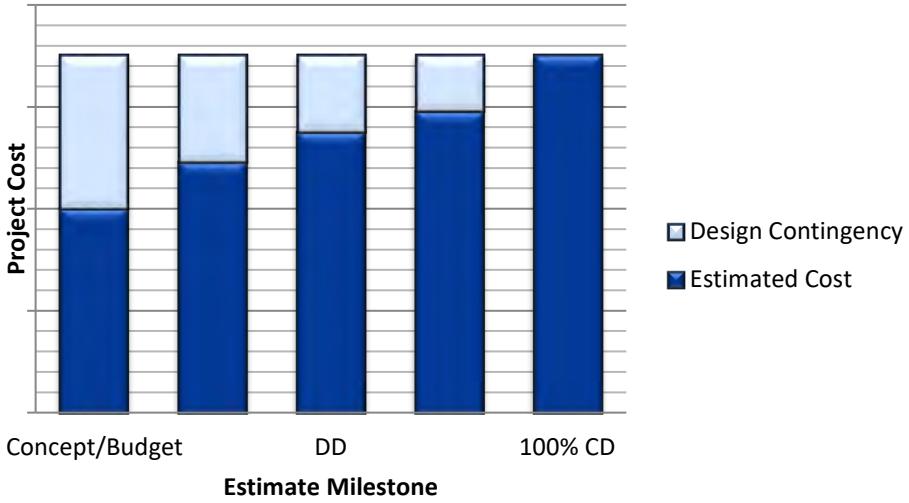
F. Construction Equipment Cost

Equipment items listed in this cost estimate are for the construction equipment necessary for the installation of the work. Equipment rates in this estimate are assumed to be 100% of 2022 Blue Book value. This is to account for contractor owned equipment or discounted rental equipment. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index Los Angeles CA.

G. Design Contingency

Design Contingency is considered to be owned by the project. At each milestone estimate, contingency (based on the level of design detail available) is applied against the total estimated construction cost, including General Conditions (when applicable). This risk-based contingency is intended to cover the cost associated with the further refinement of the design and details that are not completed on the plans. The design contingency is a function of the level of design at the time of the cost estimate development. As the design details increase at each milestone estimate, the

contingency decreases until, at 100% design completion, the contingency is generally 0%. The following graph is a theoretical representation of this process.



Design Contingency is not intended to cover owner changes, nor does it address unforeseeable events such as labor strikes, natural disasters or extraordinary economic events.

A Design Contingency of 25% is included.

H. Market Adjustment Factor or Contingency

A market adjustment factor or contingency has been added to the estimate, to account for lack of potential bidders in a geographical area, based upon the amount of current workload by the general contractors or subcontractors.

A Market Adjustment Factor is not included.

I. Construction Contingency

Construction Contingency is a typical consideration on any Guaranteed Maximum Price (GMP) contract. It is often owned by the project but controlled by the owner. Meaning, the owner has approval rights as to whether this contingency fund is utilized. Its purpose is to cover purchasing gaps and omissions in the GMP bidding process and to cover unforeseen costs due to weather or scheduling conflicts. Typically, as part of a GMP, the unspent portion of the construction contingency is returned to the owner when the project is closed out.

A Construction Contingency is not included.

J. Owner's Contingency

Owner's Contingency is a recommended amount to cover the costs associated with unforeseen conditions during the construction phase such as unknown site conditions, schedule delays and trade coordination issues that may lead to change orders. This contingency is not meant for scope enhancements or for additions to the project. The suggested percentage for Owner's Contingency is based on Industry standards for the type and location of the project.

Owner's Contingency is not included in this estimate.

K. Escalation

The pricing presented herein is based on current market costs. An escalation rate is applied at the summary level of the estimate for costs associated with the following:

- Yearly merit raises for open shop contractors.
- Yearly renegotiation of union agreements.
- Material price increases (typically assessed quarterly).

Escalation is not intended to cover increases due to fluctuations in market conditions such as over saturation of projects during the anticipated bidding phase or temporary reductions in availability of manpower for selected labor pools.

Escalation is not included.

7. Taxes

An 7.25% sales tax was added to all material costs within the estimate including process equipment.

8. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- Jacobs Historical Data
- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

9. Constructability Or Phase Comments

A Constructability Study was not conducted by estimating.

Jacobs

10. Project Allowances

01 - Allowances

Allowances are an allotted sum of money included for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost. Allowances include project direct costs - including labor, material, equipment and any subcontractor costs.

1. Allowances are detailed in the attached “Detail Estimate for each alternate.

11. Major Assumptions

01 – General Requirements

1. Material that is to be excavated can be done with a standard excavator.
2. All backfill will be new imported material.
3. A Dump site for excavated spoils will be available within 20 miles of the project.
4. Traffic will be allowed to be detoured around the work site.

12. General Exclusions:

- Professional fees, inspections and/or third-party testing
- Owner furnished items
- Hazardous waste removal and disposal
- Unforeseen sub-surface or existing conditions
- State/Local license, fees and/or permits
- Owner’s contingency

13. Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully

reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The impacts of the COVID-19 pandemic on the construction industry are not known at this time and will likely have some impact on the costs presented herein. This situation should be monitored and costs adjusted as the impacts become realized and published by the leading industry sources.

While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends.

NO. 1 Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Source Water No. 1- Blue Line***			
	01.0	**20" 3/16" CS Water Main**	**15,210.00 LF**	**986.03 /LF**	**14,997,572**
	02.0	**36" Bore and Casing with 20" Carrier Pipe**	**75.00 LF**	**1,878.08 /LF**	**140,856**
	03.0	**20" Butterfly Valves**	**15.00 EA**	**11,772.17 /EA**	**176,583**
	04.0	**8" Blow Off Assembly**	**6.00 EA**	**24,056.54 /EA**	**144,339**
	05.0	**2" CARV Assembly**	**6.00 EA**	**7,427.27 /EA**	**44,564**
	06.0	**Repair Concrete Cross Walks**	**600.00 SF**	**56.32 /SF**	**33,791**
	07.0	**Asphalt Trench Repair**	**15,210.00 LF**	**209.38 /LF**	**3,184,732**
	08.0	**Traffic Control Allowance**	**15,210.00 LF**	**53.99 /LF**	**821,216**
	09.0	**Traffic Loop Replacement Allowance**	**3.00 EA**	**33,895.10 /EA**	**101,685**
	01.0 Las Virgenes Source Water No. 1- Blue Line		***1.00 LS***	***19,645,336.63 /LS***	***19,645,337***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	5,663,849		37,065.424 hrs		372.377	28.83%	
Material	8,322,044				547.143	42.36%	
Subcontract	2,091,418				137.503	10.65%	
Equipment	3,050,401		25,224.282 hrs		200.552	15.53%	
Other	517,625				34.032	2.63%	
Total Prime Contractor Costs	**19,645,337**	**19,645,337**			**1,291.607**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**19,645,337**			**1,291.607**		**100.00%**
Total		***19,645,337***			***1,291.607***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Source Water No. 1- Blue Line**											
	01.0					20" 3/16" CS Water Main											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16" CS Water Main											
					33.60.02.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***100.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	152.00 day	**2,432**	**141,839**	-	-	-	-	933.15 /day	**141,839**	2,015.30 /day	**306,326**
						Trench Box, 8' x 24' x 10'	7.00 mo		-	-	-	**16,100**	-	2,300.00 /mo	**16,100**	5,134.00 /mo	**35,938**
						Dedicated Fire / Safety Monitor	608.00 hr	**608**	**35,460**	-	-	-	-	58.32 /hr	**35,460**	125.96 /hr	**76,582**
						50 tn Rough Terrain (per day)	152.00 day	**1,216**	**96,214**	-	-	**240,221**	-	2,213.38 /day	**336,434**	4,894.77 /day	**744,004**
						Add for hydrotesting pipeline (labor & Equipment per day)	15,210.00 lf	**183**	**14,790**	-	-	**1,322**	-	1.06 /lf	**16,112**	2.29 /lf	**34,893**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,340.12 CY	**2,432**	**167,134**	-	-	**114,792**	-	17.25 /CY	**281,926**	37.77 /CY	**617,191**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	5,197.43 cy	**4,256**	**279,330**	-	-	**191,187**	-	90.53 /cy	**470,517**	198.18 /cy	**1,030,025**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	10,465.16 cy	**2,432**	**183,322**	-	-	**218,405**	-	38.39 /cy	**401,727**	84.42 /cy	**883,433**
						Pipe zone material	5,197.43 cy		-	**145,528**	-	-	-	28.00 /cy	**145,528**	62.50 /cy	**324,844**
						Pipe bedding material	1,239.52 cy		-	**34,707**	-	-	-	28.00 /cy	**34,707**	62.50 /cy	**77,471**
						Haul spoils, offsite, 10 - 20 miles	16,902.00 cy		-	-	**253,530**	-	-	15.00 /cy	**253,530**	32.40 /cy	**547,542**
						Dump fees, trench spoils	16,902.00 cy		-	-	-	-	**253,530**	15.00 /cy	**253,530**	30.63 /cy	**517,625**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	15,210.00 LF	**7,296**	**588,787**	**1,636,976**	-	**332,286**	-	168.18 /LF	**2,558,049**	372.61 /LF	**5,667,323**
						20" CS Ell, 90	2.00 ea	**12**	**1,001**	**1,615**	-	**565**	-	1,590.22 /ea	**3,180**	3,513.37 /ea	**7,027**
						20" CS Ell, 45	2.00 ea	**12**	**1,001**	**810**	-	**565**	-	1,187.72 /ea	**2,375**	2,614.91 /ea	**5,230**
						20" CS Ell, 22.5	10.00 ea	**62**	**5,003**	**4,050**	-	**2,824**	-	1,187.71 /ea	**11,877**	2,614.91 /ea	**26,149**
						20" CS Ell, 11.25	9.00 ea	**56**	**4,503**	**3,645**	-	**2,541**	-	1,187.71 /ea	**10,689**	2,614.90 /ea	**23,534**
						20" CS butt weld, 3/16" wall	806.00 ea		-	-	**146,692**	-	-	182.00 /ea	**146,692**	393.06 /ea	**316,807**
						CLSM, pipe encasement	10,465.16 cy		-	**1,255,819**	-	-	-	120.00 /cy	**1,255,819**	267.86 /cy	**2,803,206**
						Tape wrap joint, 20" pipe	806.00 ea	**1,451**	**117,080**	**40,300**	-	-	-	195.26 /ea	**157,380**	425.32 /ea	**342,810**
						Grout joint, I.D., 20" pipe	806.00 ea	**1,612**	**130,625**	**9,672**	-	-	-	174.07 /ea	**140,297**	376.80 /ea	**303,697**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	-	**2,186**	-	3,779.86 /ea	**7,560**	8,296.88 /ea	**16,594**
						Cathodic protection, joint jumpers	806.00 ea	**806**	**65,313**	**20,150**	-	-	-	106.03 /ea	**85,463**	230.81 /ea	**186,032**
						Cathodic protection, anode, 30 lbs	15.00 ea	**60**	**4,862**	**2,250**	-	-	-	474.13 /ea	**7,112**	1,034.85 /ea	**15,523**
						Cathodic protection, test station	15.00 ea	**240**	**19,448**	**6,600**	-	-	-	1,736.53 /ea	**26,048**	3,782.23 /ea	**56,733**
						Pipe Marking, ID Tape	15,210.00 lf	**152**	**12,325**	**1,977**	-	-	-	0.94 /lf	**14,302**	2.04 /lf	**31,032**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	15,210.00 LF	**25,366**	**1,871,909**	**3,165,599**	**400,222**	**1,122,994**	**253,530**	448.01 /LF	**6,814,255**	986.03 /LF	**14,997,572**
						33.00.05.1001 20" 3/16" CS Water Main	15,210.00 LF	**25,366**	**1,871,909**	**3,165,599**	**400,222**	**1,122,994**	**253,530**	448.01 /LF	**6,814,255**	986.03 /LF	**14,997,572**
						33.03 Buried Process Pipe, Carbon Steel	**15,210.00 LF**	**25,366**	**1,871,909**	**3,165,599**	**400,222**	**1,122,994**	**253,530**	**448.01 /LF**	**6,814,255**	**986.03 /LF**	**14,997,572**
						33.0 Utilities	***1.00*** LS	**25,366**	**1,871,909**	**3,165,599**	**400,222**	**1,122,994**	**253,530**	6,814,254.74 /LS	**6,814,255**	14,997,571.59 /LS	**14,997,572**
						01.0 20" 3/16" CS Water Main	15,210.00 LF	**25,366**	**1,871,909**	**3,165,599**	**400,222**	**1,122,994**	**253,530**	448.01 /LF	**6,814,255**	986.03 /LF	**14,997,572**
	02.0					36" Bore and Casing with 20" Carrier Pipe											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,245.50 /ea	**13,246**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,622.72 /ea	**6,623**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,622.75 /ea	**6,623**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,311.36 /ea	**3,311**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	75.00 LF	**300**		-	**39,450**	-	-	526.00 /LF	**39,450**	1,135.99 /LF	**85,199**
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	**400**	-	-	-	100.00 /ea	**400**	223.21 /ea	**893**
						Horizontal boring, 36" diameter end seals	2.00 ea		-	**700**	-	-	-	350.00 /ea	**700**	781.27 /ea	**1,563**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	75.00 lf	**20**	**1,574**	**8,072**	-	**888**	-	140.45 /lf	**10,534**	311.98 /lf	**23,399**
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	75.00 LF	**428**	**10,289**	**9,172**	**39,450**	**5,807**		862.91 /LF	**64,718**	1,878.08 /LF	**140,856**
						33.60.02.0002 36" Bore with 20" Carrier	75.00 LF	**428**	**10,289**	**9,172**	**39,450**	**5,807**		862.91 /LF	**64,718**	1,878.08 /LF	**140,856**
						33.03 Buried Process Pipe, Carbon Steel	**75.00 LF**	**428**	**10,289**	**9,172**	**39,450**	**5,807**		**862.91 /LF**	**64,718**	**1,878.08 /LF**	**140,856**
						33.0 Utilities	***1.00*** LS	**428**	**10,289**	**9,172**	**39,450**	**5,807**		64,717.97 /LS	**64,718**	140,855.64 /LS	**140,856**
						02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	**428**	**10,289**	**9,172**	**39,450**	**5,807**		862.91 /LF	**64,718**	1,878.08 /LF	**140,856**
	03.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	15.00 ea	**99**	**7,989**	-	-	**4,509**	-	833.21 /ea	**12,498**	1,821.26 /ea	**27,319**
						Butterfly valve, iron body, MJ , NO, 250#, 20"	15.00 EA		-	**57,420**	-	-	-	3,828.00 /EA	**57,420**	8,544.76 /EA	**128,171**
						Valve accessory, extension stem	75.00 lf	**8**	**598**	**375**	-	-	-	12.98 /lf	**973**	28.39 /lf	**2,130**
						Valve accessory, stem couplings	15.00 set	**5**	**395**	**300**	-	-	-	46.33 /set	**695**	101.51 /set	**1,523**
						CI Valve Box & Cover, w/ Concrete Collar included	15.00 ea	**45**	**3,632**	**2,250**	-	**2,049**	-	528.73 /ea	**7,931**	1,162.67 /ea	**17,440**
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	15.00 EA	**156**	**12,614**	**60,345**		**6,558**		5,301.17 /EA	**79,518**	11,772.17 /EA	**176,583**
						33.20.03.0003 20" Butterfly Valves	15.00 EA	**156**	**12,614**	**60,345**		**6,558**		5,301.17 /EA	**79,518**	11,772.17 /EA	**176,583**
						33.03 Buried Process Pipe, Carbon Steel	**0.00**	**156**	**12,614**	**60,345**		**6,558**		**/LF**	**79,518**	**/LF**	**176,583**
						33.0 Utilities	***1.00*** LS	**156**	**12,614**	**60,345**		**6,558**		79,517.60 /LS	**79,518**	176,582.54 /LS	**176,583**
						03.0 20" Butterfly Valves	15.00 EA	**156**	**12,614**	**60,345**		**6,558**		5,301.17 /EA	**79,518**	11,772.17 /EA	**176,583**
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	150.00 LF	**72**	**5,810**	**7,832**	-	**3,279**	-	112.81 /LF	**16,921**	249.00 /LF	**37,349**
						8" DI, MJ, Ell, 90	6.00 ea	**18**	**1,453**	**2,063**	-	**820**	-	722.48 /ea	**4,335**	1,595.15 /ea	**9,571**
						8" DI, MJ, Ell, 45	6.00 ea	**18**	**1,453**	**1,762**	-	**820**	-	672.43 /ea	**4,035**	1,483.44 /ea	**8,901**
						8" DI, RJ, cap or plug	6.00 ea	**9**	**726**	**937**	-	**410**	-	345.52 /ea	**2,073**	762.47 /ea	**4,575**
						20" DI, MJ, red. tee, 20" x 8"	6.00 ea	**59**	**4,794**	**17,315**	-	**2,705**	-	4,135.58 /ea	**24,814**	9,173.42 /ea	**55,041**

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						Install gate valve, Flgd, DIP, 8"	6.00 ea	20	1,598	-	-	902	-	416.61 /ea	2,500	910.63 /ea	5,464
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	6.00 EA		-	3,714	-	-	-	619.00 /EA	3,714	1,381.72 /EA	8,290
						Valve accessory, extension stem	42.00 lf	4	335	210	-	-	-	12.98 /lf	545	28.39 /lf	1,193
						Valve accessory, stem couplings	6.00 set	2	158	120	-	-	-	46.33 /set	278	101.51 /set	609
						CI Valve Box & Cover, w/ Concrete Collar included	6.00 ea	18	1,453	900	-	820	-	528.73 /ea	3,172	1,162.67 /ea	6,976
						Meter Box	6.00 ea	24	1,400	1,500	-	-	-	483.29 /ea	2,900	1,061.87 /ea	6,371
						33.20.01.08 Buried Valves, Gate Valves, 8"	**6.00 EA**	244	19,179	36,352		9,755		**10,881.00 /EA**	65,286	**24,056.54 /EA**	144,339
						33.20.01.0004 8" Blow Off Assembly	**6.00 EA**	244	19,179	36,352		9,755		**10,881.00 /EA**	65,286	**24,056.54 /EA**	144,339
						33.03 Buried Process Pipe, Carbon Steel	**150.00 LF**	244	19,179	36,352		9,755		**435.24 /LF**	65,286	**962.26 /LF**	144,339
						33.0 Utilities	***1.00* LS**	244	19,179	36,352		9,755		**65,286.02 /LS**	65,286	**144,339.26 /LS**	144,339
						04.0 8" Blow Off Assembly	**6.00 EA**	244	19,179	36,352		9,755		**10,881.00 /EA**	65,286	**24,056.54 /EA**	144,339
	05.0					**2" CARV Assembly**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	6.00 EA		-	-	9,000	-		1,500.00 /EA	9,000	3,239.51 /EA	19,437
						2" Corporation stop, thrd	6.00 ea	7	564		-	273	-	139.45 /ea	837	304.47 /ea	1,827
						Ball valve, bronze, screwed, 2"	6.00 ea	2	192	384	-	-	-	95.92 /ea	576	211.79 /ea	1,271
						2" copper pipe, K-soft	150.00 LF	11	838	1,587	-	-	-	16.17 /LF	2,425	35.68 /LF	5,353
						2" copper, ELL, 90	12.00 ea	8	622	154	-	-	-	64.71 /ea	776	140.68 /ea	1,688
						Install Air & Vacuum relief valve, 2"	6.00 ea	14	1,149	-	-	-	-	191.51 /ea	1,149	413.60 /ea	2,482
						FURNISH Air & Vacuum relief valve, iron body, 2"	6.00 ea		-	2,250	-	-	-	375.00 /ea	2,250	837.06 /ea	5,022
						Double Strap Saddle, 20" x 2"	6.00 ea	24	1,915	1,500	-	-	-	569.18 /ea	3,415	1,247.38 /ea	7,484
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**6.00 EA**	66	5,280	5,875	9,000	273		**3,404.67 /EA**	20,428	**7,427.27 /EA**	44,564
						33.20.08.0005 2" CARV Assembly	**6.00 EA**	66	5,280	5,875	9,000	273		**3,404.67 /EA**	20,428	**7,427.27 /EA**	44,564
						33.03 Buried Process Pipe, Carbon Steel	**150.00 LF**	66	5,280	5,875	9,000	273		**136.19 /LF**	20,428	**297.09 /LF**	44,564
						33.0 Utilities	***1.00* LS**	66	5,280	5,875	9,000	273		**20,428.03 /LS**	20,428	**44,563.60 /LS**	44,564
						05.0 2" CARV Assembly	**6.00 EA**	66	5,280	5,875	9,000	273		**3,404.67 /EA**	20,428	**7,427.27 /EA**	44,564
	06.0					**Repair Concrete Cross Walks**											
		03.0				**Concrete Work**											
			03.10			**Cast-In-Place Concrete Work**											
				03.10.05.0006		**Repair Concrete Cross Walks**											
					03.10.05.12	**Cast-In-Place Concrete, Slabs on Grade, 12" thick**											
						Fine grade, for slab on grade, by hand	600.00 SF	4	229	18	-	-	-	0.41 /SF	247	0.93 /SF	560
						Fill, gravel subbase, under building slab on grade	14.82 cy	7	404	415	-	-	-	55.27 /cy	819	126.92 /cy	1,880
						Fill, sand subbase, under building slab on grade	3.70 cy	3	152	67	-	-	-	59.06 /cy	219	134.76 /cy	499
						Concrete pumping, subcontract, all inclusive price	22.22 cy		-	-	333	-	-	15.00 /cy	333	33.89 /cy	753
						Slab on grade edge forms, 7" to 12"	180.00 sf	32	2,181	180	-	-	-	13.12 /sf	2,361	29.71 /sf	5,348
						Speed Dowels, #5	90.00 ea		-	1,260	-	-	-	14.00 /ea	1,260	32.65 /ea	2,939
						Reinforcing in place, A615 Gr 60, priced per lbs.	4,444.44 lb		-	2,222	1,778	-	-	0.90 /lb	4,000	2.07 /lb	9,200
						Concrete, ready mix, 4500 psi	22.22 CY		-	2,933	-	-	-	132.00 /CY	2,933	307.85 /CY	6,841
						Add for concrete waste, 4500 psi	1.11 cy		-	147	-	-	-	132.00 /cy	147	307.82 /cy	342
						Add amount for Fuel Surcharges - per concrete truck load	3.00 load		-	60	-	-	-	20.00 /load	60	46.65 /load	140
						Add amount for Environmental Fee - per concrete truck load	3.00 load		-	24	-	-	-	8.00 /load	24	18.66 /load	56
						Placing concrete, concrete pump	22.22 cy	17	909	-	-	-	-	40.91 /cy	909	92.43 /cy	2,054
						Finishing floors, monolithic, broom finish	600.00 sf	18	1,153	12	-	-	-	1.94 /sf	1,165	4.39 /sf	2,633
						Curing, membrane spray	600.00 sf	1	65	24	-	-	-	0.15 /sf	89	0.34 /sf	204
						Polyethelene vapor barrier, 10 mil thick	6.00 sq	1	86	64	-	-	-	24.88 /sq	149	56.99 /sq	342
						03.10.05.12 Cast-In-Place Concrete, Slabs on Grade, 12" thick	**22.22 CY**	84	5,179	7,426	2,111			**662.21 /CY**	14,716	**1,520.61 /CY**	33,791
						03.10.05.0006 Repair Concrete Cross Walks	**22.22 CY**	84	5,179	7,426	2,111			**662.21 /CY**	14,716	**1,520.61 /CY**	33,791
						03.10 Cast-In-Place Concrete Work	**22.22 CY**	84	5,179	7,426	2,111			**662.21 /CY**	14,716	**1,520.61 /CY**	33,791
						03.0 Concrete Work	**22.22 CY**	84	5,179	7,426	2,111			**662.21 /CY**	14,716	**1,520.61 /CY**	33,791
						06.0 Repair Concrete Cross Walks	**600.00 SF**	84	5,179	7,426	2,111			**24.53 /SF**	14,716	**56.32 /SF**	33,791
	07.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	30,420.00 lf	468		-	60,840	-	-	2.00 /lf	60,840	4.52 /lf	137,479
						Asphalt Milling, 6" Depth	10,140.00 Sy	101		-	25,350	-	-	2.50 /Sy	25,350	5.65 /Sy	57,283
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	3,380.00 cy	348	23,686	-	-	33,358	-	16.88 /cy	57,045	38.85 /cy	131,321
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	3,380.00 cy		-	42,250	-	-	-	12.50 /cy	42,250	29.15 /cy	98,534
						Site demo, slab on grade removal, rod reinforced	1,690.00 cy	3,786	240,617	-	-	102,266	-	202.89 /cy	342,883	462.85 /cy	782,218
						Site demo, for disposal on site, to 5 mis, add	1,690.00 cy	178	12,117	-	-	14,922	-	16.00 /cy	27,039	36.79 /cy	62,182
						Sawcutting, concrete slabs, each additional inch of depth over 3"	91,260.00 lf	497	33,735	3,650	-	19,364	-	0.62 /lf	56,750	1.42 /lf	129,905
						02.01.01.01 General Site Demolition, Asphalt Pavement	**10,140.00 Sy**	5,377	310,156	45,900	86,190	169,911		**60.37 /Sy**	612,157	**137.96 /Sy**	1,398,921
						02.01.01.0007 Demo Asphalt	**10,140.00 Sy**	5,377	310,156	45,900	86,190	169,911		**60.37 /Sy**	612,157	**137.96 /Sy**	1,398,921
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	10,140.00 SY	32	2,328	8,416	-	1,739	-	1.23 /SY	12,483	2.85 /SY	28,944
						Fog seal, sealcoating, prepare and clean surface for sealcoating	10,140.00 sy	28	1,722	-	-	403	-	0.21 /sy	2,125	0.48 /sy	4,831
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	10,140.00 sy	77	5,494	116,103	-	5,934	-	12.58 /sy	127,531	29.29 /sy	297,027
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	10,140.00 sy	5,162	344,663	243,360	-	31,969	-	61.14 /sy	619,992	140.13 /sy	1,420,941
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	15,210.00 LF	43	2,612	10,343	-	1,734	-	0.97 /LF	14,689	2.24 /LF	34,068
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**10,140.00 SY**	5,344	356,820	378,222		41,779		**76.61 /SY**	776,820	**176.12 /SY**	1,785,811
						32.40.02.0008 Trench Paving	**10,140.00 SY**	5,344	356,820	378,222		41,779		**76.61 /SY**	776,820	**176.12 /SY**	1,785,811

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						32.12 Paving	**10,140.00 SY**	**10,721**	**666,975**	**424,122**	**86,190**	**211,690**		**136.98 /SY**	**1,388,977**	**314.08 /SY**	**3,184,732**
						32.0 Exterior Improvements	**10,140.00 SY**	**10,721**	**666,975**	**424,122**	**86,190**	**211,690**		**136.98 /SY**	**1,388,977**	**314.08 /SY**	**3,184,732**
						07.0 Asphalt Trench Repair	**15,210.00 LF**	**10,721**	**666,975**	**424,122**	**86,190**	**211,690**		**91.32 /LF**	**1,388,977**	**209.38 /LF**	**3,184,732**
	08.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	15,210.00 LF		-	-	**380,250**	-		25.00 /LF	**380,250**	53.99 /LF	**821,216**
						33.00.01.40 Buried Pipe, Traffic Control	**15,210.00 LF**				**380,250**			**25.00 /LF**	**380,250**	**53.99 /LF**	**821,216**
						33.00.01.0009 Traffic Control Allowance	**15,210.00 LF**				**380,250**			**25.00 /LF**	**380,250**	**53.99 /LF**	**821,216**
						33.89 Pipeline - Traffic Control	**15,210.00 LF**				**380,250**			**25.00 /LF**	**380,250**	**53.99 /LF**	**821,216**
						33.0 Utilities	***1.00* LS**				**380,250**			**380,250.00 /LS**	**380,250**	**821,215.83 /LS**	**821,216**
						08.0 Traffic Control Allowance	**15,210.00 LF**				**380,250**			**25.00 /LF**	**380,250**	**53.99 /LF**	**821,216**
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	3.00 EA		-	-	**45,000**	-		15,000.00 /EA	**45,000**	33,895.10 /EA	**101,685**
						26.00.99.00 Electrical, Other	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,895.10 /EA**	**101,685**
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,895.10 /EA**	**101,685**
						26.10 Site Electrical	***1.00* LS**				**45,000**			**45,000.00 /LS**	**45,000**	**101,685.30 /LS**	**101,685**
						26.0 Electrical Work	***1.00* LS**				**45,000**			**45,000.00 /LS**	**45,000**	**101,685.30 /LS**	**101,685**
						09.0 Traffic Loop Replacement Allowance	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,895.10 /EA**	**101,685**
						01.0 Las Virgenes Source Water No. 1- Blue Line	***1.00* LS**	**37,065**	**2,591,426**	**3,708,892**	**962,223**	**1,357,077**	**253,530**	**8,873,147.49 /LS**	**8,873,147**	**19,645,336.63 /LS**	**19,645,337**

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,591,426		37,065.424 hrs		170.376	13.19%	
Material	3,708,892				243.846	18.88%	
Subcontract	962,223				63.263	4.90%	
Equipment	1,357,077		25,224.282 hrs		89.223	6.91%	
Other	253,530				16.669	1.29%	
Subtotal Raw Costs	**8,873,148**	**8,873,148**			**583.376**	**45.17%**	**45.17%**
Material Sales & Use Tax - %	268,895			7.250 %	17.679	1.37%	
Construction Equip Tax - %	98,388			7.250 %	6.469	0.50%	
Total Taxes	**367,283**	**9,240,431**			**607.523**	**1.87%**	**47.04%**
Location Adj. Factor	1,017,115			11.800 %	66.871	5.18%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,017,115**	**10,257,546**			**674.395**	**5.18%**	**52.21%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.242	0.02%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.740	0.06%	
Site/Civil I,OH&P	347,244			25.000 %	22.830	1.77%	
Buried Piping I,OH&P	1,113,668			15.000 %	73.219	5.67%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,475,841**	**11,733,387**			**771.426**	**7.51%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**11,733,387**			**771.426**		**59.73%**
Total Cost To Prime Contractor		**11,733,387**			**771.426**		**59.73%**
General Conditions	1,173,339			10.000 %	77.143	5.97%	
Mobilization/Demobilization	469,335			4.000 %	30.857	2.39%	
Subtotal Indirect Costs	**1,642,674**	**13,376,061**			**879.425**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,337,606			10.000 %	87.943	6.81%	
Prime Contractor Profit	668,803			5.000 %	43.971	3.40%	
Bonds & Insurance	333,800			2.170 %	21.946	1.70%	
Subtotal OH&P	**2,340,209**	**15,716,270**			**1,033.285**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**15,716,270**			**1,033.285**		**80.00%**
Design Contingency	3,929,067			25.000 %	258.321	20.00%	
Subtotal Contingency	**3,929,067**	**19,645,337**			**1,291.607**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**19,645,337**			**1,291.607**		**100.00%**
Total Prime Contractor Costs		**19,645,337**			**1,291.607**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**19,645,337**			**1,291.607**		**100.00%**
Total Contractor Costs w/ OFCI		**19,645,337**			**1,291.607**		**100.00%**
Total Construction Cost		**19,645,337**			**1,291.607**		**100.00%**
Total		***19,645,337***			***1,291.607***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Source Water No. 1- Blue Line**											
	01.0				20" 3/16" CS Water Main											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Water Main	15,210.00 LF	25,366	1,871,909	3,165,599	400,222	1,122,994	253,530	448.01 /LF	6,814,255	986.03 /LF	14,997,572
					33.03 Buried Process Pipe, Carbon Steel	15,210.00 LF	25,366	1,871,909	3,165,599	400,222	1,122,994	253,530	448.01 /LF	6,814,255	986.03 /LF	14,997,572
					33.0 Utilities	*1.00* LS	25,366	1,871,909	3,165,599	400,222	1,122,994	253,530	6,814,254.74 /LS	6,814,255	14,997,571.59 /LS	14,997,572
					01.0 20" 3/16" CS Water Main	15,210.00 LF	25,366	1,871,909	3,165,599	400,222	1,122,994	253,530	448.01 /LF	6,814,255	986.03 /LF	14,997,572
	02.0				36" Bore and Casing with 20" Carrier Pipe											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.60.02.0002	36" Bore with 20" Carrier	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,878.08 /LF	140,856
					33.03 Buried Process Pipe, Carbon Steel	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,878.08 /LF	140,856
					33.0 Utilities	*1.00* LS	428	10,289	9,172	39,450	5,807		64,717.97 /LS	64,718	140,855.64 /LS	140,856
					02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,878.08 /LF	140,856
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,772.17 /EA	176,583
					33.03 Buried Process Pipe, Carbon Steel	0.00	156	12,614	60,345		6,558		/LF	79,518	/LF	176,583
					33.0 Utilities	*1.00* LS	156	12,614	60,345		6,558		79,517.60 /LS	79,518	176,582.54 /LS	176,583
					03.0 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,772.17 /EA	176,583
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	6.00 EA	244	19,179	36,352		9,755		10,881.00 /EA	65,286	24,056.54 /EA	144,339
					33.03 Buried Process Pipe, Carbon Steel	150.00 LF	244	19,179	36,352		9,755		435.24 /LF	65,286	962.26 /LF	144,339
					33.0 Utilities	*1.00* LS	244	19,179	36,352		9,755		65,286.02 /LS	65,286	144,339.26 /LS	144,339
					04.0 8" Blow Off Assembly	6.00 EA	244	19,179	36,352		9,755		10,881.00 /EA	65,286	24,056.54 /EA	144,339
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,427.27 /EA	44,564
					33.03 Buried Process Pipe, Carbon Steel	150.00 LF	66	5,280	5,875	9,000	273		136.19 /LF	20,428	297.09 /LF	44,564
					33.0 Utilities	*1.00* LS	66	5,280	5,875	9,000	273		20,428.03 /LS	20,428	44,563.60 /LS	44,564
					05.0 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,427.27 /EA	44,564
	06.0				Repair Concrete Cross Walks											
		03.0			Concrete Work											
			03.10		Cast-In-Place Concrete Work											
				03.10.05.0006	Repair Concrete Cross Walks	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,520.61 /CY	33,791
					03.10 Cast-In-Place Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,520.61 /CY	33,791
					03.0 Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,520.61 /CY	33,791
					06.0 Repair Concrete Cross Walks	600.00 SF	84	5,179	7,426	2,111			24.53 /SF	14,716	56.32 /SF	33,791
	07.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	10,140.00 Sy	5,377	310,156	45,900	86,190	169,911		60.37 /Sy	612,157	137.96 /Sy	1,398,921
				32.40.02.0008	Trench Paving	10,140.00 SY	5,344	356,820	378,222		41,779		76.61 /SY	776,820	176.12 /SY	1,785,811
					32.12 Paving	10,140.00 SY	10,721	666,975	424,122	86,190	211,690		136.98 /SY	1,388,977	314.08 /SY	3,184,732
					32.0 Exterior Improvements	10,140.00 SY	10,721	666,975	424,122	86,190	211,690		136.98 /SY	1,388,977	314.08 /SY	3,184,732
					07.0 Asphalt Trench Repair	15,210.00 LF	10,721	666,975	424,122	86,190	211,690		91.32 /LF	1,388,977	209.38 /LF	3,184,732
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	15,210.00 LF				380,250			25.00 /LF	380,250	53.99 /LF	821,216
					33.89 Pipeline - Traffic Control	15,210.00 LF				380,250			25.00 /LF	380,250	53.99 /LF	821,216
					33.0 Utilities	*1.00* LS				380,250			380,250.00 /LS	380,250	821,215.83 /LS	821,216
					08.0 Traffic Control Allowance	15,210.00 LF				380,250			25.00 /LF	380,250	53.99 /LF	821,216
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,895.10 /EA	101,685
					26.10 Site Electrical	*1.00* LS				45,000			45,000.00 /LS	45,000	101,685.30 /LS	101,685
					26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,685.30 /LS	101,685
					09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,895.10 /EA	101,685
					01.0 Las Virgenes Source Water No. 1- Blue Line	*1.00* LS	37,065	2,591,426	3,708,892	962,223	1,357,077	253,530	**8,873,147.49 /LS**	8,873,147	**19,645,336.63 /LS**	19,645,337

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1 Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8/31/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,591,426		37,065.424 hrs		170.376	13.19%	
Material	3,708,892				243.846	18.88%	
Subcontract	962,223				63.263	4.90%	
Equipment	1,357,077		25,224.282 hrs		89.223	6.91%	
Other	253,530				16.669	1.29%	
Subtotal Raw Costs	**8,873,148**	**8,873,148**			**583.376**	**45.17%**	**45.17%**
Material Sales & Use Tax - %	268,895			7.250 %	17.679	1.37%	
Construction Equip Tax - %	98,388			7.250 %	6.469	0.50%	
Total Taxes	**367,283**	**9,240,431**			**607.523**	**1.87%**	**47.04%**
Location Adj. Factor	1,017,115			11.800 %	66.871	5.18%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,017,115**	**10,257,546**			**674.395**	**5.18%**	**52.21%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.242	0.02%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.740	0.06%	
Site/Civil I,OH&P	347,244			25.000 %	22.830	1.77%	
Buried Piping I,OH&P	1,113,668			15.000 %	73.219	5.67%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,475,841**	**11,733,387**			**771.426**	**7.51%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**11,733,387**			**771.426**		**59.73%**
Total Cost To Prime Contractor		**11,733,387**			**771.426**		**59.73%**
General Conditions	1,173,339			10.000 %	77.143	5.97%	
Mobilization/Demobilization	469,335			4.000 %	30.857	2.39%	
Subtotal Indirect Costs	**1,642,674**	**13,376,061**			**879.425**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,337,606			10.000 %	87.943	6.81%	
Prime Contractor Profit	668,803			5.000 %	43.971	3.40%	
Bonds & Insurance	333,800			2.170 %	21.946	1.70%	
Subtotal OH&P	**2,340,209**	**15,716,270**			**1,033.285**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**15,716,270**			**1,033.285**		**80.00%**
Design Contingency	3,929,067			25.000 %	258.321	20.00%	
Subtotal Contingency	**3,929,067**	**19,645,337**			**1,291.607**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**19,645,337**			**1,291.607**		**100.00%**
Total Prime Contractor Costs		**19,645,337**			**1,291.607**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**19,645,337**			**1,291.607**		**100.00%**
Total Contractor Costs w/ OFCI		**19,645,337**			**1,291.607**		**100.00%**
Total Construction Cost		**19,645,337**			**1,291.607**		**100.00%**
Total		***19,645,337***			***1,291.607***		

No. 1A Orange Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Source Water No. 1A Orange Line***			
	01.0	**20" 3/16 CS Water Main**	**15,360.00 LF**	**1,123.48 /LF**	**17,256,670**
	02.0	**36" Bore and Casing with 20" Carrier Pipe**	**75.00 LF**	**1,876.79 /LF**	**140,760**
	03.0	**20" Butterfly Valves**	**15.00 EA**	**11,764.30 /EA**	**176,465**
	04.0	**8" Blow Off Assembly**	**6.00 EA**	**27,754.11 /EA**	**166,525**
	05.0	**2" CARV Assembly**	**6.00 EA**	**7,422.22 /EA**	**44,533**
	06.0	**Repair Concrete Cross Walks**	**600.00 SF**	**56.28 /SF**	**33,769**
	07.0	**Asphalt Trench Repair**	**15,360.00 LF**	**193.79 /LF**	**2,976,668**
	08.0	**Traffic Control Allowance**	**15,360.00 LF**	**53.95 /LF**	**828,745**
	09.0	**Traffic Loop Replacement Allowance**	**3.00 EA**	**33,872.84 /EA**	**101,619**
	01.0 Las Virgenes Source Water No. 1A Orange Line		***1.00 LS***	***21,725,752.57 /LS***	***21,725,753***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	6,748,634		44,339.815 hrs		439.364	31.06%	
Material	8,289,997				539.713	38.16%	
Subcontract	1,873,630				121.981	8.62%	
Equipment	4,291,162		34,316.964 hrs		279.373	19.75%	
Other	522,329				34.006	2.40%	
Total Prime Contractor Costs	**21,725,752**	**21,725,752**			**1,414.437**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**21,725,752**			**1,414.437**		**100.00%**
Total		***21,725,752***			***1,414.437***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Source Water No. 1A Orange Line**											
	01.0					20" 3/16 CS Water Main											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16 CS Water Main											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***66.00 ea***			-	-	-	-	***/ea***		***/ea***	
						Traffic Control, Labor per Day	232.00 day	3,712	216,491	-	-	-	-	933.15 /day	216,491	2,013.92 /day	467,229
						Trench Box, 8' x 24' x 10'	11.00 mo		-	-	-	25,300	-	2,300.00 /mo	25,300	5,130.59 /mo	56,436
						Dedicated Fire / Safety Monitor	928.00 hr	928	54,123	-	-	-	-	58.32 /hr	54,123	125.87 /hr	116,807
						50 tn Rough Terrain (per day)	232.00 day	1,856	146,852	-	-	366,653	-	2,213.38 /day	513,505	4,891.48 /day	1,134,824
						Add for hydrotesting pipeline (labor & Equipment per day)	15,360.00 lf	184	14,936	-	-	1,335	-	1.06 /lf	16,271	2.29 /lf	35,212
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,501.27 CY	3,712	255,097	-	-	175,208	-	26.08 /CY	430,306	57.05 /CY	941,384
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	5,248.68 cy	6,496	426,347	-	-	291,812	-	136.83 /cy	718,159	299.33 /cy	1,571,079
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	10,568.36 cy	3,712	279,807	-	-	333,354	-	58.02 /cy	613,161	127.50 /cy	1,347,485
						Pipe zone material	5,248.68 cy		-	146,963	-	-	-	28.00 /cy	146,963	62.46 /cy	327,829
						Pipe bedding material	1,251.74 cy		-	35,049	-	-	-	28.00 /cy	35,049	62.46 /cy	78,183
						Haul spoils, offsite, 10 - 20 miles	17,068.00 cy		-	-	256,020	-	-	15.00 /cy	256,020	32.37 /cy	552,540
						Dump fees, trench spoils	17,068.00 cy		-	-	-	-	256,020	15.00 /cy	256,020	30.60 /cy	522,329
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	15,360.00 LF	11,136	898,679	1,653,120	-	507,176	-	199.15 /LF	3,058,975	440.00 /LF	6,758,469
						20" CS Ell, 90	10.00 ea	62	5,003	8,075	-	2,824	-	1,590.21 /ea	15,902	3,511.00 /ea	35,110
						20" CS Ell, 45	2.00 ea	12	1,001	810	-	565	-	1,187.72 /ea	2,375	2,613.15 /ea	5,226
						20" CS Ell, 22.5	10.00 ea	62	5,003	4,050	-	2,824	-	1,187.71 /ea	11,877	2,613.14 /ea	26,131
						20" CS Ell, 11.25	9.00 ea	56	4,503	3,645	-	2,541	-	1,187.71 /ea	10,689	2,613.14 /ea	23,518
						20" CS butt weld, 3/16" wall	216.00 ea		-	-	39,312	-	-	182.00 /ea	39,312	392.79 /ea	84,843
						CLSM, pipe encasement	10,568.36 cy		-	1,268,203	-	-	-	120.00 /cy	1,268,203	267.68 /cy	2,828,967
						Tape wrap joint, 20" pipe	216.00 ea	389	31,376	10,800	-	-	-	195.26 /ea	42,176	425.03 /ea	91,807
						Grout joint, I.D., 20" pipe	216.00 ea	432	35,006	2,592	-	-	-	174.07 /ea	37,598	376.54 /ea	81,332
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,291.27 /ea	16,583
						Cathodic protection, joint jumpers	216.00 ea	216	17,503	5,400	-	-	-	106.03 /ea	22,903	230.65 /ea	49,821
						Cathodic protection, anode, 30 lbs	15.00 ea	60	4,862	2,250	-	-	-	474.13 /ea	7,112	1,034.14 /ea	15,512
						Cathodic protection, test station	15.00 ea	240	19,448	6,600	-	-	-	1,736.53 /ea	26,048	3,779.66 /ea	56,695
						Pipe Marking, ID Tape	15,360.00 lf	154	12,447	1,997	-	-	-	0.94 /lf	14,443	2.04 /lf	31,317
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	15,360.00 LF	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	510.84 /LF	7,846,542	1,123.48 /LF	17,256,670
						33.00.05.1001 20" 3/16 CS Water Main	15,360.00 LF	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	510.84 /LF	7,846,542	1,123.48 /LF	17,256,670
						33.03 Buried Process Pipe, Carbon Steel	**15,360.00 LF**	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	**510.84 /LF**	7,846,542	**1,123.48 /LF**	17,256,670
						33.0 Utilities	*1.00* LS	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	7,846,542.42 /LS	7,846,542	17,256,669.62 /LS	17,256,670
						01.0 20" 3/16 CS Water Main	15,360.00 LF	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	510.84 /LF	7,846,542	1,123.48 /LF	17,256,670
	02.0					36" Bore and Casing with 20" Carrier Pipe											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,236.47 /ea	13,236
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,618.23 /ea	6,618
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,618.25 /ea	6,618
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,309.12 /ea	3,309
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	75.00 LF	300		-	39,450	-	-	526.00 /LF	39,450	1,135.21 /LF	85,141
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	223.07 /ea	892
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	780.74 /ea	1,561
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	75.00 lf	20	1,574	8,072	-	888	-	140.45 /lf	10,534	311.78 /lf	23,383
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,876.79 /LF	140,760
						33.60.02.0002 36" Bore with 20" Carrier	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,876.79 /LF	140,760
						33.03 Buried Process Pipe, Carbon Steel	**75.00 LF**	428	10,289	9,172	39,450	5,807		**862.91 /LF**	64,718	**1,876.79 /LF**	140,760
						33.0 Utilities	*1.00* LS	428	10,289	9,172	39,450	5,807		64,717.97 /LS	64,718	140,759.57 /LS	140,760
						02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,876.79 /LF	140,760
	03.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	15.00 ea	99	7,989	-	-	4,509	-	833.21 /ea	12,498	1,820.02 /ea	27,300
						Butterfly valve, iron body, MJ , NO, 250#, 20"	15.00 EA		-	57,420	-	-	-	3,828.00 /EA	57,420	8,539.08 /EA	128,086
						Valve accessory, extension stem	75.00 lf	8	598	375	-	-	-	12.98 /lf	973	28.38 /lf	2,128
						Valve accessory, stem couplings	15.00 set	5	395	300	-	-	-	46.33 /set	695	101.44 /set	1,522
						CI Valve Box & Cover, w/ Concrete Collar included	15.00 ea	45	3,632	2,250	-	2,049	-	528.73 /ea	7,931	1,161.88 /ea	17,428
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,764.30 /EA	176,465
						33.20.03.0003 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,764.30 /EA	176,465
						33.03 Buried Process Pipe, Carbon Steel	**0.00**	156	12,614	60,345		6,558		**/LF**	79,518	**/LF**	176,465
						33.0 Utilities	*1.00* LS	156	12,614	60,345		6,558		79,517.60 /LS	79,518	176,464.53 /LS	176,465
						03.0 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,764.30 /EA	176,465
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	150.00 LF	72	5,810	7,832	-	3,279	-	112.81 /LF	16,921	248.83 /LF	37,324
						8" DI, MJ, Ell, 90	6.00 ea	18	1,453	2,063	-	820	-	722.48 /ea	4,335	1,594.08 /ea	9,564
						8" DI, MJ, Ell, 45	6.00 ea	18	1,453	1,762	-	820	-	672.43 /ea	4,035	1,482.43 /ea	8,895
						8" DI, RJ, cap or plug	6.00 ea	9	726	937	-	410	-	345.52 /ea	2,073	761.97 /ea	4,572
						20" DI, MJ, red. tee, 20" x 8"	6.00 ea	59	4,794	17,315	-	2,705	-	4,135.58 /ea	24,814	9,167.28 /ea	55,004

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						Install gate valve, Flgd, DIP, 8"	6.00 ea	20	1,598	-	-	902	-	416.61 /ea	2,500	910.01 /ea	5,460
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	6.00 EA		-	3,714	-	-	-	619.00 /EA	3,714	1,380.80 /EA	8,285
						Valve accessory, extension stem	90.00 lf	9	718	450	-	-	-	12.98 /lf	1,168	28.37 /lf	2,554
						Valve accessory, stem couplings	15.00 set	5	395	300	-	-	-	46.33 /set	695	101.45 /set	1,522
						CI Valve Box & Cover, w/ Concrete Collar included	15.00 ea	45	3,632	2,250	-	2,049	-	528.73 /ea	7,931	1,161.88 /ea	17,428
						Meter Box	15.00 ea	60	3,499	3,750	-	-	-	483.29 /ea	7,249	1,061.15 /ea	15,917
						33.20.01.08 Buried Valves, Gate Valves, 8"	**6.00 EA**	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,754.11 /EA	166,525
						33.20.01.0004 8" Blow Off Assembly	**6.00 EA**	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,754.11 /EA	166,525
						33.03 Buried Process Pipe, Carbon Steel	**150.00 LF**	315	24,077	40,372		10,985		502.89 /LF	75,434	1,110.16 /LF	166,525
						33.0 Utilities	***1.00* LS**	315	24,077	40,372		10,985		75,434.21 /LS	75,434	166,524.68 /LS	166,525
						04.0 8" Blow Off Assembly	**6.00 EA**	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,754.11 /EA	166,525
	05.0					**2" CARV Assembly**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	6.00 EA		-	-	9,000	-		1,500.00 /EA	9,000	3,237.29 /EA	19,424
						2" Corporation stop, thrd	6.00 ea	7	564		-	273	-	139.45 /ea	837	304.26 /ea	1,826
						Ball valve, bronze, screwed, 2"	6.00 ea	2	192	384	-	-	-	95.92 /ea	576	211.65 /ea	1,270
						2" copper pipe, K-soft	150.00 LF	11	838	1,587	-	-	-	16.17 /LF	2,425	35.66 /LF	5,349
						2" copper, ELL, 90	12.00 ea	8	622	154	-	-	-	64.71 /ea	776	140.58 /ea	1,687
						Install Air & Vacuum relief valve, 2"	6.00 ea	14	1,149	-	-	-	-	191.51 /ea	1,149	413.32 /ea	2,480
						FURNISH Air & Vacuum relief valve, iron body, 2"	6.00 ea		-	2,250	-	-	-	375.00 /ea	2,250	836.51 /ea	5,019
						Double Strap Saddle, 20" x 2"	6.00 ea	24	1,915	1,500	-	-	-	569.18 /ea	3,415	1,246.53 /ea	7,479
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**6.00 EA**	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,422.22 /EA	44,533
						33.20.08.0005 2" CARV Assembly	**6.00 EA**	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,422.22 /EA	44,533
						33.03 Buried Process Pipe, Carbon Steel	**150.00 LF**	66	5,280	5,875	9,000	273		136.19 /LF	20,428	296.89 /LF	44,533
						33.0 Utilities	***1.00* LS**	66	5,280	5,875	9,000	273		20,428.03 /LS	20,428	44,533.29 /LS	44,533
						05.0 2" CARV Assembly	**6.00 EA**	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,422.22 /EA	44,533
	06.0					**Repair Concrete Cross Walks**											
		03.0				**Concrete Work**											
			03.10			**Cast-In-Place Concrete Work**											
				03.10.05.0006		**Repair Concrete Cross Walks**											
					03.10.05.12	**Cast-In-Place Concrete, Slabs on Grade, 12" thick**											
						Fine grade, for slab on grade, by hand	600.00 SF	4	229	18	-	-	-	0.41 /SF	247	0.93 /SF	559
						Fill, gravel subbase, under building slab on grade	14.82 cy	7	404	415	-	-	-	55.27 /cy	819	126.84 /cy	1,879
						Fill, sand subbase, under building slab on grade	3.70 cy	3	152	67	-	-	-	59.06 /cy	219	134.67 /cy	499
						Concrete pumping, subcontract, all inclusive price	22.22 cy		-	-	333	-	-	15.00 /cy	333	33.87 /cy	753
						Slab on grade edge forms, 7" to 12"	180.00 sf	32	2,181	180	-	-	-	13.12 /sf	2,361	29.69 /sf	5,345
						Speed Dowels, #5	90.00 ea		-	1,260	-	-	-	14.00 /ea	1,260	32.63 /ea	2,937
						Reinforcing in place, A615 Gr 60, priced per lbs.	4,444.44 lb		-	2,222	1,778	-	-	0.90 /lb	4,000	2.07 /lb	9,194
						Concrete, ready mix, 4500 psi	22.22 CY		-	2,933	-	-	-	132.00 /CY	2,933	307.65 /CY	6,837
						Add for concrete waste, 4500 psi	1.11 cy		-	147	-	-	-	132.00 /cy	147	307.64 /cy	342
						Add amount for Fuel Surcharges - per concrete truck load	3.00 load		-	60	-	-	-	20.00 /load	60	46.62 /load	140
						Add amount for Environmental Fee - per concrete truck load	3.00 load		-	24	-	-	-	8.00 /load	24	18.65 /load	56
						Placing concrete, concrete pump	22.22 cy	17	909	-	-	-	-	40.91 /cy	909	92.37 /cy	2,053
						Finishing floors, monolithic, broom finish	600.00 sf	18	1,153	12	-	-	-	1.94 /sf	1,165	4.39 /sf	2,632
						Curing, membrane spray	600.00 sf	1	65	24	-	-	-	0.15 /sf	89	0.34 /sf	204
						Polyethelene vapor barrier, 10 mil thick	6.00 sq	1	86	64	-	-	-	24.88 /sq	149	56.96 /sq	342
						03.10.05.12 Cast-In-Place Concrete, Slabs on Grade, 12" thick	**22.22 CY**	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
						03.10.05.0006 Repair Concrete Cross Walks	**22.22 CY**	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
						03.10 Cast-In-Place Concrete Work	**22.22 CY**	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
						03.0 Concrete Work	**22.22 CY**	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
						06.0 Repair Concrete Cross Walks	**600.00 SF**	84	5,179	7,426	2,111			24.53 /SF	14,716	56.28 /SF	33,769
	07.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	30,720.00 lf	473		-	61,440	-	-	2.00 /lf	61,440	4.52 /lf	138,743
						Asphalt Milling, 6" Depth	10,240.00 Sy	102		-	25,600	-	-	2.50 /Sy	25,600	5.65 /Sy	57,810
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	3,072.00 cy	316	21,528	-	-	30,319	-	16.88 /cy	51,847	38.83 /cy	119,278
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	3,072.00 cy		-	38,400	-	-	-	12.50 /cy	38,400	29.13 /cy	89,498
						Site demo, slab on grade removal, rod reinforced	1,365.33 cy	3,058	194,392	-	-	82,620	-	202.89 /cy	277,011	462.55 /cy	631,534
						Site demo, for disposal on site, to 5 mis, add	1,365.33 cy	144	9,790	-	-	12,055	-	16.00 /cy	21,845	36.77 /cy	50,204
						Sawcutting, concrete slabs, each additional inch of depth over 3"	61,400.00 lf	334	22,697	2,456	-	13,028	-	0.62 /lf	38,182	1.42 /lf	87,344
						02.01.01.01 General Site Demolition, Asphalt Pavement	**10,240.00 Sy**	4,427	248,406	40,856	87,040	138,022		50.23 /Sy	514,324	114.69 /Sy	1,174,411
						02.01.01.0007 Demo Asphalt	**10,240.00 Sy**	4,427	248,406	40,856	87,040	138,022		50.23 /Sy	514,324	114.69 /Sy	1,174,411
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	10,240.00 SY	33	2,351	8,499	-	1,756	-	1.23 /SY	12,606	2.85 /SY	29,210
						Fog seal, sealcoating, prepare and clean surface for sealcoating	10,240.00 sy	29	1,739	-	-	407	-	0.21 /sy	2,146	0.48 /sy	4,875
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	10,240.00 sy	78	5,548	117,248	-	5,993	-	12.58 /sy	128,789	29.27 /sy	299,765
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	10,240.00 sy	5,213	348,062	245,760	-	32,284	-	61.14 /sy	626,106	140.04 /sy	1,434,025
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	15,360.00 LF	44	2,638	10,445	-	1,751	-	0.97 /LF	14,834	2.24 /LF	34,382
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**10,240.00 SY**	5,397	360,338	381,952		42,191		76.61 /SY	784,481	176.00 /SY	1,802,258
						32.40.02.0008 Trench Paving	**10,240.00 SY**	5,397	360,338	381,952		42,191		76.61 /SY	784,481	176.00 /SY	1,802,258

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						32.12 Paving	**10,240.00 SY**	**9,824**	**608,745**	**422,808**	**87,040**	**180,213**		**126.84 /SY**	**1,298,806**	**290.69 /SY**	**2,976,668**
						32.0 Exterior Improvements	**10,240.00 SY**	**9,824**	**608,745**	**422,808**	**87,040**	**180,213**		**126.84 /SY**	**1,298,806**	**290.69 /SY**	**2,976,668**
						07.0 Asphalt Trench Repair	**15,360.00 LF**	**9,824**	**608,745**	**422,808**	**87,040**	**180,213**		**84.56 /LF**	**1,298,806**	**193.79 /LF**	**2,976,668**
	08.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	15,360.00 LF		-	-	**384,000**	-		25.00 /LF	**384,000**	53.95 /LF	**828,745**
						33.00.01.40 Buried Pipe, Traffic Control	**15,360.00 LF**				**384,000**			**25.00 /LF**	**384,000**	**53.95 /LF**	**828,745**
						33.00.01.0009 Traffic Control Allowance	**15,360.00 LF**				**384,000**			**25.00 /LF**	**384,000**	**53.95 /LF**	**828,745**
						33.89 Pipeline - Traffic Control	**15,360.00 LF**				**384,000**			**25.00 /LF**	**384,000**	**53.95 /LF**	**828,745**
						33.0 Utilities	***1.00* LS**				**384,000**			**384,000.00 /LS**	**384,000**	**828,744.72 /LS**	**828,745**
						08.0 Traffic Control Allowance	**15,360.00 LF**				**384,000**			**25.00 /LF**	**384,000**	**53.95 /LF**	**828,745**
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	3.00 EA		-	-	**45,000**	-		15,000.00 /EA	**45,000**	33,872.84 /EA	**101,619**
						26.00.99.00 Electrical, Other	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,872.84 /EA**	**101,619**
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,872.84 /EA**	**101,619**
						26.10 Site Electrical	***1.00* LS**				**45,000**			**45,000.00 /LS**	**45,000**	**101,618.52 /LS**	**101,619**
						26.0 Electrical Work	***1.00* LS**				**45,000**			**45,000.00 /LS**	**45,000**	**101,618.52 /LS**	**101,619**
						09.0 Traffic Loop Replacement Allowance	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,872.84 /EA**	**101,619**
						01.0 Las Vergenes Source Water No. 1A Orange Line	***1.00* LS**	**44,340**	**3,098,543**	**3,697,052**	**861,933**	**1,915,614**	**256,020**	**9,829,161.69 /LS**	**9,829,162**	**21,725,752.57 /LS**	**21,725,753**

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,098,543		44,339.815 hrs		201.728	14.26%	
Material	3,697,052				240.693	17.02%	
Subcontract	861,933				56.115	3.97%	
Equipment	1,915,614		34,316.964 hrs		124.714	8.82%	
Other	256,020				16.668	1.18%	
Subtotal Raw Costs	**9,829,162**	**9,829,162**			**639.919**	**45.24%**	**45.24%**
Material Sales & Use Tax - %	268,036			7.250 %	17.450	1.23%	
Construction Equip Tax - %	138,882			7.250 %	9.042	0.64%	
Total Taxes	**406,918**	**10,236,080**			**666.411**	**1.87%**	**47.11%**
Location Adj. Factor	1,129,631			11.800 %	73.544	5.20%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,129,631**	**11,365,711**			**739.955**	**5.20%**	**52.31%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.240	0.02%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.732	0.05%	
Site/Civil I,OH&P	324,701			25.000 %	21.139	1.49%	
Buried Piping I,OH&P	1,270,596			15.000 %	82.721	5.85%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,610,226**	**12,975,937**			**844.788**	**7.41%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**12,975,937**			**844.788**		**59.73%**
Total Cost To Prime Contractor		**12,975,937**			**844.788**		**59.73%**
General Conditions	1,297,594			10.000 %	84.479	5.97%	
Mobilization/Demobilization	519,037			4.000 %	33.792	2.39%	
Subtotal Indirect Costs	**1,816,631**	**14,792,568**			**963.058**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,479,257			10.000 %	96.306	6.81%	
Prime Contractor Profit	739,628			5.000 %	48.153	3.40%	
Bonds & Insurance	369,149			2.170 %	24.033	1.70%	
Subtotal OH&P	**2,588,034**	**17,380,602**			**1,131.550**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**17,380,602**			**1,131.550**		**80.00%**
Design Contingency	4,345,151			25.000 %	282.887	20.00%	
Subtotal Contingency	**4,345,151**	**21,725,753**			**1,414.437**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**21,725,753**			**1,414.437**		**100.00%**
Total Prime Contractor Costs		**21,725,753**			**1,414.437**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**21,725,753**			**1,414.437**		**100.00%**
Total Contractor Costs w/ OFCI		**21,725,753**			**1,414.437**		**100.00%**
Total Construction Cost		**21,725,753**			**1,414.437**		**100.00%**
Total		***21,725,753***			***1,414.437***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Source Water No. 1A Orange Line**											
	01.0				20" 3/16 CS Water Main											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16 CS Water Main	15,360.00 LF	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	510.84 /LF	7,846,542	1,123.48 /LF	17,256,670
					33.03 Buried Process Pipe, Carbon Steel	15,360.00 LF	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	510.84 /LF	7,846,542	1,123.48 /LF	17,256,670
					33.0 Utilities	*1.00* LS	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	7,846,542.42 /LS	7,846,542	17,256,669.62 /LS	17,256,670
					01.0 20" 3/16 CS Water Main	15,360.00 LF	33,467	2,432,358	3,151,054	295,332	1,711,778	256,020	510.84 /LF	7,846,542	1,123.48 /LF	17,256,670
	02.0				36" Bore and Casing with 20" Carrier Pipe											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.60.02.0002	36" Bore with 20" Carrier	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,876.79 /LF	140,760
					33.03 Buried Process Pipe, Carbon Steel	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,876.79 /LF	140,760
					33.0 Utilities	*1.00* LS	428	10,289	9,172	39,450	5,807		64,717.97 /LS	64,718	140,759.57 /LS	140,760
					02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	428	10,289	9,172	39,450	5,807		862.91 /LF	64,718	1,876.79 /LF	140,760
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,764.30 /EA	176,465
					33.03 Buried Process Pipe, Carbon Steel	0.00	156	12,614	60,345		6,558		/LF	79,518	/LF	176,465
					33.0 Utilities	*1.00* LS	156	12,614	60,345		6,558		79,517.60 /LS	79,518	176,464.53 /LS	176,465
					03.0 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,764.30 /EA	176,465
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,754.11 /EA	166,525
					33.03 Buried Process Pipe, Carbon Steel	150.00 LF	315	24,077	40,372		10,985		502.89 /LF	75,434	1,110.16 /LF	166,525
					33.0 Utilities	*1.00* LS	315	24,077	40,372		10,985		75,434.21 /LS	75,434	166,524.68 /LS	166,525
					04.0 8" Blow Off Assembly	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,754.11 /EA	166,525
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,422.22 /EA	44,533
					33.03 Buried Process Pipe, Carbon Steel	150.00 LF	66	5,280	5,875	9,000	273		136.19 /LF	20,428	296.89 /LF	44,533
					33.0 Utilities	*1.00* LS	66	5,280	5,875	9,000	273		20,428.03 /LS	20,428	44,533.29 /LS	44,533
					05.0 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,422.22 /EA	44,533
	06.0				Repair Concrete Cross Walks											
		03.0			Concrete Work											
			03.10		Cast-In-Place Concrete Work											
				03.10.05.0006	Repair Concrete Cross Walks	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
					03.10 Cast-In-Place Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
					03.0 Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,519.63 /CY	33,769
					06.0 Repair Concrete Cross Walks	600.00 SF	84	5,179	7,426	2,111			24.53 /SF	14,716	56.28 /SF	33,769
	07.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	10,240.00 Sy	4,427	248,406	40,856	87,040	138,022		50.23 /Sy	514,324	114.69 /Sy	1,174,411
				32.40.02.0008	Trench Paving	10,240.00 SY	5,397	360,338	381,952		42,191		76.61 /SY	784,481	176.00 /SY	1,802,258
					32.12 Paving	10,240.00 SY	9,824	608,745	422,808	87,040	180,213		126.84 /SY	1,298,806	290.69 /SY	2,976,668
					32.0 Exterior Improvements	10,240.00 SY	9,824	608,745	422,808	87,040	180,213		126.84 /SY	1,298,806	290.69 /SY	2,976,668
					07.0 Asphalt Trench Repair	15,360.00 LF	9,824	608,745	422,808	87,040	180,213		84.56 /LF	1,298,806	193.79 /LF	2,976,668
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	15,360.00 LF				384,000			25.00 /LF	384,000	53.95 /LF	828,745
					33.89 Pipeline - Traffic Control	15,360.00 LF				384,000			25.00 /LF	384,000	53.95 /LF	828,745
					33.0 Utilities	*1.00* LS				384,000			384,000.00 /LS	384,000	828,744.72 /LS	828,745
					08.0 Traffic Control Allowance	15,360.00 LF				384,000			25.00 /LF	384,000	53.95 /LF	828,745
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,872.84 /EA	101,619
					26.10 Site Electrical	*1.00* LS				45,000			45,000.00 /LS	45,000	101,618.52 /LS	101,619
					26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,618.52 /LS	101,619
					09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,872.84 /EA	101,619
					01.0 Las Virgenes Source Water No. 1A Orange Line	*1.00* LS	44,340	3,098,543	3,697,052	861,933	1,915,614	256,020	9,829,161.69 /LS	9,829,162	21,725,752.57 /LS	21,725,753

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 1A Orange 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,098,543		44,339.815 hrs		201.728	14.26%	
Material	3,697,052				240.693	17.02%	
Subcontract	861,933				56.115	3.97%	
Equipment	1,915,614		34,316.964 hrs		124.714	8.82%	
Other	256,020				16.668	1.18%	
Subtotal Raw Costs	**9,829,162**	**9,829,162**			**639.919**	**45.24%**	**45.24%**
Material Sales & Use Tax - %	268,036			7.250 %	17.450	1.23%	
Construction Equip Tax - %	138,882			7.250 %	9.042	0.64%	
Total Taxes	**406,918**	**10,236,080**			**666.411**	**1.87%**	**47.11%**
Location Adj. Factor	1,129,631			11.800 %	73.544	5.20%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,129,631**	**11,365,711**			**739.955**	**5.20%**	**52.31%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.240	0.02%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.732	0.05%	
Site/Civil I,OH&P	324,701			25.000 %	21.139	1.49%	
Buried Piping I,OH&P	1,270,596			15.000 %	82.721	5.85%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,610,226**	**12,975,937**			**844.788**	**7.41%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**12,975,937**			**844.788**		**59.73%**
Total Cost To Prime Contractor		**12,975,937**			**844.788**		**59.73%**
General Conditions	1,297,594			10.000 %	84.479	5.97%	
Mobilization/Demobilization	519,037			4.000 %	33.792	2.39%	
Subtotal Indirect Costs	**1,816,631**	**14,792,568**			**963.058**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,479,257			10.000 %	96.306	6.81%	
Prime Contractor Profit	739,628			5.000 %	48.153	3.40%	
Bonds & Insurance	369,149			2.170 %	24.033	1.70%	
Subtotal OH&P	**2,588,034**	**17,380,602**			**1,131.550**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**17,380,602**			**1,131.550**		**80.00%**
Design Contingency	4,345,151			25.000 %	282.887	20.00%	
Subtotal Contingency	**4,345,151**	**21,725,753**			**1,414.437**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**21,725,753**			**1,414.437**		**100.00%**
Total Prime Contractor Costs		**21,725,753**			**1,414.437**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**21,725,753**			**1,414.437**		**100.00%**
Total Contractor Costs w/ OFCI		**21,725,753**			**1,414.437**		**100.00%**
Total Construction Cost		**21,725,753**			**1,414.437**		**100.00%**
Total		***21,725,753***			***1,414.437***		

No. 2 Red Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Source Water No. 2 Red Line***			
	01.0	**20" 3/16 CS Water Main**	**9,590.00 LF**	**991.83 /LF**	**9,511,689**
	02.0	**Bridge Crossing Allowance**	**300.00 LF**	**1,389.67 /LF**	**416,902**
	03.0	**20" Butterfly Valves**	**10.00 EA**	**11,754.40 /EA**	**117,544**
	04.0	**8" Blow Off Assembly**	**4.00 EA**	**24,246.89 /EA**	**96,988**
	05.0	**2" CARV Assembly**	**5.00 EA**	**7,415.86 /EA**	**37,079**
	06.0	**Asphalt Trench Repair**	**9,590.00 LF**	**138.07 /LF**	**1,324,134**
	07.0	**Bore at Channel Crossing**	**50.00 LF**	**1,968.56 /LF**	**98,428**
	08.0	**Traffic Control Allowance**	**9,590.00 LF**	**53.91 /LF**	**516,978**
	09.0	**Traffic Loop Replacement Allowance**	**7.00 EA**	**33,844.82 /EA**	**236,914**
	01.0 Las Virgenes Source Water No. 2 Red Line		***1.00 LS***	***12,356,656.38 /LS***	***12,356,656***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,194,077		20,755.629 hrs		333.063	25.85%	
Material	5,291,904				551.815	42.83%	
Subcontract	1,822,369				190.028	14.75%	
Equipment	1,722,502		13,321.898 hrs		179.614	13.94%	
Other	325,805				33.973	2.64%	
Total Prime Contractor Costs	**12,356,657**	**12,356,657**			**1,288.494**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**12,356,657**			**1,288.494**		**100.00%**
Total		***12,356,657***			***1,288.494***		

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Source Water No. 2 Red Line**											
	01.0					20" 3/16 CS Water Main											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16 CS Water Main											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***100.00 lf***			-	-	-	-	**/lf**		**/lf**	
						Traffic Control, Labor per Day	96.00 day	**1,536**	**89,583**	-	-	-	-	933.15 /day	**89,583**	2,012.18 /day	**193,169**
						Trench Box, 8' x 24' x 10'	4.50 mo		-	-	-	**10,350**	-	2,300.00 /mo	**10,350**	5,126.29 /mo	**23,068**
						Dedicated Fire / Safety Monitor	384.00 hr	**384**	**22,396**	-	-	-	-	58.32 /hr	**22,396**	125.76 /hr	**48,292**
						50 tn Rough Terrain (per day)	96.00 day	**768**	**60,766**	-	-	**151,718**	-	2,213.38 /day	**212,485**	4,887.35 /day	**469,185**
						Add for hydrotesting pipeline (labor & Equipment per day)	9,590.00 lf	**115**	**9,325**	-	-	**833**	-	1.06 /lf	**10,159**	2.29 /lf	**21,966**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	10,302.55 CY	**1,536**	**105,558**	-	-	**72,500**	-	17.28 /CY	**178,058**	37.78 /CY	**389,207**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	3,277.01 cy	**2,688**	**176,419**	-	-	**120,750**	-	90.68 /cy	**297,169**	198.21 /cy	**649,547**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	6,598.34 cy	**1,536**	**115,782**	-	-	**137,940**	-	38.45 /cy	**253,722**	84.43 /cy	**557,106**
						Pipe zone material	3,277.01 cy		-	**91,756**	-	-	-	28.00 /cy	**91,756**	62.41 /cy	**204,508**
						Pipe bedding material	781.53 cy		-	**21,883**	-	-	-	28.00 /cy	**21,883**	62.41 /cy	**48,773**
						Haul spoils, offsite, 10 - 20 miles	10,656.00 cy		-	-	**159,840**	-	-	15.00 /cy	**159,840**	32.34 /cy	**344,666**
						Dump fees, trench spoils	10,656.00 cy		-	-	-	-	**159,840**	15.00 /cy	**159,840**	30.57 /cy	**325,805**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	9,590.00 LF	**4,608**	**371,865**	**1,032,124**	-	**209,865**	-	168.29 /LF	**1,613,854**	372.27 /LF	**3,570,033**
						20" CS Ell, 90	7.00 ea	**43**	**3,502**	**5,653**	-	**1,977**	-	1,590.21 /ea	**11,131**	3,508.02 /ea	**24,556**
						20" CS Ell, 45	6.00 ea	**37**	**3,002**	**2,430**	-	**1,694**	-	1,187.71 /ea	**7,126**	2,610.93 /ea	**15,666**
						20" CS Ell, 22.5	3.00 ea	**19**	**1,501**	**1,215**	-	**847**	-	1,187.71 /ea	**3,563**	2,610.93 /ea	**7,833**
						20" CS Ell, 11.25	10.00 ea	**62**	**5,003**	**4,050**	-	**2,824**	-	1,187.71 /ea	**11,877**	2,610.92 /ea	**26,109**
						20" CS butt weld, 3/16" wall	522.00 ea		-	-	**95,004**	-	-	182.00 /ea	**95,004**	392.45 /ea	**204,859**
						CLSM, pipe encasement	6,598.34 cy		-	**791,801**	-	-	-	120.00 /cy	**791,801**	267.46 /cy	**1,764,783**
						Tape wrap joint, 20" pipe	522.00 ea	**940**	**75,826**	**26,100**	-	-	-	195.26 /ea	**101,926**	424.67 /ea	**221,677**
						Grout joint, I.D., 20" pipe	522.00 ea	**1,044**	**84,598**	**6,264**	-	-	-	174.07 /ea	**90,862**	376.21 /ea	**196,383**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	-	**2,186**	-	3,779.86 /ea	**7,560**	8,284.21 /ea	**16,568**
						Cathodic protection, joint jumpers	522.00 ea	**522**	**42,299**	**13,050**	-	-	-	106.03 /ea	**55,349**	230.45 /ea	**120,297**
						Cathodic protection, anode, 30 lbs	10.00 ea	**40**	**3,241**	**1,500**	-	-	-	474.13 /ea	**4,741**	1,033.26 /ea	**10,333**
						Cathodic protection, test station	10.00 ea	**160**	**12,965**	**4,400**	-	-	-	1,736.53 /ea	**17,365**	3,776.41 /ea	**37,764**
						Pipe Marking, ID Tape	9,590.00 lf	**96**	**7,771**	**1,247**	-	-	-	0.94 /lf	**9,018**	2.04 /lf	**19,536**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**9,590.00 LF**	**16,182**	**1,195,278**	**2,004,972**	**254,844**	**713,484**	**159,840**	**451.35 /LF**	**4,328,418**	**991.83 /LF**	**9,511,689**
						33.00.05.1001 20" 3/16 CS Water Main	**9,590.00 LF**	**16,182**	**1,195,278**	**2,004,972**	**254,844**	**713,484**	**159,840**	**451.35 /LF**	**4,328,418**	**991.83 /LF**	**9,511,689**
						33.03 Buried Process Pipe, Carbon Steel	**9,590.00 LF**	**16,182**	**1,195,278**	**2,004,972**	**254,844**	**713,484**	**159,840**	**451.35 /LF**	**4,328,418**	**991.83 /LF**	**9,511,689**
						33.0 Utilities	***1.00*** **LS**	**16,182**	**1,195,278**	**2,004,972**	**254,844**	**713,484**	**159,840**	**4,328,418.35 /LS**	**4,328,418**	**9,511,689.46 /LS**	**9,511,689**
						01.0 20" 3/16 CS Water Main	**9,590.00 LF**	**16,182**	**1,195,278**	**2,004,972**	**254,844**	**713,484**	**159,840**	**451.35 /LF**	**4,328,418**	**991.83 /LF**	**9,511,689**
	02.0					**Bridge Crossing Allowance**											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.07.0002		Bridge Crossing Allowance											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Division 33 Allowance Support Pipe Inside Bridge	300.00 lf		-	-	**150,000**	-	-	500.00 /lf	**150,000**	1,078.16 /lf	**323,448**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	300.00 LF	**78**	**6,295**	**32,288**	-	**3,552**	-	140.45 /LF	**42,135**	311.51 /LF	**93,454**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**300.00 LF**	**78**	**6,295**	**32,288**	**150,000**	**3,552**		**640.45 /LF**	**192,135**	**1,389.67 /LF**	**416,902**
						33.00.07.0002 Bridge Crossing Allowance	**300.00 LF**	**78**	**6,295**	**32,288**	**150,000**	**3,552**		**640.45 /LF**	**192,135**	**1,389.67 /LF**	**416,902**
						33.03 Buried Process Pipe, Carbon Steel	**300.00 LF**	**78**	**6,295**	**32,288**	**150,000**	**3,552**		**640.45 /LF**	**192,135**	**1,389.67 /LF**	**416,902**
						33.0 Utilities	***1.00*** **LS**	**78**	**6,295**	**32,288**	**150,000**	**3,552**		**192,134.53 /LS**	**192,135**	**416,902.25 /LS**	**416,902**
						02.0 Bridge Crossing Allowance	**300.00 LF**	**78**	**6,295**	**32,288**	**150,000**	**3,552**		**640.45 /LF**	**192,135**	**1,389.67 /LF**	**416,902**
	03.0					**20" Butterfly Valves**											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	10.00 ea	**66**	**5,326**	-	-	**3,006**	-	833.21 /ea	**8,332**	1,818.46 /ea	**18,185**
						Butterfly valve, iron body, MJ , NO, 250#, 20"	10.00 EA		-	**38,280**	-	-	-	3,828.00 /EA	**38,280**	8,531.93 /EA	**85,319**
						Valve accessory, extension stem	50.00 lf	**5**	**399**	**250**	-	-	-	12.98 /lf	**649**	28.35 /lf	**1,418**
						Valve accessory, stem couplings	10.00 set	**3**	**263**	**200**	-	-	-	46.33 /set	**463**	101.36 /set	**1,014**
						CI Valve Box & Cover, w/ Concrete Collar included	10.00 ea	**30**	**2,421**	**1,500**	-	**1,366**	-	528.73 /ea	**5,287**	1,160.90 /ea	**11,609**
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	**10.00 EA**	**104**	**8,410**	**40,230**		**4,372**		**5,301.17 /EA**	**53,012**	**11,754.40 /EA**	**117,544**
						33.20.03.0003 20" Butterfly Valves	**10.00 EA**	**104**	**8,410**	**40,230**		**4,372**		**5,301.17 /EA**	**53,012**	**11,754.40 /EA**	**117,544**
						33.03 Buried Process Pipe, Carbon Steel	**0.00**	**104**	**8,410**	**40,230**		**4,372**		**/LF**	**53,012**	**/LF**	**117,544**
						33.0 Utilities	***1.00*** **LS**	**104**	**8,410**	**40,230**		**4,372**		**53,011.73 /LS**	**53,012**	**117,544.01 /LS**	**117,544**
						03.0 20" Butterfly Valves	**10.00 EA**	**104**	**8,410**	**40,230**		**4,372**		**5,301.17 /EA**	**53,012**	**11,754.40 /EA**	**117,544**
	04.0					**8" Blow Off Assembly**											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	100.00 LF	**48**	**3,874**	**5,221**	-	**2,186**	-	112.81 /LF	**11,281**	248.62 /LF	**24,862**
						8" DI, MJ, Ell, 90	4.00 ea	**12**	**968**	**1,375**	-	**547**	-	722.48 /ea	**2,890**	1,592.74 /ea	**6,371**
						8" DI, MJ, Ell, 45	4.00 ea	**12**	**968**	**1,175**	-	**547**	-	672.43 /ea	**2,690**	1,481.18 /ea	**5,925**
						8" DI, RJ, cap or plug	4.00 ea	**6**	**484**	**625**	-	**273**	-	345.52 /ea	**1,382**	761.31 /ea	**3,045**
						20" DI, MJ, red. tee, 20" x 8"	4.00 ea	**40**	**3,196**	**11,543**	-	**1,804**	-	4,135.59 /ea	**16,542**	9,159.56 /ea	**36,638**
						Install gate valve, Flgd, DIP, 8"	4.00 ea	**13**	**1,065**	-	-	**601**	-	416.61 /ea	**1,666**	909.23 /ea	**3,637**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	4.00 EA		-	**2,476**	-	-	-	619.00 /EA	**2,476**	1,379.64 /EA	**5,519**
						Valve accessory, extension stem	60.00 lf	**6**	**479**	**300**	-	-	-	12.98 /lf	**779**	28.35 /lf	**1,701**
						Valve accessory, stem couplings	4.00 set	**1**	**105**	**80**	-	-	-	46.33 /set	**185**	101.36 /set	**405**
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	**12**	**968**	**600**	-	**547**	-	528.73 /ea	**2,115**	1,160.90 /ea	**4,644**
						Meter Box	4.00 ea	**16**	**933**	**1,000**	-	-	-	483.29 /ea	**1,933**	1,060.25 /ea	**4,241**

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.20.01.08 Buried Valves, Gate Valves, 8"	**4.00 EA**	**166**	**13,041**	**24,394**		**6,504**		**10,984.85 /EA**	**43,939**	**24,246.89 /EA**	**96,988**
						33.20.01.0004 8" Blow Off Assembly	**4.00 EA**	**166**	**13,041**	**24,394**		**6,504**		**10,984.85 /EA**	**43,939**	**24,246.89 /EA**	**96,988**
						33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	**166**	**13,041**	**24,394**		**6,504**		**439.39 /LF**	**43,939**	**969.88 /LF**	**96,988**
						33.0 Utilities	***1.00* LS**	**166**	**13,041**	**24,394**		**6,504**		**43,939.38 /LS**	**43,939**	**96,987.56 /LS**	**96,988**
						04.0 8" Blow Off Assembly	**4.00 EA**	**166**	**13,041**	**24,394**		**6,504**		**10,984.85 /EA**	**43,939**	**24,246.89 /EA**	**96,988**
	05.0					**2" CARV Assembly**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	5.00 EA		-	-	**7,500**	-		1,500.00 /EA	**7,500**	3,234.48 /EA	**16,172**
						2" Corporation stop, thrd	5.00 ea	**6**	**470**		-	**227**	-	139.45 /ea	**697**	304.00 /ea	**1,520**
						Ball valve, bronze, screwed, 2"	5.00 ea	**2**	**160**	**320**	-	-	-	95.92 /ea	**480**	211.47 /ea	**1,057**
						2" copper pipe, K-soft	125.00 LF	**9**	**698**	**1,323**	-	-	-	16.17 /LF	**2,021**	35.63 /LF	**4,454**
						2" copper, ELL, 90	10.00 ea	**7**	**519**	**128**	-	-	-	64.71 /ea	**647**	140.46 /ea	**1,405**
						Install Air & Vacuum relief valve, 2"	5.00 ea	**12**	**958**	-	-	-	-	191.51 /ea	**958**	412.96 /ea	**2,065**
						FURNISH Air & Vacuum relief valve, iron body, 2"	5.00 ea		-	**1,875**	-	-	-	375.00 /ea	**1,875**	835.81 /ea	**4,179**
						Double Strap Saddle, 20" x 2"	5.00 ea	**20**	**1,596**	**1,250**	-	-	-	569.18 /ea	**2,846**	1,245.47 /ea	**6,227**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**5.00 EA**	**55**	**4,400**	**4,896**	**7,500**	**227**		**3,404.67 /EA**	**17,023**	**7,415.86 /EA**	**37,079**
						33.20.08.0005 2" CARV Assembly	**5.00 EA**	**55**	**4,400**	**4,896**	**7,500**	**227**		**3,404.67 /EA**	**17,023**	**7,415.86 /EA**	**37,079**
						33.03 Buried Process Pipe, Carbon Steel	**125.00 LF**	**55**	**4,400**	**4,896**	**7,500**	**227**		**136.19 /LF**	**17,023**	**296.63 /LF**	**37,079**
						33.0 Utilities	***1.00* LS**	**55**	**4,400**	**4,896**	**7,500**	**227**		**17,023.36 /LS**	**17,023**	**37,079.29 /LS**	**37,079**
						05.0 2" CARV Assembly	**5.00 EA**	**55**	**4,400**	**4,896**	**7,500**	**227**		**3,404.67 /EA**	**17,023**	**7,415.86 /EA**	**37,079**
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	19,180.00 lf	**295**		-	**38,360**	-	-	2.00 /lf	**38,360**	4.51 /lf	**86,552**
						Asphalt Milling, 6" Depth	6,394.00 Sy	**64**		-	**15,985**	-	-	2.50 /Sy	**15,985**	5.64 /Sy	**36,067**
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,066.00 cy	**110**	**7,470**	-	-	**10,521**	-	16.88 /cy	**17,991**	38.80 /cy	**41,356**
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,066.00 cy		-	**13,325**	-	-	-	12.50 /cy	**13,325**	29.11 /cy	**31,032**
						02.01.01.01 General Site Demolition, Asphalt Pavement	**6,394.00 Sy**	**469**	**7,470**	**13,325**	**54,345**	**10,521**		**13.40 /Sy**	**85,661**	**30.50 /Sy**	**195,008**
						02.01.01.0007 Demo Asphalt	**6,394.00 Sy**	**469**	**7,470**	**13,325**	**54,345**	**10,521**		**13.40 /Sy**	**85,661**	**30.50 /Sy**	**195,008**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	6,393.33 SY	**34**	**2,446**	**5,690**	-	**1,827**	-	1.56 /SY	**9,964**	3.60 /SY	**23,026**
						Fog seal, sealcoating, prepare and clean surface for sealcoating	6,393.33 sy	**18**	**1,086**	-	-	**254**	-	0.21 /sy	**1,340**	0.48 /sy	**3,041**
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	6,393.33 sy	**49**	**3,464**	**73,204**	-	**3,742**	-	12.58 /sy	**80,409**	29.25 /sy	**187,008**
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	6,393.33 sy	**3,255**	**217,312**	**153,440**	-	**20,156**	-	61.14 /sy	**390,909**	139.93 /sy	**894,602**
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	9,590.00 LF	**27**	**1,647**	**6,521**	-	**1,093**	-	0.97 /LF	**9,261**	2.24 /LF	**21,449**
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**6,393.33 SY**	**3,383**	**225,956**	**238,855**		**27,073**		**76.94 /SY**	**491,883**	**176.61 /SY**	**1,129,126**
						32.40.02.0008 Trench Paving	**6,393.33 SY**	**3,383**	**225,956**	**238,855**		**27,073**		**76.94 /SY**	**491,883**	**176.61 /SY**	**1,129,126**
						32.12 Paving	**6,393.33 SY**	**3,852**	**233,426**	**252,180**	**54,345**	**37,593**		**90.34 /SY**	**577,544**	**207.11 /SY**	**1,324,134**
						32.0 Exterior Improvements	**6,393.33 SY**	**3,852**	**233,426**	**252,180**	**54,345**	**37,593**		**90.34 /SY**	**577,544**	**207.11 /SY**	**1,324,134**
						06.0 Asphalt Trench Repair	**9,590.00 LF**	**3,852**	**233,426**	**252,180**	**54,345**	**37,593**		**60.22 /LF**	**577,544**	**138.07 /LF**	**1,324,134**
	07.0					**Bore at Channel Crossing**											
		33.0				**Utilities**											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.60.02.0002		**36" Bore with 20" Carrier**											
					33.60.02.36	**Pipeline Specials, Jack and Bore, 36" x 20"**											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,225.17 /ea	**13,225**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,612.57 /ea	**6,613**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,612.60 /ea	**6,613**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,306.27 /ea	**3,306**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	**200**		-	**26,300**	-	-	526.00 /LF	**26,300**	1,134.23 /LF	**56,711**
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	**400**	-	-	-	100.00 /ea	**400**	222.89 /ea	**892**
						Horizontal boring, 36" diameter end seals	2.00 ea		-	**700**	-	-	-	350.00 /ea	**700**	780.09 /ea	**1,560**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	50.00 lf		-	**2,931**	-	-	-	58.62 /lf	**2,931**	130.65 /lf	**6,533**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	50.00 lf	**11**	**872**	-	-	**492**	-	27.27 /lf	**1,363**	59.51 /lf	**2,976**
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	**50.00 LF**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**906.58 /LF**	**45,329**	**1,968.56 /LF**	**98,428**
						33.60.02.0002 36" Bore with 20" Carrier	**50.00 LF**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**906.58 /LF**	**45,329**	**1,968.56 /LF**	**98,428**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00* LS**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**45,328.77 /LS**	**45,329**	**98,427.91 /LS**	**98,428**
						33.0 Utilities	***1.00* LS**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**45,328.77 /LS**	**45,329**	**98,427.91 /LS**	**98,428**
						07.0 Bore at Channel Crossing	**50.00 LF**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**906.58 /LF**	**45,329**	**1,968.56 /LF**	**98,428**
	08.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	9,590.00 LF		-	-	**239,750**	-		25.00 /LF	**239,750**	53.91 /LF	**516,978**
						33.00.01.40 Buried Pipe, Traffic Control	**9,590.00 LF**				**239,750**			**25.00 /LF**	**239,750**	**53.91 /LF**	**516,978**
						33.00.01.0009 Traffic Control Allowance	**9,590.00 LF**				**239,750**			**25.00 /LF**	**239,750**	**53.91 /LF**	**516,978**
						33.89 Pipeline - Traffic Control	**9,590.00 LF**				**239,750**			**25.00 /LF**	**239,750**	**53.91 /LF**	**516,978**
						33.0 Utilities	***1.00* LS**				**239,750**			**239,750.00 /LS**	**239,750**	**516,978.16 /LS**	**516,978**
						08.0 Traffic Control Allowance	**9,590.00 LF**				**239,750**			**25.00 /LF**	**239,750**	**53.91 /LF**	**516,978**
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vrgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	7.00 EA		-	-	105,000	-		15,000.00 /EA	105,000	33,844.82 /EA	236,914
						26.00.99.00 Electrical, Other	7.00 EA				105,000			15,000.00 /EA	105,000	33,844.82 /EA	236,914
						26.00.99.0005 Replace Traffic Loops 3 Intersections	7.00 EA				105,000			15,000.00 /EA	105,000	33,844.82 /EA	236,914
						26.10 Site Electrical	1.00 LS				105,000			105,000.00 /LS	105,000	236,913.77 /LS	236,914
						26.0 Electrical Work	1.00 LS				105,000			105,000.00 /LS	105,000	236,913.77 /LS	236,914
						09.0 Traffic Loop Replacement Allowance	7.00 EA				105,000			15,000.00 /EA	105,000	33,844.82 /EA	236,914
						01.0 Las Virgenes Source Water No. 2 Red Line	**1.00 LS**	20,756	1,470,436	2,362,991	837,739	771,144	159,840	**5,602,150.27 /LS**	5,602,150	**12,356,656.38 /LS**	12,356,656

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,470.436		20,755.629 hrs		153.330	11.90%	
Material	2,362.991				246.402	19.12%	
Subcontract	837,739				87.355	6.78%	
Equipment	771,144		13,321.898 hrs		80.411	6.24%	
Other	159,840				16.667	1.29%	
Subtotal Raw Costs	**5,602,150**	**5,602,150**			**584.166**	**45.34%**	**45.34%**
Material Sales & Use Tax - %	171,317			7.250 %	17.864	1.39%	
Construction Equip Tax - %	55,908			7.250 %	5.830	0.45%	
Total Taxes	**227,225**	**5,829,375**			**607.860**	**1.84%**	**47.18%**
Location Adj. Factor	642,193			11.800 %	66.965	5.20%	
Productivity Adjustment							
Subtotal Adj. Factors	**642,193**	**6,471,568**			**674.825**	**5.20%**	**52.37%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	26,250			25.000 %	2.737	0.21%	
Site/Civil I,OH&P	144,386			25.000 %	15.056	1.17%	
Buried Piping I,OH&P	737.941			15.000 %	76.949	5.97%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**908,577**	**7,380,145**			**769.567**	**7.35%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**7,380,145**			**769.567**		**59.73%**
Total Cost To Prime Contractor		**7,380,145**			**769.567**		**59.73%**
General Conditions	738.014			10.000 %	76.957	5.97%	
Mobilization/Demobilization	295,206			4.000 %	30.783	2.39%	
Subtotal Indirect Costs	**1,033,220**	**8,413,365**			**877.306**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	841,336			10.000 %	87.731	6.81%	
Prime Contractor Profit	420,668			5.000 %	43.865	3.40%	
Bonds & Insurance	209,956			2.170 %	21.893	1.70%	
Subtotal OH&P	**1,471,960**	**9,885,325**			**1,030.795**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**9,885,325**			**1,030.795**		**80.00%**
Design Contingency	2,471,331			25.000 %	257.699	20.00%	
Subtotal Contingency	**2,471,331**	**12,356,656**			**1,288.494**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**12,356,656**			**1,288.494**		**100.00%**
Total Prime Contractor Costs		**12,356,656**			**1,288.494**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**12,356,656**			**1,288.494**		**100.00%**
Total Contractor Costs w/ OFCI		**12,356,656**			**1,288.494**		**100.00%**
Total Construction Cost		**12,356,656**			**1,288.494**		**100.00%**
Total		***12,356,656***			***1,288.494***		

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Source Water No. 2 Red Line**											
	01.0				20" 3/16 CS Water Main											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16 CS Water Main	9,590.00 LF	16,182	1,195,278	2,004,972	254,844	713,484	159,840	451.35 /LF	4,328,418	991.83 /LF	9,511,689
					33.03 Buried Process Pipe, Carbon Steel	9,590.00 LF	16,182	1,195,278	2,004,972	254,844	713,484	159,840	451.35 /LF	4,328,418	991.83 /LF	9,511,689
					33.0 Utilities	*1.00* LS	16,182	1,195,278	2,004,972	254,844	713,484	159,840	4,328,418.35 /LS	4,328,418	9,511,689.46 /LS	9,511,689
					01.0 20" 3/16 CS Water Main	9,590.00 LF	16,182	1,195,278	2,004,972	254,844	713,484	159,840	451.35 /LF	4,328,418	991.83 /LF	9,511,689
	02.0				Bridge Crossing Allowance											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.07.0002	Bridge Crossing Allowance	300.00 LF	78	6,295	32,288	150,000	3,552		640.45 /LF	192,135	1,389.67 /LF	416,902
					33.03 Buried Process Pipe, Carbon Steel	300.00 LF	78	6,295	32,288	150,000	3,552		640.45 /LF	192,135	1,389.67 /LF	416,902
					33.0 Utilities	*1.00* LS	78	6,295	32,288	150,000	3,552		192,134.53 /LS	192,135	416,902.25 /LS	416,902
					02.0 Bridge Crossing Allowance	300.00 LF	78	6,295	32,288	150,000	3,552		640.45 /LF	192,135	1,389.67 /LF	416,902
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	11,754.40 /EA	117,544
					33.03 Buried Process Pipe, Carbon Steel	0.00	104	8,410	40,230		4,372		/LF	53,012	/LF	117,544
					33.0 Utilities	*1.00* LS	104	8,410	40,230		4,372		53,011.73 /LS	53,012	117,544.01 /LS	117,544
					03.0 20" Butterfly Valves	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	11,754.40 /EA	117,544
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,246.89 /EA	96,988
					33.03 Buried Process Pipe, Carbon Steel	100.00 LF	166	13,041	24,394		6,504		439.39 /LF	43,939	969.88 /LF	96,988
					33.0 Utilities	*1.00* LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	96,987.56 /LS	96,988
					04.0 8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,246.89 /EA	96,988
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	7,415.86 /EA	37,079
					33.03 Buried Process Pipe, Carbon Steel	125.00 LF	55	4,400	4,896	7,500	227		136.19 /LF	17,023	296.63 /LF	37,079
					33.0 Utilities	*1.00* LS	55	4,400	4,896	7,500	227		17,023.36 /LS	17,023	37,079.29 /LS	37,079
					05.0 2" CARV Assembly	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	7,415.86 /EA	37,079
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	6,394.00 Sy	469	7,470	13,325	54,345	10,521		13.40 /Sy	85,661	30.50 /Sy	195,008
				32.40.02.0008	Trench Paving	6,393.33 SY	3,383	225,956	238,855		27,073		76.94 /SY	491,883	176.61 /SY	1,129,126
					32.12 Paving	6,393.33 SY	3,852	233,426	252,180	54,345	37,593		90.34 /SY	577,544	207.11 /SY	1,324,134
					32.0 Exterior Improvements	6,393.33 SY	3,852	233,426	252,180	54,345	37,593		90.34 /SY	577,544	207.11 /SY	1,324,134
					06.0 Asphalt Trench Repair	9,590.00 LF	3,852	233,426	252,180	54,345	37,593		60.22 /LF	577,544	138.07 /LF	1,324,134
	07.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,968.56 /LF	98,428
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,427.91 /LS	98,428
					33.0 Utilities	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,427.91 /LS	98,428
					07.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,968.56 /LF	98,428
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	9,590.00 LF				239,750			25.00 /LF	239,750	53.91 /LF	516,978
					33.89 Pipeline - Traffic Control	9,590.00 LF				239,750			25.00 /LF	239,750	53.91 /LF	516,978
					33.0 Utilities	*1.00* LS				239,750			239,750.00 /LS	239,750	516,978.16 /LS	516,978
					08.0 Traffic Control Allowance	9,590.00 LF				239,750			25.00 /LF	239,750	53.91 /LF	516,978
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	7.00 EA				105,000			15,000.00 /EA	105,000	33,844.82 /EA	236,914
					26.10 Site Electrical	*1.00* LS				105,000			105,000.00 /LS	105,000	236,913.77 /LS	236,914
					26.0 Electrical Work	*1.00* LS				105,000			105,000.00 /LS	105,000	236,913.77 /LS	236,914
					09.0 Traffic Loop Replacement Allowance	7.00 EA				105,000			15,000.00 /EA	105,000	33,844.82 /EA	236,914
					01.0 Las Virgenes Source Water No. 2 Red Line	*1.00* LS	20,756	1,470,436	2,362,991	837,739	771,144	159,840	**5,602,150.27 /LS**	5,602,150	**12,356,656.38 /LS**	12,356,656

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 2 Red Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,470,436		20,755.629 hrs		153.330	11.90%	
Material	2,362,991				246.402	19.12%	
Subcontract	837,739				87.355	6.78%	
Equipment	771,144		13,321.898 hrs		80.411	6.24%	
Other	159,840				16.667	1.29%	
Subtotal Raw Costs	**5,602,150**	**5,602,150**			**584.166**	**45.34%**	**45.34%**
Material Sales & Use Tax - %	171,317			7.250 %	17.864	1.39%	
Construction Equip Tax - %	55,908			7.250 %	5.830	0.45%	
Total Taxes	**227,225**	**5,829,375**			**607.860**	**1.84%**	**47.18%**
Location Adj. Factor	642,193			11.800 %	66.965	5.20%	
Productivity Adjustment							
Subtotal Adj. Factors	**642,193**	**6,471,568**			**674.825**	**5.20%**	**52.37%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	26,250			25.000 %	2.737	0.21%	
Site/Civil I,OH&P	144,386			25.000 %	15.056	1.17%	
Buried Piping I,OH&P	737,941			15.000 %	76.949	5.97%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**908,577**	**7,380,145**			**769.567**	**7.35%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**7,380,145**			**769.567**		**59.73%**
Total Cost To Prime Contractor		**7,380,145**			**769.567**		**59.73%**
General Conditions	738,014			10.000 %	76.957	5.97%	
Mobilization/Demobilization	295,206			4.000 %	30.783	2.39%	
Subtotal Indirect Costs	**1,033,220**	**8,413,365**			**877.306**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	841,336			10.000 %	87.731	6.81%	
Prime Contractor Profit	420,668			5.000 %	43.865	3.40%	
Bonds & Insurance	209,956			2.170 %	21.893	1.70%	
Subtotal OH&P	**1,471,960**	**9,885,325**			**1,030.795**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**9,885,325**			**1,030.795**		**80.00%**
Design Contingency	2,471,331			25.000 %	257.699	20.00%	
Subtotal Contingency	**2,471,331**	**12,356,656**			**1,288.494**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**12,356,656**			**1,288.494**		**100.00%**
Total Prime Contractor Costs		**12,356,656**			**1,288.494**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**12,356,656**			**1,288.494**		**100.00%**
Total Contractor Costs w/ OFCI		**12,356,656**			**1,288.494**		**100.00%**
Total Construction Cost		**12,356,656**			**1,288.494**		**100.00%**
Total		***12,356,656***			***1,288.494***		

No. 3 Yellow Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Source Water No. 3 Yellow Line***			
	01.0	**20" 3/16" CS Water Main**	**6,070.00 LF**	**986.07 /LF**	**5,985,439**
	02.0	**36" Bore and Casing with 20" Carrier Pipe**	**420.00 LF**	**1,530.73 /LF**	**642,905**
	03.0	**20" Butterfly Valves**	**6.00 EA**	**11,745.01 /EA**	**70,470**
	04.0	**8" Blow Off Assembly**	**4.00 EA**	**24,227.42 /EA**	**96,910**
	05.0	**2" CARV Assembly**	**4.00 EA**	**7,409.82 /EA**	**29,639**
	06.0	**Repair Concrete**	**250.00 SF**	**33.14 /SF**	**8,284**
	07.0	**Trench Repair**	***6,070.00*** **LF**	**126.66 /LF**	**768,815**
	08.0	**Traffic Control Allowance**	**6,070.00 LF**	**53.86 /LF**	**326,953**
	09.0	**Traffic Loop Replacement Allowance**	**2.00 EA**	**33,818.25 /EA**	**67,637**
		01.0 Las Virgenes Source Water No. 3 Yellow Line	***1.00 LS***	***7,997,051.75 /LS***	***7,997,052***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,982,036		14,391.677 hrs		326.530	24.78%	
Material	3,366,083				554.544	42.09%	
Subcontract	1,344,467				221.494	16.81%	
Equipment	1,098,419		8,546.119 hrs		180.959	13.74%	
Other	206,048				33.945	2.58%	
Total Prime Contractor Costs	**7,997,053**	**7,997,053**			**1,317.472**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**7,997,053**			**1,317.472**		**100.00%**
Total		***7,997,053***			***1,317.472***		

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Source Water No. 3 Yellow Line**											
	01.0					20" 3/16" CS Water Main											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16" CS Water Main											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***100.00 lf***			**-**	**-**	**-**	**-**	***/lf***			
						Traffic Control, Labor per Day	61.00 day	**976**	**56,922**	**-**	**-**	**-**	**-**	933.15 /day	**56,922**	2,010.52 /day	**122,642**
						Trench Box, 8' x 24' x 10'	3.00 mo		**-**	**-**	**-**	**6,900**	**-**	2,300.00 /mo	**6,900**	5,122.22 /mo	**15,367**
						Dedicated Fire / Safety Monitor	120.00 hr	**120**	**6,999**	**-**	**-**	**-**	**-**	58.32 /hr	**6,999**	125.66 /hr	**15,079**
						50 tn Rough Terrain (per day)	61.00 day	**488**	**38,612**	**-**	**-**	**96,404**	**-**	2,213.38 /day	**135,016**	4,883.42 /day	**297,889**
						Add for hydrotesting pipeline (labor & Equipment per day)	6,070.00 lf	**73**	**5,902**	**-**	**-**	**528**	**-**	1.06 /lf	**6,430**	2.29 /lf	**13,892**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	6,521.01 CY	**976**	**67,073**	**-**	**-**	**46,068**	**-**	17.35 /CY	**113,141**	37.89 /CY	**247,108**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	2,074.19 cy	**1,708**	**112,099**	**-**	**-**	**76,726**	**-**	91.04 /cy	**188,826**	198.82 /cy	**412,397**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	4,176.42 cy	**976**	**73,570**	**-**	**-**	**87,649**	**-**	38.60 /cy	**161,219**	84.69 /cy	**353,709**
						Pipe zone material	2,074.19 cy		**-**	**58,077**	**-**	**-**	**-**	28.00 /cy	**58,077**	62.36 /cy	**129,341**
						Pipe bedding material	494.67 cy		**-**	**13,851**	**-**	**-**	**-**	28.00 /cy	**13,851**	62.36 /cy	**30,846**
						Haul spoils, offsite, 10 - 20 miles	6,745.00 cy		**-**	**-**	**101,175**	**-**	**-**	15.00 /cy	**101,175**	32.32 /cy	**217,987**
						Dump fees, trench spoils	6,745.00 cy		**-**	**-**	**-**	**-**	**101,175**	15.00 /cy	**101,175**	30.55 /cy	**206,048**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	6,070.00 LF	**2,928**	**236,290**	**653,284**	**-**	**133,352**	**-**	168.52 /LF	**1,022,925**	372.48 /LF	**2,260,974**
						20" CS Ell, 90	3.00 ea	**19**	**1,501**	**2,423**	**-**	**847**	**-**	1,590.21 /ea	**4,771**	3,505.21 /ea	**10,516**
						20" CS Ell, 45	5.00 ea	**31**	**2,502**	**2,025**	**-**	**1,412**	**-**	1,187.71 /ea	**5,939**	2,608.82 /ea	**13,044**
						20" CS Ell, 22.5	2.00 ea	**12**	**1,001**	**810**	**-**	**565**	**-**	1,187.72 /ea	**2,375**	2,608.83 /ea	**5,218**
						20" CS butt weld, 3/16" wall	323.00 ea		**-**	**-**	**58,786**	**-**	**-**	182.00 /ea	**58,786**	392.13 /ea	**126,657**
						CLSM, pipe encasement	4,176.42 cy		**-**	**501,170**	**-**	**-**	**-**	120.00 /cy	**501,170**	267.25 /cy	**1,116,131**
						Tape wrap joint, 20" pipe	323.00 ea	**581**	**46,919**	**16,150**	**-**	**-**	**-**	195.26 /ea	**63,069**	424.32 /ea	**137,056**
						Grout joint, I.D., 20" pipe	323.00 ea	**646**	**52,347**	**3,876**	**-**	**-**	**-**	174.07 /ea	**56,223**	375.90 /ea	**121,417**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	**-**	**2,186**	**-**	3,779.86 /ea	**7,560**	8,277.53 /ea	**16,555**
						Cathodic protection, joint jumpers	323.00 ea	**323**	**26,174**	**8,075**	**-**	**-**	**-**	106.03 /ea	**34,249**	230.27 /ea	**74,376**
						Cathodic protection, anode, 30 lbs	6.00 ea	**24**	**1,945**	**900**	**-**	**-**	**-**	474.13 /ea	**2,845**	1,032.42 /ea	**6,194**
						Cathodic protection, test station	6.00 ea	**96**	**7,779**	**2,640**	**-**	**-**	**-**	1,736.53 /ea	**10,419**	3,773.34 /ea	**22,640**
						Pipe Marking, ID Tape	6,070.00 lf	**61**	**4,919**	**789**	**-**	**-**	**-**	0.94 /lf	**5,708**	2.04 /lf	**12,355**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**6,070.00 LF**	**10,086**	**746,427**	**1,265,570**	**159,961**	**452,637**	**101,175**	**449.06 /LF**	**2,725,770**	**986.07 /LF**	**5,985,439**
						33.00.05.1001 20" 3/16" CS Water Main	**6,070.00 LF**	**10,086**	**746,427**	**1,265,570**	**159,961**	**452,637**	**101,175**	**449.06 /LF**	**2,725,770**	**986.07 /LF**	**5,985,439**
						33.03 Buried Process Pipe, Carbon Steel	**6,070.00 LF**	**10,086**	**746,427**	**1,265,570**	**159,961**	**452,637**	**101,175**	**449.06 /LF**	**2,725,770**	**986.07 /LF**	**5,985,439**
						33.0 Utilities	***1.00* LS**	**10,086**	**746,427**	**1,265,570**	**159,961**	**452,637**	**101,175**	**2,725,769.85 /LS**	**2,725,770**	**5,985,438.62 /LS**	**5,985,439**
						01.0 20" 3/16" CS Water Main	**6,070.00 LF**	**10,086**	**746,427**	**1,265,570**	**159,961**	**452,637**	**101,175**	**449.06 /LF**	**2,725,770**	**986.07 /LF**	**5,985,439**
	02.0					36" Bore and Casing with 20" Carrier Pipe											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	**-**	**-**	**2,186**	**-**	6,059.71 /ea	**6,060**	13,214.44 /ea	**13,214**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	3,029.85 /ea	**3,030**	6,607.20 /ea	**6,607**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	3,029.85 /ea	**3,030**	6,607.22 /ea	**6,607**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	**-**	**-**	**547**	**-**	1,514.92 /ea	**1,515**	3,303.58 /ea	**3,304**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	420.00 LF	**1,680**		**-**	**220,920**	**-**	**-**	526.00 /LF	**220,920**	1,133.29 /LF	**475,983**
						Horizontal boring, 36" diameter casing spacer	22.00 ea		**-**	**2,200**	**-**	**-**	**-**	100.00 /ea	**2,200**	222.71 /ea	**4,900**
						Horizontal boring, 36" diameter end seals	2.00 ea		**-**	**700**	**-**	**-**	**-**	350.00 /ea	**700**	779.48 /ea	**1,559**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	420.00 lf	**109**	**8,812**	**45,203**	**-**	**4,973**	**-**	140.45 /lf	**58,988**	311.26 /lf	**130,731**
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	**420.00 LF**	**1,897**	**17,528**	**48,103**	**220,920**	**9,892**		**705.82 /LF**	**296,443**	**1,530.73 /LF**	**642,905**
						33.60.02.0002 36" Bore with 20" Carrier	**420.00 LF**	**1,897**	**17,528**	**48,103**	**220,920**	**9,892**		**705.82 /LF**	**296,443**	**1,530.73 /LF**	**642,905**
						33.03 Buried Process Pipe, Carbon Steel	**420.00 LF**	**1,897**	**17,528**	**48,103**	**220,920**	**9,892**		**705.82 /LF**	**296,443**	**1,530.73 /LF**	**642,905**
						33.0 Utilities	***1.00* LS**	**1,897**	**17,528**	**48,103**	**220,920**	**9,892**		**296,442.67 /LS**	**296,443**	**642,905.14 /LS**	**642,905**
						02.0 36" Bore and Casing with 20" Carrier Pipe	**420.00 LF**	**1,897**	**17,528**	**48,103**	**220,920**	**9,892**		**705.82 /LF**	**296,443**	**1,530.73 /LF**	**642,905**
	03.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	6.00 ea	**40**	**3,196**	**-**	**-**	**1,804**	**-**	833.21 /ea	**4,999**	1,816.99 /ea	**10,902**
						Butterfly valve, iron body, MJ , NO, 250#, 20"	6.00 EA		**-**	**22,968**	**-**	**-**	**-**	3,828.00 /EA	**22,968**	8,525.15 /EA	**51,151**
						Valve accessory, extension stem	30.00 lf	**3**	**239**	**150**	**-**	**-**	**-**	12.98 /lf	**389**	28.33 /lf	**850**
						Valve accessory, stem couplings	6.00 set	**2**	**158**	**120**	**-**	**-**	**-**	46.33 /set	**278**	101.28 /set	**608**
						CI Valve Box & Cover, w/ Concrete Collar included	6.00 ea	**18**	**1,453**	**900**	**-**	**820**	**-**	528.73 /ea	**3,172**	1,159.96 /ea	**6,960**
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	**6.00 EA**	**63**	**5,046**	**24,138**		**2,623**		**5,301.17 /EA**	**31,807**	**11,745.01 /EA**	**70,470**
						33.20.03.0003 20" Butterfly Valves	**6.00 EA**	**63**	**5,046**	**24,138**		**2,623**		**5,301.17 /EA**	**31,807**	**11,745.01 /EA**	**70,470**
						33.03 Buried Process Pipe, Carbon Steel	**0.00**	**63**	**5,046**	**24,138**		**2,623**		**/LF**	**31,807**	**/LF**	**70,470**
						33.0 Utilities	***1.00* LS**	**63**	**5,046**	**24,138**		**2,623**		**31,807.04 /LS**	**31,807**	**70,470.07 /LS**	**70,470**
						03.0 20" Butterfly Valves	**6.00 EA**	**63**	**5,046**	**24,138**		**2,623**		**5,301.17 /EA**	**31,807**	**11,745.01 /EA**	**70,470**
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	100.00 LF	**48**	**3,874**	**5,221**	**-**	**2,186**	**-**	112.81 /LF	**11,281**	248.42 /LF	**24,842**
						8" DI, MJ, Ell, 90	4.00 ea	**12**	**968**	**1,375**	**-**	**547**	**-**	722.48 /ea	**2,890**	1,591.45 /ea	**6,366**
						8" DI, MJ, Ell, 45	4.00 ea	**12**	**968**	**1,175**	**-**	**547**	**-**	672.43 /ea	**2,690**	1,479.99 /ea	**5,920**
						8" DI, RJ, cap or plug	4.00 ea	**6**	**484**	**625**	**-**	**273**	**-**	345.52 /ea	**1,382**	760.70 /ea	**3,043**
						20" DI, MJ, red. tee, 20" x 8"	4.00 ea	**40**	**3,196**	**11,543**	**-**	**1,804**	**-**	4,135.59 /ea	**16,542**	9,152.23 /ea	**36,609**
						Install gate valve, Flgd, DIP, 8"	4.00 ea	**13**	**1,065**	**-**	**-**	**601**	**-**	416.61 /ea	**1,666**	908.49 /ea	**3,634**

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	4.00 EA		-	2,476	-	-	-	619.00 /EA	2,476	1,378.55 /EA	5,514
						Valve accessory, extension stem	60.00 lf	6	479	300	-	-	-	12.98 /lf	779	28.33 /lf	1,700
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	101.27 /set	405
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	1,159.96 /ea	4,640
						Meter Box	4.00 ea	16	933	1,000	-	-	-	483.29 /ea	1,933	1,059.40 /ea	4,238
						33.20.01.08 Buried Valves, Gate Valves, 8"	**4.00 EA**	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,227.42 /EA	96,910
						33.20.01.0004 8" Blow Off Assembly	**4.00 EA**	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,227.42 /EA	96,910
						33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	166	13,041	24,394		6,504		439.39 /LF	43,939	969.10 /LF	96,910
						33.0 Utilities	***1.00* LS**	166	13,041	24,394		6,504		43,939.38 /LS	43,939	96,909.70 /LS	96,910
						04.0 8" Blow Off Assembly	**4.00 EA**	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,227.42 /EA	96,910
	05.0					**2" CARV Assembly**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	4.00 EA		-	-	6,000	-		1,500.00 /EA	6,000	3,231.83 /EA	12,927
						2" Corporation stop, thrd	4.00 ea	5	376		-	182	-	139.45 /ea	558	303.75 /ea	1,215
						Ball valve, bronze, screwed, 2"	4.00 ea	2	128	256	-	-	-	95.92 /ea	384	211.30 /ea	845
						2" copper pipe, K-soft	100.00 LF	7	559	1,058	-	-	-	16.17 /LF	1,617	35.60 /LF	3,560
						2" copper, ELL, 90	8.00 ea	5	415	103	-	-	-	64.71 /ea	518	140.35 /ea	1,123
						Install Air & Vacuum relief valve, 2"	4.00 ea	10	766	-	-	-	-	191.51 /ea	766	412.62 /ea	1,650
						FURNISH Air & Vacuum relief valve, iron body, 2"	4.00 ea		-	1,500	-	-	-	375.00 /ea	1,500	835.14 /ea	3,341
						Double Strap Saddle, 20" x 2"	4.00 ea	16	1,277	1,000	-	-	-	569.19 /ea	2,277	1,244.47 /ea	4,978
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**4.00 EA**	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,409.82 /EA	29,639
						33.20.08.0005 2" CARV Assembly	**4.00 EA**	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,409.82 /EA	29,639
						33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	44	3,520	3,917	6,000	182		136.19 /LF	13,619	296.39 /LF	29,639
						33.0 Utilities	***1.00* LS**	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,639.28 /LS	29,639
						05.0 2" CARV Assembly	**4.00 EA**	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,409.82 /EA	29,639
	06.0					**Repair Concrete**											
		03.0				**Concrete Work**											
			03.10			**Cast-In-Place Concrete Work**											
				03.10.05.0006		**Repair Concrete**											
					03.10.05.12	**Cast-In-Place Concrete, Slabs on Grade, 12" thick**											
						Fine grade, for slab on grade, by hand	250.00 SF	2	95	8	-	-	-	0.41 /SF	103	0.93 /SF	233
						Fill, gravel subbase, under building slab on grade	6.17 cy	3	168	173	-	-	-	55.27 /cy	341	126.63 /cy	782
						Fill, sand subbase, under building slab on grade	1.54 cy	1	63	28	-	-	-	59.06 /cy	91	134.48 /cy	208
						Concrete pumping, subcontract, all inclusive price	4.63 cy		-	-	69	-	-	15.00 /cy	69	33.82 /cy	157
						Slab on grade edge forms, up to 6"	82.00 lf	4	293	21	-	-	-	3.83 /lf	314	8.65 /lf	709
						Speed Dowels, #5	30.00 ea		-	420	-	-	-	14.00 /ea	420	32.58 /ea	977
						Reinforcing in place, A615 Gr 60, priced per lbs.	925.93 lb		-	463	370	-	-	0.90 /lb	833	2.07 /lb	1,912
						Concrete, ready mix, 4500 psi	4.63 CY		-	611	-	-	-	132.00 /CY	611	307.17 /CY	1,422
						Add for concrete waste, 4500 psi	0.23 cy		-	30	-	-	-	132.00 /cy	30	307.10 /cy	71
						Add amount for Fuel Surcharges - per concrete truck load	1.00 load		-	20	-	-	-	20.00 /load	20	46.52 /load	47
						Add amount for Environmental Fee - per concrete truck load	1.00 load		-	8	-	-	-	8.00 /load	8	18.62 /load	19
						Placing concrete, concrete pump	4.63 cy	3	189	-	-	-	-	40.91 /cy	189	92.22 /cy	427
						Finishing floors, monolithic, broom finish	250.00 sf	8	480	5	-	-	-	1.94 /sf	485	4.38 /sf	1,095
						Curing, membrane spray	250.00 sf	1	27	10	-	-	-	0.15 /sf	37	0.34 /sf	85
						Polyethelene vapor barrier, 10 mil thick	2.50 sq	1	36	27	-	-	-	24.88 /sq	62	56.86 /sq	142
						03.10.05.12 Cast-In-Place Concrete, Slabs on Grade, 12" thick	**4.63 CY**	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
						03.10.05.0006 Repair Concrete	**4.63 CY**	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
						03.10 Cast-In-Place Concrete Work	**4.63 CY**	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
						03.0 Concrete Work	**4.63 CY**	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
						06.0 Repair Concrete	**250.00 SF**	22	1,352	1,824	440			14.46 /SF	3,616	33.14 /SF	8,284
	07.0					**Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	10,440.00 lf	161		-	20,880	-	-	2.00 /lf	20,880	4.51 /lf	47,075
						Asphalt Milling, 6" Depth	3,480.00 Sy	35		-	8,700	-	-	2.50 /Sy	8,700	5.64 /Sy	19,615
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	580.00 cy	60	4,065	-	-	5,724	-	16.88 /cy	9,789	38.77 /cy	22,484
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	580.00 cy		-	7,250	-	-	-	12.50 /cy	7,250	29.09 /cy	16,871
						02.01.01.01 General Site Demolition, Asphalt Pavement	**3,480.00 Sy**	255	4,065	7,250	29,580	5,724		13.40 /Sy	46,619	30.47 /Sy	106,045
						02.01.01.0007 Demo Asphalt	**3,480.00 Sy**	255	4,065	7,250	29,580	5,724		13.40 /Sy	46,619	30.47 /Sy	106,045
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	3,480.00 SY	19	1,332	3,097	-	995	-	1.56 /SY	5,423	3.60 /SY	12,524
						Fog seal, sealcoating, prepare and clean surface for sealcoating	3,480.00 sy	10	591	-	-	138	-	0.21 /sy	729	0.48 /sy	1,654
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	3,480.00 sy	27	1,886	39,846	-	2,037	-	12.58 /sy	43,768	29.23 /sy	101,714
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	3,480.00 sy	1,772	118,287	83,520	-	10,972	-	61.14 /sy	212,778	139.82 /sy	486,570
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	5,220.00 LF	15	897	3,550	-	595	-	0.97 /LF	5,041	2.23 /LF	11,666
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**3,480.00 SY**	1,841	122,991	130,013		14,736		76.94 /SY	267,740	176.47 /SY	614,128
						32.40.02.0008 Trench Paving	**3,480.00 SY**	1,841	122,991	130,013		14,736		76.94 /SY	267,740	176.47 /SY	614,128
						32.12 Paving	**3,480.00 SY**	2,096	127,056	137,263	29,580	20,460		90.33 /SY	314,359	206.95 /SY	720,173
			32.50			**Site, Improvements**											
				32.40.04.0010		**Gravel Road Replacment**											
					32.40.04.00	**Site Improvements, Paving, Gravel Road**											
						Gravel Road Subgrade Prep	950.00 SY	9		-	1,425	-	-	1.50 /SY	1,425	3.38 /SY	3,213

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					32.40.04.00	Site Improvements, Paving, Gravel Road											
						Gravel Road Import Aggregate Base	650.00 TN	8		-	20,150	-	-	31.00 /TN	20,150	69.89 /TN	45,429
						32.40.04.00 Site Improvements, Paving, Gravel Road	650.00 TN	17			21,575			33.19 /TN	21,575	74.83 /TN	48,642
						32.40.04.0010 Gravel Road Replacment	950.00 SY	17			21,575			22.71 /SY	21,575	51.20 /SY	48,642
						32.50 Site, Improvements	*850.00* LF	17			21,575			25.38 /LF	21,575	57.23 /LF	48,642
						32.0 Exterior Improvements	4,430.00 SY	2,113	127,056	137,263	51,155	20,460		75.83 /SY	335,934	173.55 /SY	768,815
						07.0 Trench Repair	*6,070.00* LF	2,113	127,056	137,263	51,155	20,460		55.34 /LF	335,934	126.66 /LF	768,815
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	6,070.00 LF		-	-	151,750	-		25.00 /LF	151,750	53.86 /LF	326,953
						33.00.01.40 Buried Pipe, Traffic Control	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
						33.00.01.0009 Traffic Control Allowance	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
						33.89 Pipeline - Traffic Control	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
						33.0 Utilities	*1.00* LS				151,750			151,750.00 /LS	151,750	326,952.95 /LS	326,953
						08.0 Traffic Control Allowance	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	2.00 EA		-	-	30,000	-		15,000.00 /EA	30,000	33,818.25 /EA	67,637
						26.00.99.00 Electrical, Other	2.00 EA				30,000			15,000.00 /EA	30,000	33,818.25 /EA	67,637
						26.00.99.0005 Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,818.25 /EA	67,637
						26.10 Site Electrical	*1.00* LS				30,000			30,000.00 /LS	30,000	67,636.50 /LS	67,637
						26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,636.50 /LS	67,637
						09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,818.25 /EA	67,637
						01.0 Las Virgenes Source Water No. 3 Yellow Line	*1.00* LS	14,392	913,970	1,505,208	620,226	492,298	101,175	3,632,877.58 /LS	3,632,878	7,997,051.75 /LS	7,997,052

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	913.970		14,391.677 hrs		150.572	11.43%	
Material	1,505.208				247.975	18.82%	
Subcontract	620,226				102.179	7.76%	
Equipment	492,298		8,546.119 hrs		81.103	6.16%	
Other	101,175				16.668	1.27%	
Subtotal Raw Costs	**3,632,877**	**3,632,877**			**598.497**	**45.43%**	**45.43%**
Material Sales & Use Tax - %	109,128			7.250 %	17.978	1.36%	
Construction Equip Tax - %	35,692			7.250 %	5.880	0.45%	
Total Taxes	**144,820**	**3,777,697**			**622.355**	**1.81%**	**47.24%**
Location Adj. Factor	416,741			11.800 %	68.656	5.21%	
Productivity Adjustment							
Subtotal Adj. Factors	**416,741**	**4,194,438**			**691.011**	**5.21%**	**52.45%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	904			25.000 %	0.149	0.01%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	1.236	0.09%	
Site/Civil I,OH&P	83,984			25.000 %	13.836	1.05%	
Buried Piping I,OH&P	489,499			15.000 %	80.642	6.12%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**581,887**	**4,776,325**			**786.874**	**7.28%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**4,776,325**			**786.874**		**59.73%**
Total Cost To Prime Contractor		**4,776,325**			**786.874**		**59.73%**
General Conditions	477,632			10.000 %	78.687	5.97%	
Mobilization/Demobilization	191,053			4.000 %	31.475	2.39%	
Subtotal Indirect Costs	**668,685**	**5,445,010**			**897.036**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	544,501			10.000 %	89.704	6.81%	
Prime Contractor Profit	272,250			5.000 %	44.852	3.40%	
Bonds & Insurance	135,880			2.170 %	22.386	1.70%	
Subtotal OH&P	**952,631**	**6,397,641**			**1,053.977**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**6,397,641**			**1,053.977**		**80.00%**
Design Contingency	1,599,410			25.000 %	263.494	20.00%	
Subtotal Contingency	**1,599,410**	**7,997,051**			**1,317.471**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**7,997,051**			**1,317.471**		**100.00%**
Total Prime Contractor Costs		**7,997,051**			**1,317.471**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**7,997,051**			**1,317.471**		**100.00%**
Total Contractor Costs w/ OFCI		**7,997,051**			**1,317.471**		**100.00%**
Total Construction Cost		**7,997,051**			**1,317.471**		**100.00%**
Total		***7,997,051***			***1,317.471***		

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Source Water No. 3 Yellow Line**											
	01.0				20" 3/16" CS Water Main											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Water Main	6,070.00 LF	10,086	746,427	1,265,570	159,961	452,637	101,175	449.06 /LF	2,725,770	986.07 /LF	5,985,439
					33.03 Buried Process Pipe, Carbon Steel	6,070.00 LF	10,086	746,427	1,265,570	159,961	452,637	101,175	449.06 /LF	2,725,770	986.07 /LF	5,985,439
					33.0 Utilities	*1.00* LS	10,086	746,427	1,265,570	159,961	452,637	101,175	2,725,769.85 /LS	2,725,770	5,985,438.62 /LS	5,985,439
					01.0 20" 3/16" CS Water Main	6,070.00 LF	10,086	746,427	1,265,570	159,961	452,637	101,175	449.06 /LF	2,725,770	986.07 /LF	5,985,439
	02.0				36" Bore and Casing with 20" Carrier Pipe											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.60.02.0002	36" Bore with 20" Carrier	420.00 LF	1,897	17,528	48,103	220,920	9,892		705.82 /LF	296,443	1,530.73 /LF	642,905
					33.03 Buried Process Pipe, Carbon Steel	420.00 LF	1,897	17,528	48,103	220,920	9,892		705.82 /LF	296,443	1,530.73 /LF	642,905
					33.0 Utilities	*1.00* LS	1,897	17,528	48,103	220,920	9,892		296,442.67 /LS	296,443	642,905.14 /LS	642,905
					02.0 36" Bore and Casing with 20" Carrier Pipe	420.00 LF	1,897	17,528	48,103	220,920	9,892		705.82 /LF	296,443	1,530.73 /LF	642,905
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,745.01 /EA	70,470
					33.03 Buried Process Pipe, Carbon Steel	0.00	63	5,046	24,138		2,623		/LF	31,807	/LF	70,470
					33.0 Utilities	*1.00* LS	63	5,046	24,138		2,623		31,807.04 /LS	31,807	70,470.07 /LS	70,470
					03.0 20" Butterfly Valves	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,745.01 /EA	70,470
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,227.42 /EA	96,910
					33.03 Buried Process Pipe, Carbon Steel	100.00 LF	166	13,041	24,394		6,504		439.39 /LF	43,939	969.10 /LF	96,910
					33.0 Utilities	*1.00* LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	96,909.70 /LS	96,910
					04.0 8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,227.42 /EA	96,910
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,409.82 /EA	29,639
					33.03 Buried Process Pipe, Carbon Steel	100.00 LF	44	3,520	3,917	6,000	182		136.19 /LF	13,619	296.39 /LF	29,639
					33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,639.28 /LS	29,639
					05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,409.82 /EA	29,639
	06.0				Repair Concrete											
		03.0			Concrete Work											
			03.10		Cast-In-Place Concrete Work											
				03.10.05.0006	Repair Concrete	4.63 CY	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
					03.10 Cast-In-Place Concrete Work	4.63 CY	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
					03.0 Concrete Work	4.63 CY	22	1,352	1,824	440			780.96 /CY	3,616	1,789.28 /CY	8,284
					06.0 Repair Concrete	250.00 SF	22	1,352	1,824	440			14.46 /SF	3,616	33.14 /SF	8,284
	07.0				Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	3,480.00 Sy	255	4,065	7,250	29,580	5,724		13.40 /Sy	46,619	30.47 /Sy	106,045
				32.40.02.0008	Trench Paving	3,480.00 SY	1,841	122,991	130,013		14,736		76.94 /SY	267,740	176.47 /SY	614,128
					32.12 Paving	3,480.00 SY	2,096	127,056	137,263	29,580	20,460		90.33 /SY	314,359	206.95 /SY	720,173
			32.50		Site, Improvements											
				32.40.04.0010	Gravel Road Replacment	950.00 SY	17			21,575			22.71 /SY	21,575	51.20 /SY	48,642
					32.50 Site, Improvements	*850.00* LF	17			21,575			25.38 /LF	21,575	57.23 /LF	48,642
					32.0 Exterior Improvements	4,430.00 SY	2,113	127,056	137,263	51,155	20,460		75.83 /SY	335,934	173.55 /SY	768,815
					07.0 Trench Repair	*6,070.00* LF	2,113	127,056	137,263	51,155	20,460		55.34 /LF	335,934	126.66 /LF	768,815
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
					33.89 Pipeline - Traffic Control	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
					33.0 Utilities	*1.00* LS				151,750			151,750.00 /LS	151,750	326,952.95 /LS	326,953
					08.0 Traffic Control Allowance	6,070.00 LF				151,750			25.00 /LF	151,750	53.86 /LF	326,953
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,818.25 /EA	67,637
					26.10 Site Electrical	*1.00* LS				30,000			30,000.00 /LS	30,000	67,636.50 /LS	67,637
					26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,636.50 /LS	67,637
					09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,818.25 /EA	67,637
					01.0 Las Virgenes Source Water No. 3 Yellow Line	*1.00* LS	14,392	913,970	1,505,208	620,226	492,298	101,175	**3,632,877.58 /LS**	3,632,878	**7,997,051.75 /LS**	7,997,052

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 3 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	913,970		14,391.677 hrs		150.572	11.43%	
Material	1,505,208				247.975	18.82%	
Subcontract	620,226				102.179	7.76%	
Equipment	492,298		8,546.119 hrs		81.103	6.16%	
Other	101,175				16.668	1.27%	
Subtotal Raw Costs	**3,632,877**	**3,632,877**			**598.497**	**45.43%**	**45.43%**
Material Sales & Use Tax - %	109,128			7.250 %	17.978	1.36%	
Construction Equip Tax - %	35,692			7.250 %	5.880	0.45%	
Total Taxes	**144,820**	**3,777,697**			**622.355**	**1.81%**	**47.24%**
Location Adj. Factor	416,741			11.800 %	68.656	5.21%	
Productivity Adjustment							
Subtotal Adj. Factors	**416,741**	**4,194,438**			**691.011**	**5.21%**	**52.45%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	904			25.000 %	0.149	0.01%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	1.236	0.09%	
Site/Civil I,OH&P	83,984			25.000 %	13.836	1.05%	
Buried Piping I,OH&P	489,499			15.000 %	80.642	6.12%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**581,887**	**4,776,325**			**786.874**	**7.28%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**4,776,325**			**786.874**		**59.73%**
Total Cost To Prime Contractor		**4,776,325**			**786.874**		**59.73%**
General Conditions	477,632			10.000 %	78.687	5.97%	
Mobilization/Demobilization	191,053			4.000 %	31.475	2.39%	
Subtotal Indirect Costs	**668,685**	**5,445,010**			**897.036**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	544,501			10.000 %	89.704	6.81%	
Prime Contractor Profit	272,250			5.000 %	44.852	3.40%	
Bonds & Insurance	135,880			2.170 %	22.386	1.70%	
Subtotal OH&P	**952,631**	**6,397,641**			**1,053.977**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**6,397,641**			**1,053.977**		**80.00%**
Design Contingency	1,599,410			25.000 %	263.494	20.00%	
Subtotal Contingency	**1,599,410**	**7,997,051**			**1,317.471**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**7,997,051**			**1,317.471**		**100.00%**
Total Prime Contractor Costs		**7,997,051**			**1,317.471**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**7,997,051**			**1,317.471**		**100.00%**
Total Contractor Costs w/ OFCI		**7,997,051**			**1,317.471**		**100.00%**
Total Construction Cost		**7,997,051**			**1,317.471**		**100.00%**
Total		***7,997,051***			***1,317.471***		

No. 4 Green Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Source No. 4 Green Line 8-Estimator: John DeWolf
Job Size: 4,400 Lf | Project Number: W9Y31200 | Rev/Date: Rev#1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Source Water No. 4 Green Line***			
	01.0	**20" 3/16" CS Water Main**	**4,400.00 LF**	**909.12 /LF**	**4,000,116**
	02.0	**20" Butterfly Valves**	**5.00 EA**	**11,748.55 /EA**	**58,743**
	03.0	**8" Blow Off Assembly**	**3.00 EA**	**24,234.77 /EA**	**72,704**
	04.0	**2" CARV Assembly**	**2.00 EA**	**7,412.13 /EA**	**14,824**
	05.0	**Asphalt Trench Repair**	**4,400.00 LF**	**138.02 /LF**	**607,293**
	06.0	**Bore at Channel Crossing**	**50.00 LF**	**2,088.84 /LF**	**104,442**
	07.0	**Traffic Control Allowance**	**4,400.00 LF**	**53.88 /LF**	**237,074**
	08.0	**Traffic Loop Replacement Allowance**	**1.00 EA**	**33,828.27 /EA**	**33,828**
		01.0 Las Virgenes Source Water No. 4 Green Line	***1.00 LS***	***5,129,024.27 /LS***	***5,129,024***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,498,303		9,824.611 hrs		340.523	29.21%	
Material	2,031,095				461.612	39.60%	
Subcontract	647,178				147.086	12.62%	
Equipment	803,049		6,266.270 hrs		182.511	15.66%	
Other	149,399				33.954	2.91%	
Total Prime Contractor Costs	**5,129,024**	**5,129,024**			**1,165.687**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**5,129,024**			**1,165.687**		**100.00%**
Total		***5,129,024***			***1,165.687***		

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 4 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Source Water No. 4 Green Line**											
	01.0					20" 3/16" CS Water Main											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16" CS Water Main											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***100.00 ea***			**-**	**-**	**-**	**-**	***/ea***			
						Traffic Control, Labor per Day	44.00 day	**704**	**41,059**	**-**	**-**	**-**	**-**	933.15 /day	**41,059**	2,011.15 /day	**88,490**
						Trench Box, 8' x 24' x 10'	2.25 mo		**-**	**-**	**-**	**5,175**	**-**	2,300.00 /mo	**5,175**	5,123.75 /mo	**11,528**
						Dedicated Fire / Safety Monitor	176.00 hr	**176**	**10,265**	**-**	**-**	**-**	**-**	58.32 /hr	**10,265**	125.70 /hr	**22,123**
						50 tn Rough Terrain (per day)	44.00 day	**352**	**27,851**	**-**	**-**	**69,538**	**-**	2,213.38 /day	**97,389**	4,884.90 /day	**214,936**
						Add for hydrotesting pipeline (labor & Equipment per day)	4,400.00 lf	**53**	**4,279**	**-**	**-**	**382**	**-**	1.06 /lf	**4,661**	2.29 /lf	**10,073**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	4,726.93 CY	**704**	**48,381**	**-**	**-**	**33,229**	**-**	17.26 /CY	**81,610**	37.72 /CY	**178,297**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	1,503.53 cy	**1,232**	**80,859**	**-**	**-**	**55,344**	**-**	90.59 /cy	**136,203**	197.91 /cy	**297,559**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	3,027.40 cy	**704**	**53,067**	**-**	**-**	**63,223**	**-**	38.41 /cy	**116,290**	84.30 /cy	**255,214**
						Pipe zone material	1,503.53 cy		**-**	**42,099**	**-**	**-**	**-**	28.00 /cy	**42,099**	62.38 /cy	**93,784**
						Pipe bedding material	358.57 cy		**-**	**10,040**	**-**	**-**	**-**	28.00 /cy	**10,040**	62.38 /cy	**22,366**
						Haul spoils, offsite, 10 - 20 miles	4,889.00 cy		**-**	**-**	**73,335**	**-**	**-**	15.00 /cy	**73,335**	32.33 /cy	**158,053**
						Dump fees, trench spoils	4,889.00 cy		**-**	**-**	**-**	**-**	**73,335**	15.00 /cy	**73,335**	30.56 /cy	**149,399**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	4,400.00 LF	**2,112**	**170,439**	**473,550**	**-**	**96,188**	**-**	168.22 /LF	**740,177**	371.94 /LF	**1,636,549**
						20" CS Ell, 90	8.00 ea	**50**	**4,003**	**6,460**	**-**	**2,259**	**-**	1,590.21 /ea	**12,722**	3,506.27 /ea	**28,050**
						20" CS Ell, 45	2.00 ea	**12**	**1,001**	**810**	**-**	**565**	**-**	1,187.72 /ea	**2,375**	2,609.62 /ea	**5,219**
						20" CS Ell, 11.25	6.00 ea	**37**	**3,002**	**2,430**	**-**	**1,694**	**-**	1,187.71 /ea	**7,126**	2,609.62 /ea	**15,658**
						20" CS butt weld, 3/16" wall	252.00 ea		**-**	**-**	**45,864**	**-**	**-**	182.00 /ea	**45,864**	392.25 /ea	**98,847**
						CLSM, pipe encasement	3,027.40 cy		**-**	**181,644**	**-**	**-**	**-**	60.00 /cy	**181,644**	133.66 /cy	**404,652**
						Tape wrap joint, 20" pipe	252.00 ea	**454**	**36,606**	**12,600**	**-**	**-**	**-**	195.26 /ea	**49,206**	424.45 /ea	**106,962**
						Grout joint, I.D., 20" pipe	252.00 ea	**504**	**40,841**	**3,024**	**-**	**-**	**-**	174.07 /ea	**43,865**	376.02 /ea	**94,757**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	**-**	**2,186**	**-**	3,779.86 /ea	**7,560**	8,280.03 /ea	**16,560**
						Cathodic protection, joint jumpers	252.00 ea	**252**	**20,420**	**6,300**	**-**	**-**	**-**	106.03 /ea	**26,720**	230.34 /ea	**58,045**
						Cathodic protection, anode, 30 lbs	5.00 ea	**20**	**1,621**	**750**	**-**	**-**	**-**	474.13 /ea	**2,371**	1,032.73 /ea	**5,164**
						Cathodic protection, test station	5.00 ea	**80**	**6,483**	**2,200**	**-**	**-**	**-**	1,736.53 /ea	**8,683**	3,774.50 /ea	**18,872**
						Pipe Marking, ID Tape	4,400.00 lf	**44**	**3,565**	**572**	**-**	**-**	**-**	0.94 /lf	**4,137**	2.04 /lf	**8,959**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**4,400.00 LF**	**7,538**	**557,613**	**743,979**	**119,199**	**329,783**	**73,335**	**414.52 /LF**	**1,823,909**	**909.12 /LF**	**4,000,116**
						33.00.05.1001 20" 3/16" CS Water Main	**4,400.00 LF**	**7,538**	**557,613**	**743,979**	**119,199**	**329,783**	**73,335**	**414.52 /LF**	**1,823,909**	**909.12 /LF**	**4,000,116**
						33.03 Buried Process Pipe, Carbon Steel	**4,400.00 LF**	**7,538**	**557,613**	**743,979**	**119,199**	**329,783**	**73,335**	**414.52 /LF**	**1,823,909**	**909.12 /LF**	**4,000,116**
						33.0 Utilities	***1.00* LS**	**7,538**	**557,613**	**743,979**	**119,199**	**329,783**	**73,335**	**1,823,909.10 /LS**	**1,823,909**	**4,000,115.59 /LS**	**4,000,116**
						01.0 20" 3/16" CS Water Main	**4,400.00 LF**	**7,538**	**557,613**	**743,979**	**119,199**	**329,783**	**73,335**	**414.52 /LF**	**1,823,909**	**909.12 /LF**	**4,000,116**
	02.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	5.00 ea	**33**	**2,663**	**-**	**-**	**1,503**	**-**	833.21 /ea	**4,166**	1,817.54 /ea	**9,088**
						Butterfly valve, iron body, MJ , NO, 250#, 20"	5.00 EA		**-**	**19,140**	**-**	**-**	**-**	3,828.00 /EA	**19,140**	8,527.70 /EA	**42,639**
						Valve accessory, extension stem	25.00 lf	**3**	**199**	**125**	**-**	**-**	**-**	12.98 /lf	**324**	28.34 /lf	**708**
						Valve accessory, stem couplings	5.00 set	**2**	**132**	**100**	**-**	**-**	**-**	46.33 /set	**232**	101.30 /set	**507**
						CI Valve Box & Cover, w/ Concrete Collar included	5.00 ea	**15**	**1,211**	**750**	**-**	**683**	**-**	528.73 /ea	**2,644**	1,160.31 /ea	**5,802**
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	**5.00 EA**	**52**	**4,205**	**20,115**		**2,186**		**5,301.17 /EA**	**26,506**	**11,748.55 /EA**	**58,743**
						33.20.03.0003 20" Butterfly Valves	**5.00 EA**	**52**	**4,205**	**20,115**		**2,186**		**5,301.17 /EA**	**26,506**	**11,748.55 /EA**	**58,743**
						33.03 Buried Process Pipe, Carbon Steel	***1.00* LF**	**52**	**4,205**	**20,115**		**2,186**		**26,505.86 /LF**	**26,506**	**58,742.73 /LF**	**58,743**
						33.0 Utilities	***1.00* LS**	**52**	**4,205**	**20,115**		**2,186**		**26,505.86 /LS**	**26,506**	**58,742.73 /LS**	**58,743**
						02.0 20" Butterfly Valves	**5.00 EA**	**52**	**4,205**	**20,115**		**2,186**		**5,301.17 /EA**	**26,506**	**11,748.55 /EA**	**58,743**
	03.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	**36**	**2,905**	**3,916**	**-**	**1,640**	**-**	112.81 /LF	**8,461**	248.49 /LF	**18,637**
						8" DI, MJ, Ell, 90	3.00 ea	**9**	**726**	**1,031**	**-**	**410**	**-**	722.48 /ea	**2,167**	1,591.94 /ea	**4,776**
						8" DI, MJ, Ell, 45	3.00 ea	**9**	**726**	**881**	**-**	**410**	**-**	672.43 /ea	**2,017**	1,480.44 /ea	**4,441**
						8" DI, RJ, cap or plug	3.00 ea	**5**	**363**	**468**	**-**	**205**	**-**	345.52 /ea	**1,037**	760.94 /ea	**2,283**
						20" DI, MJ, red. tee, 20" x 8"	3.00 ea	**30**	**2,397**	**8,657**	**-**	**1,353**	**-**	4,135.59 /ea	**12,407**	9,155.00 /ea	**27,465**
						Install gate valve, Flgd, DIP, 8"	3.00 ea	**10**	**799**	**-**	**-**	**451**	**-**	416.61 /ea	**1,250**	908.77 /ea	**2,726**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		**-**	**1,857**	**-**	**-**	**-**	619.00 /EA	**1,857**	1,378.95 /EA	**4,137**
						Valve accessory, extension stem	45.00 lf	**5**	**359**	**225**	**-**	**-**	**-**	12.98 /lf	**584**	28.34 /lf	**1,275**
						Valve accessory, stem couplings	3.00 set	**1**	**79**	**60**	**-**	**-**	**-**	46.33 /set	**139**	101.31 /set	**304**
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	**9**	**726**	**450**	**-**	**410**	**-**	528.73 /ea	**1,586**	1,160.32 /ea	**3,481**
						Meter Box	3.00 ea	**12**	**700**	**750**	**-**	**-**	**-**	483.29 /ea	**1,450**	1,059.71 /ea	**3,179**
						33.20.01.08 Buried Valves, Gate Valves, 8"	**3.00 EA**	**125**	**9,781**	**18,296**		**4,878**		**10,984.85 /EA**	**32,955**	**24,234.77 /EA**	**72,704**
						33.20.01.0004 8" Blow Off Assembly	**3.00 EA**	**125**	**9,781**	**18,296**		**4,878**		**10,984.85 /EA**	**32,955**	**24,234.77 /EA**	**72,704**
						33.03 Buried Process Pipe, Carbon Steel	**75.00 LF**	**125**	**9,781**	**18,296**		**4,878**		**439.39 /LF**	**32,955**	**969.39 /LF**	**72,704**
						33.0 Utilities	***1.00* LS**	**125**	**9,781**	**18,296**		**4,878**		**32,954.55 /LS**	**32,955**	**72,704.32 /LS**	**72,704**
						03.0 8" Blow Off Assembly	**3.00 EA**	**125**	**9,781**	**18,296**		**4,878**		**10,984.85 /EA**	**32,955**	**24,234.77 /EA**	**72,704**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	2.00 EA		**-**	**-**	**3,000**	**-**		1,500.00 /EA	**3,000**	3,232.83 /EA	**6,466**
						2" Corporation stop, thrd	2.00 ea	**2**	**188**		**-**	**91**	**-**	139.46 /ea	**279**	303.85 /ea	**608**
						Ball valve, bronze, screwed, 2"	2.00 ea	**1**	**64**	**128**	**-**	**-**	**-**	95.92 /ea	**192**	211.37 /ea	**423**

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 4 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						2" copper pipe, K-soft	50.00 LF	4	279	529	-	-	-	16.17 /LF	808	35.61 /LF	1,781
						2" copper, ELL, 90	4.00 ea	3	207	51	-	-	-	64.71 /ea	259	140.39 /ea	562
						Install Air & Vacuum relief valve, 2"	2.00 ea	5	383	-	-	-	-	191.51 /ea	383	412.75 /ea	825
						FURNISH Air & Vacuum relief valve, iron body, 2"	2.00 ea		-	750	-	-	-	375.00 /ea	750	835.39 /ea	1,671
						Double Strap Saddle, 20" x 2"	2.00 ea	8	638	500	-	-	-	569.19 /ea	1,138	1,244.86 /ea	2,490
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**2.00 EA**	22	1,760	1,958	3,000	91		**3,404.68 /EA**	6,809	**7,412.13 /EA**	14,824
						33.20.08.0005 2" CARV Assembly	**2.00 EA**	22	1,760	1,958	3,000	91		**3,404.68 /EA**	6,809	**7,412.13 /EA**	14,824
						33.03 Buried Process Pipe, Carbon Steel	***1.00* LF**	22	1,760	1,958	3,000	91		**6,809.36 /LF**	6,809	**14,824.25 /LF**	14,824
						33.0 Utilities	***1.00* LS**	22	1,760	1,958	3,000	91		**6,809.36 /LS**	6,809	**14,824.25 /LS**	14,824
						04.0 2" CARV Assembly	**2.00 EA**	22	1,760	1,958	3,000	91		**3,404.68 /EA**	6,809	**7,412.13 /EA**	14,824
	05.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	8,800.00 lf	135		-	17,600	-	-	2.00 /lf	17,600	4.51 /lf	39,692
						Asphalt Milling, 6" Depth	2,933.00 Sy	29		-	7,333	-	-	2.50 /Sy	7,333	5.64 /Sy	16,536
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	490.00 cy	50	3,434	-	-	4,836	-	16.88 /cy	8,270	38.78 /cy	19,001
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	490.00 cy		-	6,125	-	-	-	12.50 /cy	6,125	29.10 /cy	14,257
						02.01.01.01 General Site Demolition, Asphalt Pavement	**2,933.00 Sy**	215	3,434	6,125	24,933	4,836		**13.41 /Sy**	39,327	**30.51 /Sy**	89,486
						02.01.01.0007 Demo Asphalt	**2,933.00 Sy**	215	3,434	6,125	24,933	4,836		**13.41 /Sy**	39,327	**30.51 /Sy**	89,486
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	2,933.33 SY	16	1,122	2,611	-	838	-	1.56 /SY	4,571	3.60 /SY	10,560
						Fog seal, sealcoating, prepare and clean surface for sealcoating	2,933.33 sy	8	498	-	-	117	-	0.21 /sy	615	0.48 /sy	1,395
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	2,933.33 sy	22	1,589	33,587	-	1,717	-	12.58 /sy	36,893	29.24 /sy	85,761
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	2,933.33 sy	1,493	99,705	70,400	-	9,248	-	61.14 /sy	179,353	139.86 /sy	410,255
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	4,400.00 LF	13	756	2,992	-	502	-	0.97 /LF	4,249	2.24 /LF	9,836
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**2,933.33 SY**	1,552	103,671	109,589		12,421		**76.94 /SY**	225,681	**176.53 /SY**	517,807
						32.40.02.0008 Trench Paving	**2,933.33 SY**	1,552	103,671	109,589		12,421		**76.94 /SY**	225,681	**176.53 /SY**	517,807
						32.12 Paving	**2,933.33 SY**	1,767	107,105	115,714	24,933	17,257		**90.34 /SY**	265,009	**207.03 /SY**	607,293
						32.0 Exterior Improvements	**2,933.33 SY**	1,767	107,105	115,714	24,933	17,257		**90.34 /SY**	265,009	**207.03 /SY**	607,293
						05.0 Asphalt Trench Repair	**4,400.00 LF**	1,767	107,105	115,714	24,933	17,257		**60.23 /LF**	265,009	**138.02 /LF**	607,293
	06.0					**Bore at Channel Crossing**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.60.02.0002		**36" Bore with 20" Carrier**											
					33.60.02.36	**Pipeline Specials, Jack and Bore, 36" x 20"**											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,218.48 /ea	13,218
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,609.24 /ea	6,609
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,609.23 /ea	6,609
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,304.60 /ea	3,305
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	200		-	26,300	-	-	526.00 /LF	26,300	1,133.64 /LF	56,682
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	222.77 /ea	891
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	779.71 /ea	1,559
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	50.00 lf	13	1,049	5,381	-	592	-	140.45 /lf	7,022	311.36 /lf	15,568
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	**50.00 LF**	321	9,765	6,481	26,300	5,511		**961.14 /LF**	48,057	**2,088.84 /LF**	104,442
						33.60.02.0002 36" Bore with 20" Carrier	**50.00 LF**	321	9,765	6,481	26,300	5,511		**961.14 /LF**	48,057	**2,088.84 /LF**	104,442
						33.03 Buried Process Pipe, Carbon Steel	**50.00 LF**	321	9,765	6,481	26,300	5,511		**961.14 /LF**	48,057	**2,088.84 /LF**	104,442
						33.0 Utilities	***1.00* LS**	321	9,765	6,481	26,300	5,511		**48,056.75 /LS**	48,057	**104,442.17 /LS**	104,442
						06.0 Bore at Channel Crossing	**50.00 LF**	321	9,765	6,481	26,300	5,511		**961.14 /LF**	48,057	**2,088.84 /LF**	104,442
	07.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	4,400.00 LF			-	-	110,000	-	25.00 /LF	110,000	53.88 /LF	237,074
						33.00.01.40 Buried Pipe, Traffic Control	**4,400.00 LF**					110,000		**25.00 /LF**	110,000	**53.88 /LF**	237,074
						33.00.01.0009 Traffic Control Allowance	**4,400.00 LF**					110,000		**25.00 /LF**	110,000	**53.88 /LF**	237,074
						33.89 Pipeline - Traffic Control	**4,400.00 LF**					110,000		**25.00 /LF**	110,000	**53.88 /LF**	237,074
						33.0 Utilities	***1.00* LS**					110,000		**110,000.00 /LS**	110,000	**237,073.97 /LS**	237,074
						07.0 Traffic Control Allowance	**4,400.00 LF**					110,000		**25.00 /LF**	110,000	**53.88 /LF**	237,074
	08.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	1.00 EA			-	15,000	-		15,000.00 /EA	15,000	33,828.27 /EA	33,828
						26.00.99.00 Electrical, Other	**1.00 EA**				15,000			**15,000.00 /EA**	15,000	**33,828.27 /EA**	33,828
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**1.00 EA**				15,000			**15,000.00 /EA**	15,000	**33,828.27 /EA**	33,828
						26.10 Site Electrical	***1.00* LS**				15,000			**15,000.00 /LS**	15,000	**33,828.27 /LS**	33,828
						26.0 Electrical Work	***1.00* LS**				15,000			**15,000.00 /LS**	15,000	**33,828.27 /LS**	33,828
						08.0 Traffic Loop Replacement Allowance	**1.00 EA**				15,000			**15,000.00 /EA**	15,000	**33,828.27 /EA**	33,828
						01.0 Las Virgenes Source Water No. 4 Green Line	***1.00* LS**	9,825	690,228	906,544	298,432	359,706	73,335	**2,328,244.41 /LS**	2,328,244	**5,129,024.27 /LS**	5,129,024

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 4 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	690,228		9,824.611 hrs		156.870	13.46%	
Material	906,544				206.033	17.67%	
Subcontract	298,432				67.825	5.82%	
Equipment	359,706		6,266.270 hrs		81.751	7.01%	
Other	73,335				16.667	1.43%	
Subtotal Raw Costs	**2,328,245**	**2,328,245**			**529.147**	**45.39%**	**45.39%**
Material Sales & Use Tax - %	65,724			7.250 %	14.937	1.28%	
Construction Equip Tax - %	26,079			7.250 %	5.927	0.51%	
Total Taxes	**91,803**	**2,420,048**			**550.011**	**1.79%**	**47.18%**
Location Adj. Factor	266,079			11.800 %	60.473	5.19%	
Productivity Adjustment							
Subtotal Adj. Factors	**266,079**	**2,686,127**			**610.483**	**5.19%**	**52.37%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	0.852	0.07%	
Site/Civil I,OH&P	66,252			25.000 %	15.057	1.29%	
Buried Piping I,OH&P	307,235			15.000 %	69.826	5.99%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**377,237**	**3,063,364**			**696.219**	**7.35%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**3,063,364**			**696.219**		**59.73%**
Total Cost To Prime Contractor		**3,063,364**			**696.219**		**59.73%**
General Conditions	306,336			10.000 %	69.622	5.97%	
Mobilization/Demobilization	122,535			4.000 %	27.849	2.39%	
Subtotal Indirect Costs	**428,871**	**3,492,235**			**793.690**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	349,224			10.000 %	79.369	6.81%	
Prime Contractor Profit	174,612			5.000 %	39.684	3.40%	
Bonds & Insurance	87,149			2.170 %	19.807	1.70%	
Subtotal OH&P	**610,985**	**4,103,220**			**932.550**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**4,103,220**			**932.550**		**80.00%**
Design Contingency	1,025,805			25.000 %	233.137	20.00%	
Subtotal Contingency	**1,025,805**	**5,129,025**			**1,165.688**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**5,129,025**			**1,165.688**		**100.00%**
Total Prime Contractor Costs		**5,129,025**			**1,165.688**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**5,129,025**			**1,165.688**		**100.00%**
Total Contractor Costs w/ OFCI		**5,129,025**			**1,165.688**		**100.00%**
Total Construction Cost		**5,129,025**			**1,165.688**		**100.00%**
Total		***5,129,025***			***1,165.688***		

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Source No. 4 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Source Water No. 4 Green Line**											
	01.0				20" 3/16" CS Water Main											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Water Main	4,400.00 LF	7,538	557,613	743,979	119,199	329,783	73,335	414.52 /LF	1,823,909	909.12 /LF	4,000,116
					33.03 Buried Process Pipe, Carbon Steel	**4,400.00 LF**	7,538	557,613	743,979	119,199	329,783	73,335	**414.52 /LF**	1,823,909	**909.12 /LF**	**4,000,116**
					33.0 Utilities	*1.00* LS	7,538	557,613	743,979	119,199	329,783	73,335	1,823,909.10 /LS	1,823,909	4,000,115.59 /LS	4,000,116
					01.0 20" 3/16" CS Water Main	4,400.00 LF	7,538	557,613	743,979	119,199	329,783	73,335	414.52 /LF	1,823,909	909.12 /LF	4,000,116
	02.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,748.55 /EA	58,743
					33.03 Buried Process Pipe, Carbon Steel	***1.00*** **LF**	52	4,205	20,115		2,186		**26,505.86 /LF**	26,506	**58,742.73 /LF**	**58,743**
					33.0 Utilities	*1.00* LS	52	4,205	20,115		2,186		26,505.86 /LS	26,506	58,742.73 /LS	58,743
					02.0 20" Butterfly Valves	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,748.55 /EA	58,743
	03.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,234.77 /EA	72,704
					33.03 Buried Process Pipe, Carbon Steel	**75.00 LF**	125	9,781	18,296		4,878		**439.39 /LF**	32,955	**969.39 /LF**	**72,704**
					33.0 Utilities	*1.00* LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,704.32 /LS	72,704
					03.0 8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,234.77 /EA	72,704
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,412.13 /EA	14,824
					33.03 Buried Process Pipe, Carbon Steel	***1.00*** **LF**	22	1,760	1,958	3,000	91		**6,809.36 /LF**	6,809	**14,824.25 /LF**	**14,824**
					33.0 Utilities	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,824.25 /LS	14,824
					04.0 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,412.13 /EA	14,824
	05.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	2,933.00 Sy	215	3,434	6,125	24,933	4,836		13.41 /Sy	39,327	30.51 /Sy	89,486
				32.40.02.0008	Trench Paving	2,933.33 SY	1,552	103,671	109,589		12,421		76.94 /SY	225,681	176.53 /SY	517,807
					32.12 Paving	**2,933.33 SY**	1,767	107,105	115,714	24,933	17,257		**90.34 /SY**	265,009	**207.03 /SY**	**607,293**
					32.0 Exterior Improvements	2,933.33 SY	1,767	107,105	115,714	24,933	17,257		90.34 /SY	265,009	207.03 /SY	607,293
					05.0 Asphalt Trench Repair	4,400.00 LF	1,767	107,105	115,714	24,933	17,257		60.23 /LF	265,009	138.02 /LF	607,293
	06.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	321	9,765	6,481	26,300	5,511		961.14 /LF	48,057	2,088.84 /LF	104,442
					33.03 Buried Process Pipe, Carbon Steel	**50.00 LF**	321	9,765	6,481	26,300	5,511		**961.14 /LF**	48,057	**2,088.84 /LF**	**104,442**
					33.0 Utilities	*1.00* LS	321	9,765	6,481	26,300	5,511		48,056.75 /LS	48,057	104,442.17 /LS	104,442
					06.0 Bore at Channel Crossing	50.00 LF	321	9,765	6,481	26,300	5,511		961.14 /LF	48,057	2,088.84 /LF	104,442
	07.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	4,400.00 LF				110,000			25.00 /LF	110,000	53.88 /LF	237,074
					33.89 Pipeline - Traffic Control	**4,400.00 LF**				110,000			**25.00 /LF**	110,000	**53.88 /LF**	**237,074**
					33.0 Utilities	*1.00* LS				110,000			110,000.00 /LS	110,000	237,073.97 /LS	237,074
					07.0 Traffic Control Allowance	4,400.00 LF				110,000			25.00 /LF	110,000	53.88 /LF	237,074
	08.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,828.27 /EA	33,828
					26.10 Site Electrical	***1.00*** **LS**				15,000			**15,000.00 /LS**	15,000	**33,828.27 /LS**	**33,828**
					26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,828.27 /LS	33,828
					08.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,828.27 /EA	33,828
					01.0 Las Virgenes Source Water No. 4 Green Line	***1.00*** **LS**	9,825	690,228	906,544	298,432	359,706	73,335	**2,328,244.41 /LS**	2,328,244	**5,129,024.27 /LS**	5,129,024

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

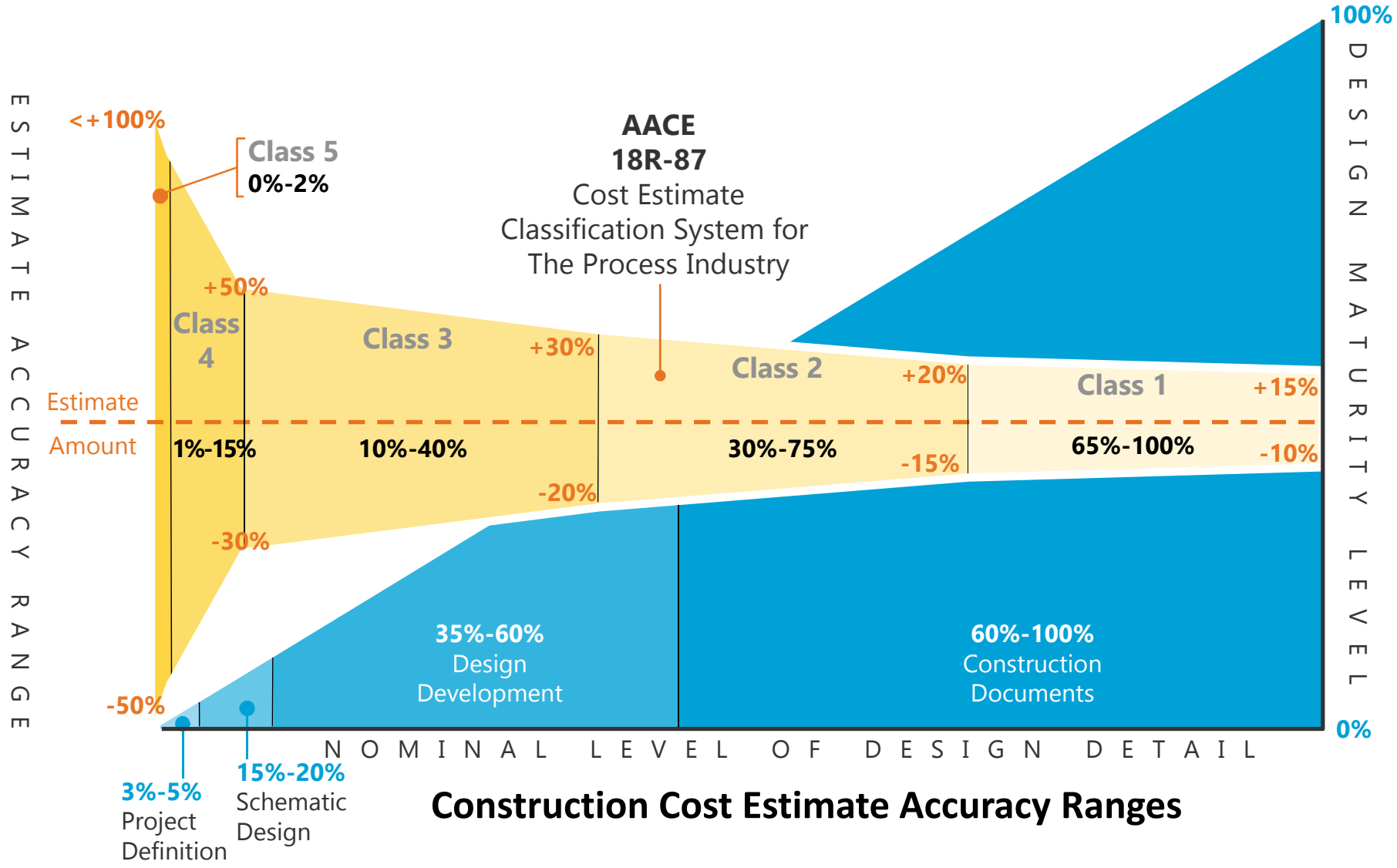
Project Name: W9Y31200 Las Virgenes Source No. 4 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	690,228		9,824.611 hrs		156.870	13.46%	
Material	906,544				206.033	17.67%	
Subcontract	298,432				67.825	5.82%	
Equipment	359,706		6,266.270 hrs		81.751	7.01%	
Other	73,335				16.667	1.43%	
Subtotal Raw Costs	**2,328,245**	**2,328,245**			**529.147**	**45.39%**	**45.39%**
Material Sales & Use Tax - %	65,724			7.250 %	14.937	1.28%	
Construction Equip Tax - %	26,079			7.250 %	5.927	0.51%	
Total Taxes	**91,803**	**2,420,048**			**550.011**	**1.79%**	**47.18%**
Location Adj. Factor	266,079			11.800 %	60.473	5.19%	
Productivity Adjustment							
Subtotal Adj. Factors	**266,079**	**2,686,127**			**610.483**	**5.19%**	**52.37%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	0.852	0.07%	
Site/Civil I,OH&P	66,252			25.000 %	15.057	1.29%	
Buried Piping I,OH&P	307,235			15.000 %	69.826	5.99%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**377,237**	**3,063,364**			**696.219**	**7.35%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**3,063,364**			**696.219**		**59.73%**
Total Cost To Prime Contractor		**3,063,364**			**696.219**		**59.73%**
General Conditions	306,336			10.000 %	69.622	5.97%	
Mobilization/Demobilization	122,535			4.000 %	27.849	2.39%	
Subtotal Indirect Costs	**428,871**	**3,492,235**			**793.690**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	349,224			10.000 %	79.369	6.81%	
Prime Contractor Profit	174,612			5.000 %	39.684	3.40%	
Bonds & Insurance	87,149			2.170 %	19.807	1.70%	
Subtotal OH&P	**610,985**	**4,103,220**			**932.550**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**4,103,220**			**932.550**		**80.00%**
Design Contingency	1,025,805			25.000 %	233.137	20.00%	
Subtotal Contingency	**1,025,805**	**5,129,025**			**1,165.688**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**5,129,025**			**1,165.688**		**100.00%**
Total Prime Contractor Costs		**5,129,025**			**1,165.688**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**5,129,025**			**1,165.688**		**100.00%**
Total Contractor Costs w/ OFCI		**5,129,025**			**1,165.688**		**100.00%**
Total Construction Cost		**5,129,025**			**1,165.688**		**100.00%**
Total		***5,129,025***			***1,165.688***		

AACE Information



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	**0% to 2%**	**1% to 15%**	**10% to 40%**	**30% to 70%**	**50% to 100%**
END USAGE Typical Purpose of Estimate	**Concept Screening**	**Study or Feasibility**	**Budget Authorization, or Control**	**Control or Bid / Tender**	**Check Estimate or Bid / Tender**
METHODOLOGY Typical estimating method	**Capacity Factored, Parametric Models, Judgment, or Analogy**	**Equipment Factored or Parametric Models**	**Semi-Detailed Unit Costs with Assembly Level Line Items**	**Detailed Unit Cost with Forced Detailed Take-Off**	**Detailed Unit Cost with Detailed Take-Off**
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	**L: -20% to -50%** / **H: +30% to +100%**	**L: -15% to -30%** / **H: +20% to +50%**	**L: -10% to -20%** / **H: +10% to +30%**	**L: -5% to -15%** / **H: +5% to +20%**	**L: -3% to -10%** / **H: +3% to +15%**
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	**1**	**2 to 4**	**3 to 10**	**4 to 20**	**5 to 100**
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	**Class 5**	**Class 4**	**Class 3**	**Class 2**	**Class 1**
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete

Jacobs

Las Virgenes-Triunfo Source Water Line

Agoura Hills and Westlake Village CA.

Class 5

Prepared:
August 26, 2022

Jacobs

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Project Cost Estimate 1

Jacobs

Basis of Estimate

Jacobs

Basis of Estimate

1. Project Information

Client/Owner:	Las Virgenes-Triunfo
Project Manager:	Jennifer Phillips
Design Manager:	TBD
Architect:	TBD
Project Description:	Source Water Pipeline
Location:	Agoura Hills and Westlake Village Ca.
Estimate Date:	August 26. 2022
Design Level:	Conceptual
Estimate Classification	Class 5
Estimate Number:	W9Y31200
Contracting Method:	Design, Bid, Build
Project Size:	See Each Estimate for the size and scope.
Construction Budget:	See Section 4. Overall Cost
Construction Start:	TBD
Construction Duration:	TBD

2. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer's opinion of probable construction cost at the 10% level of design development.

3. General Project Description

This project is for the construction of Source Water Pipelines as detailed in estimates below in the cities of Agoure Hills and Westlake Village CA.

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4. Overall Costs

Blue Alignment

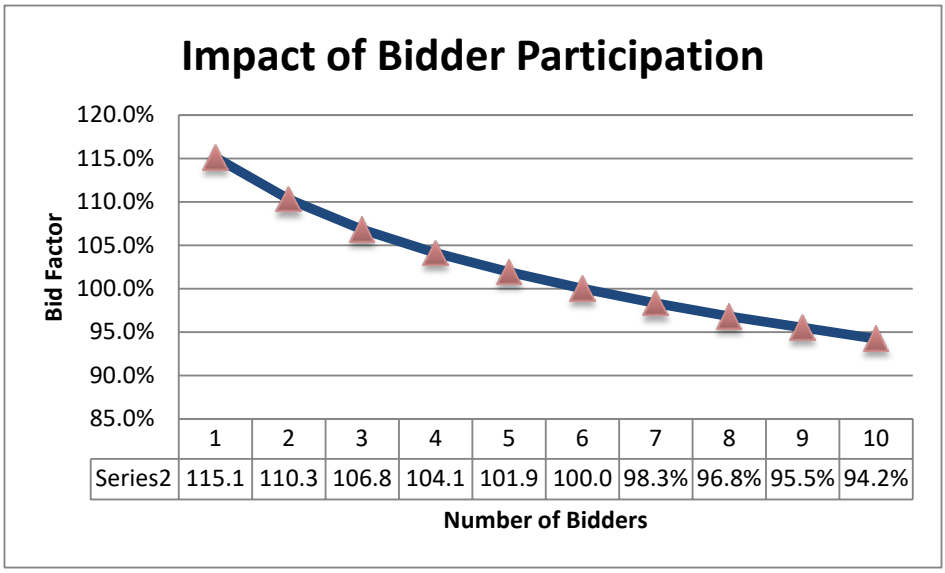
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$7,016,000	**$10,023,000**	$15,035,000
Orange Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$8,051,000	**$11,502,000**	$17,253,000
Red Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$4,880,000	**$6,972,000**	$10,458,000
Yellow Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$3,179,000	**$4,542,000**	$6,813,000
Green Alignment		
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$2,156,000	**$3,080,000**	$4,620,000

5. General Qualifications

A. We recommend the Owner and/or designated representatives review the estimate in detail for items that may not be consistent with the program intent.

B. The final costs of the project will depend on actual labor and material costs, competitive market conditions, actual project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein.

C. This estimate is based upon a competitive bid contracting method with five to seven responsible bidders (see chart below for modifications due to number of responsible bidders). Any single source specification selection will have an increased impact on the overall cost.



No. Bidders	Bid Factor
1	115.1%
2	110.3%
3	106.8%
4	104.1%
5	101.9%
6	100.0%
7	98.3%
8	96.8%
9	95.5%
10	94.2%

Data Source: PACES 2007, Mark-ups Screen, Prime and Subcontractor Profit Calculation Factors

D. The estimate does not include impacts due to contracting methods other than "open" competitive procurement. Pricing is not valid for negotiated contracts.

E. Pricing is not valid for HUB Zone and "set-aside" contract award.

6. Estimate Basis

A. Basis

- Other: Word documenting the scope of work with Google Earth KMZ files showing the approximate alignment of the pipeline.

B. Format

- This estimate is presented in CSI Masterformat 2004.
- The following Work Breakdown Structure (WBS) has been utilized to further segregate cost:
  - Area
  - Bid Item
  - Work Package
  - Trade Package
  - Work Activity
  - Unit Price

C. Labor Rates

Labor rates are based on local prevailing wages and are fully burdened to include both direct and indirect subcontract mark-ups. Labor Rates include base, fringes, payroll taxes and insurance, small tools, consumables, field supervision and field overhead as well as subcontractor overhead and profit.

The estimate has been adjusted for local area labor rates, based upon 2022 RS Means National Average labor rates for the state of California. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index for Los Angeles CA. Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

D. Material Pricing

Materials pricing is based upon the national average as determined by RS Means or other data sources. Quotes on certain items may have been obtained and included in this estimate. Many quotes given for engineering estimates are budgetary and may not reflect actual contractor pricing.

E. Subcontracted Costs

It is assumed that General Contractors will subcontract a portion of the work. Items listed in the cost estimate as subcontractor includes all anticipated markups that a general contractor would receive.

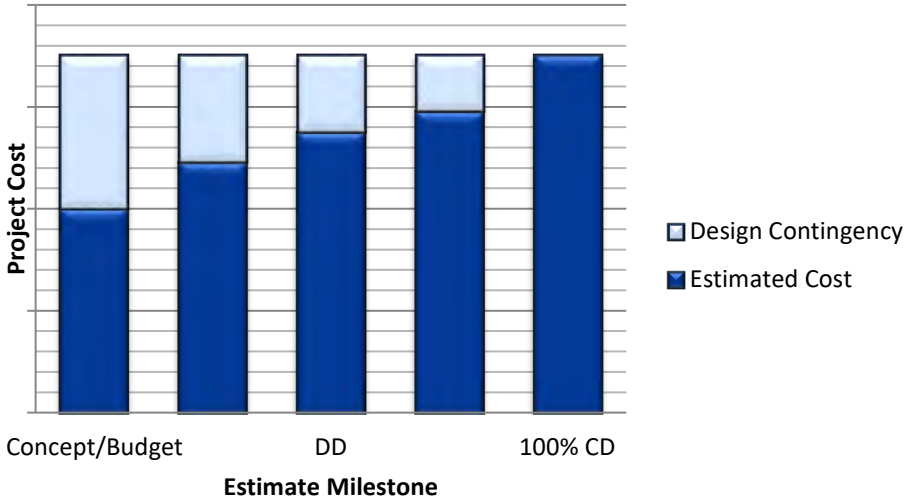
F. Construction Equipment Cost

Equipment items listed in this cost estimate are for the construction equipment necessary for the installation of the work. Equipment rates in this estimate are assumed to be 100% of 2022 Blue Book value. This is to account for contractor owned equipment or discounted rental equipment. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index Los Angeles CA.

G. Design Contingency

Design Contingency is considered to be owned by the project. At each milestone estimate, contingency (based on the level of design detail available) is applied against the total estimated construction cost, including General Conditions (when applicable). This risk-based contingency is intended to cover the cost associated with the further refinement of the design and details that are not completed on the plans. The design contingency is a function of the level of design at the time of the cost estimate development. As the design details increase at each milestone estimate, the

contingency decreases until, at 100% design completion, the contingency is generally 0%. The following graph is a theoretical representation of this process.



Design Contingency is not intended to cover owner changes, nor does it address unforeseeable events such as labor strikes, natural disasters or extraordinary economic events.

A Design Contingency of 25% is included.

H. Market Adjustment Factor or Contingency

A market adjustment factor or contingency has been added to the estimate, to account for lack of potential bidders in a geographical area, based upon the amount of current workload by the general contractors or subcontractors.

A Market Adjustment Factor is not included.

I. Construction Contingency

Construction Contingency is a typical consideration on any Guaranteed Maximum Price (GMP) contract. It is often owned by the project but controlled by the owner. Meaning, the owner has approval rights as to whether this contingency fund is utilized. Its purpose is to cover purchasing gaps and omissions in the GMP bidding process and to cover unforeseen costs due to weather or scheduling conflicts. Typically, as part of a GMP, the unspent portion of the construction contingency is returned to the owner when the project is closed out.

A Construction Contingency is not included.

J. Owner's Contingency

Owner's Contingency is a recommended amount to cover the costs associated with unforeseen conditions during the construction phase such as unknown site conditions, schedule delays and trade coordination issues that may lead to change orders. This contingency is not meant for scope enhancements or for additions to the project. The suggested percentage for Owner's Contingency is based on Industry standards for the type and location of the project.

Owner's Contingency is not included in this estimate.

K. Escalation

The pricing presented herein is based on current market costs. An escalation rate is applied at the summary level of the estimate for costs associated with the following:

- Yearly merit raises for open shop contractors.
- Yearly renegotiation of union agreements.
- Material price increases (typically assessed quarterly).

Escalation is not intended to cover increases due to fluctuations in market conditions such as over saturation of projects during the anticipated bidding phase or temporary reductions in availability of manpower for selected labor pools.

Escalation is not included.

7. Taxes

An 7.25% sales tax was added to all material costs within the estimate including process equipment.

8. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- Jacobs Historical Data
- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

9. Constructability Or Phase Comments

A Constructability Study was not conducted by estimating.

Jacobs

10. Project Allowances

01 - Allowances

Allowances are an allotted sum of money included for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost. Allowances include project direct costs - including labor, material, equipment and any subcontractor costs.

1. Allowances are detailed in the attached “Detail Estimate for each alternate.

11. Major Assumptions

01 – General Requirements

1. Material that is to be excavated can be done with a standard excavator.
2. All backfill will be new imported material.
3. A Dump site for excavated spoils will be available within 20 miles of the project.
4. Traffic will be allowed to be detoured around the work site.
5. All pipeline alignment will be in asphalt and avoid concrete and landscaping.

12. General Exclusions:

- Professional fees, inspections and/or third-party testing
- Owner furnished items
- Hazardous waste removal and disposal
- Unforeseen sub-surface or existing conditions
- State/Local license, fees and/or permits
- Owner’s contingency

13. Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully

reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The impacts of the COVID-19 pandemic on the construction industry are not known at this time and will likely have some impact on the costs presented herein. This situation should be monitored and costs adjusted as the impacts become realized and published by the leading industry sources.

While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends.

Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22 | Estimator: John DeWolf
Job Size: 15,210 Lf | Project Number: W9Y31200 | Rev/Date: 8/10/22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Source Water Blue Line***			
	01.0	**20" C-900 PVC Water Main**	**15,210.00 LF**	**425.82 /LF**	**6,476,758**
	02.0	**36" Bore and Casing with 20" Carrier Pipe**	**75.00 LF**	**1,754.98 /LF**	**131,623**
	03.0	**20" Butterfly Valves**	**15.00 EA**	**11,761.88 /EA**	**176,428**
	04.0	**8" Blow Off Assembly**	**6.00 EA**	**24,035.43 /EA**	**144,213**
	05.0	**2" CARV Assembly**	**6.00 EA**	**7,420.66 /EA**	**44,524**
	06.0	**Repair Concrete Cross Walks**	**600.00 SF**	**56.27 /SF**	**33,762**
	07.0	**Asphalt Trench Repair**	**15,210.00 LF**	**137.65 /LF**	**2,093,728**
	08.0	**Traffic Control Allowance**	**15,210.00 LF**	**53.94 /LF**	**820,478**
	09.0	**Traffic Loop Replacement Allowance**	**3.00 EA**	**33,865.99 /EA**	**101,598**
	01.0 Las Vergenes Source Water Blue Line		***1.00 LS***	***10,023,113.17 /LS***	***10,023,113***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,573,908		17,490.396 hrs		169.225	25.68%	
Material	3,972,767				261.194	39.64%	
Subcontract	1,773,028				116.570	17.69%	
Equipment	1,186,276		10,780.551 hrs		77.993	11.84%	
Other	517,133				34.000	5.16%	
Total Prime Contractor Costs	**10,023,112**	**10,023,112**			**658.982**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**10,023,112**			**658.982**		**100.00%**
Total		***10,023,112***			***658.982***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Hours	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Source Water Blue Line**												
	01.0					20" C-900 PVC Water Main												
		33.0				Utilities												
			33.05			**Buried Process Pipe, PVC/CPVC**												
				33.00.07.0001		20" C-900 PVC Water Main												
					33.00.07.20	Buried Pipe, PVC, 20"												
						Pipeline Existing Conditions	***200.00 lf***			**-**	**-**		**-**	**-**	**/lf**		**/lf**	
						Traffic Control, Labor per Day	76.00 day	**1,216**	**70,920**	-	-		-	-	933.15 /day	**70,920**	2,013.49 /day	**153,025**
						Trench Box, 8' x 24' x 10'	4.00 mo		-	-	-	**693**	**9,200**	-	2,300.00 /mo	**9,200**	5,129.53 /mo	**20,518**
						Dedicated Fire / Safety Monitor	304.00 hr	**304**	**17,730**	-	-		-	-	58.32 /hr	**17,730**	125.84 /hr	**38,256**
						Add for hydrotesting pipeline (labor & Equipment per day)	15,210.00 lf	**183**	**14,790**	-	-	**122**	**1,322**	-	1.06 /lf	**16,112**	2.29 /lf	**34,861**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,340.12 CY	**1,216**	**83,566**	-	-	**608**	**57,396**	-	8.63 /CY	**140,962**	18.87 /CY	**308,319**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	5,197.43 cy	**2,128**	**139,665**	-	-	**2,128**	**95,594**	-	45.26 /cy	**235,259**	99.00 /cy	**514,556**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	10,465.16 cy	**1,216**	**91,661**	-	-	**1,824**	**109,202**	-	19.19 /cy	**200,863**	42.17 /cy	**441,327**
						Pipe zone material	5,197.43 cy		-	**145,528**	-		-	-	28.00 /cy	**145,528**	62.45 /cy	**324,561**
						Pipe bedding material	1,239.52 cy		-	**34,707**	-		-	-	28.00 /cy	**34,707**	62.45 /cy	**77,404**
						Imported backfill material	10,465.16 cy		-	**125,582**	-		-	-	12.00 /cy	**125,582**	26.76 /cy	**280,077**
						Haul spoils, offsite, 10 - 20 miles	16,902.00 cy		-	-	**253,530**		-	-	15.00 /cy	**253,530**	32.37 /cy	**547,050**
						Dump fees, trench spoils	16,902.00 cy		-	-	-		-	**253,530**	15.00 /cy	**253,530**	30.60 /cy	**517,133**
						20" DI, MJ, Ell, 90	2.00 ea	**14**	**1,162**	**4,610**	-	**14**	**656**	-	3,214.16 /ea	**6,428**	7,126.19 /ea	**14,252**
						20" DI, MJ, Ell, 45	2.00 ea	**14**	**1,162**	**3,254**	-	**14**	**656**	-	2,536.06 /ea	**5,072**	5,613.87 /ea	**11,228**
						20" DI, MJ, Ell, 22 1/2	10.00 ea	**72**	**5,810**	**18,993**	-	**72**	**3,279**	-	2,808.21 /ea	**28,082**	6,220.83 /ea	**62,208**
						20" DI, MJ, Ell, 11 1/4	9.00 ea	**65**	**5,229**	**17,136**	-	**65**	**2,951**	-	2,812.96 /ea	**25,317**	6,231.42 /ea	**56,083**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	15,210.00 LF	-		**891,610**	-		-	-	58.62 /LF	**891,610**	130.74 /LF	**1,988,498**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	15,210.00 lf	**3,648**	**294,393**	-	-	**3,648**	**166,143**	-	30.28 /lf	**460,537**	66.12 /lf	**1,005,760**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	-	**48**	**2,186**	-	3,779.86 /ea	**7,560**	8,289.53 /ea	**16,579**
						Pipe Marking, ID Tape	15,210.00 lf	**152**	**12,325**	**1,977**	-		-	-	0.94 /lf	**14,302**	2.04 /lf	**31,004**
						Pipe Marking, Copper Wire	15,210.00 lf	**152**	**12,325**	**3,346**	-		-	-	1.03 /lf	**15,671**	2.24 /lf	**34,057**
						33.00.07.20 Buried Pipe, PVC, 20"	15,210.00 LF	**10,428**	**754,613**	**1,248,243**	**253,530**	**9,237**	**448,585**	**253,530**	194.51 /LF	**2,958,501**	425.82 /LF	**6,476,758**
						33.00.07.0001 20" C-900 PVC Water Main	15,210.00 LF	**10,428**	**754,613**	**1,248,243**	**253,530**	**9,237**	**448,585**	**253,530**	194.51 /LF	**2,958,501**	425.82 /LF	**6,476,758**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	**10,428**	**754,613**	**1,248,243**	**253,530**	**9,237**	**448,585**	**253,530**	**2,958,501.03 /LS**	**2,958,501**	**6,476,758.36 /LS**	**6,476,758**
						33.0 Utilities	***1.00*** LS	**10,428**	**754,613**	**1,248,243**	**253,530**	**9,237**	**448,585**	**253,530**	2,958,501.03 /LS	**2,958,501**	6,476,758.36 /LS	**6,476,758**
						01.0 20" C-900 PVC Water Main	15,210.00 LF	**10,428**	**754,613**	**1,248,243**	**253,530**	**9,237**	**448,585**	**253,530**	194.51 /LF	**2,958,501**	425.82 /LF	**6,476,758**
	02.0					36" Bore and Casing with 20" Carrier Pipe												
		33.0				Utilities												
			33.05			**Buried Process Pipe, PVC/CPVC**												
				33.60.02.0002		36" Bore with 20" Carrier												
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"												
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**48**	**2,186**	-	6,059.71 /ea	**6,060**	13,233.74 /ea	**13,234**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**24**	**1,093**	-	3,029.85 /ea	**3,030**	6,616.84 /ea	**6,617**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**24**	**1,093**	-	3,029.85 /ea	**3,030**	6,616.86 /ea	**6,617**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**12**	**547**	-	1,514.92 /ea	**1,515**	3,308.40 /ea	**3,308**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	75.00 LF	**300**		-	**39,450**		-	-	526.00 /LF	**39,450**	1,134.97 /LF	**85,123**
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	**400**	-		-	-	100.00 /ea	**400**	223.03 /ea	**892**
						Horizontal boring, 36" diameter end seals	2.00 ea		-	**700**	-		-	-	350.00 /ea	**700**	780.57 /ea	**1,561**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	75.00 lf		-	**4,397**	-		-	-	58.62 /lf	**4,397**	130.74 /lf	**9,805**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	75.00 lf	**16**	**1,307**	-	-	**16**	**738**	-	27.27 /lf	**2,045**	59.55 /lf	**4,466**
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	75.00 LF	**424**	**10,023**	**5,497**	**39,450**	**124**	**5,657**		808.35 /LF	**60,626**	1,754.98 /LF	**131,623**
						33.60.02.0002 36" Bore with 20" Carrier	75.00 LF	**424**	**10,023**	**5,497**	**39,450**	**124**	**5,657**		808.35 /LF	**60,626**	1,754.98 /LF	**131,623**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	**424**	**10,023**	**5,497**	**39,450**	**124**	**5,657**		**60,625.98 /LS**	**60,626**	**131,623.27 /LS**	**131,623**
						33.0 Utilities	***1.00*** LS	**424**	**10,023**	**5,497**	**39,450**	**124**	**5,657**		60,625.98 /LS	**60,626**	131,623.27 /LS	**131,623**
						02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	**424**	**10,023**	**5,497**	**39,450**	**124**	**5,657**		808.35 /LF	**60,626**	1,754.98 /LF	**131,623**
	03.0					20" Butterfly Valves												
		33.0				Utilities												
			33.05			**Buried Process Pipe, PVC/CPVC**												
				33.20.03.0003		20" Butterfly Valves												
					33.20.03.20	Buried Valves, Butterfly Valves, 20"												
						Install butterfly valve, MJ, 20"	15.00 ea	**99**	**7,989**	-	-	**99**	**4,509**	-	833.21 /ea	**12,498**	1,819.64 /ea	**27,295**
						Butterfly valve, iron body, MJ , NO, 250#, 20"	15.00 EA		-	**57,420**	-		-	-	3,828.00 /EA	**57,420**	8,537.33 /EA	**128,060**
						Valve accessory, extension stem	75.00 lf	**8**	**598**	**375**	-		-	-	12.98 /lf	**973**	28.37 /lf	**2,128**
						Valve accessory, stem couplings	15.00 set	**5**	**395**	**300**	-		-	-	46.33 /set	**695**	101.42 /set	**1,521**
						CI Valve Box & Cover, w/ Concrete Collar included	15.00 ea	**45**	**3,632**	**2,250**	-	**45**	**2,049**	-	528.73 /ea	**7,931**	1,161.64 /ea	**17,425**
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	15.00 EA	**156**	**12,614**	**60,345**		**144**	**6,558**		5,301.17 /EA	**79,518**	11,761.88 /EA	**176,428**
						33.20.03.0003 20" Butterfly Valves	15.00 EA	**156**	**12,614**	**60,345**		**144**	**6,558**		5,301.17 /EA	**79,518**	11,761.88 /EA	**176,428**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	**156**	**12,614**	**60,345**		**144**	**6,558**		**79,517.60 /LS**	**79,518**	**176,428.24 /LS**	**176,428**
						33.0 Utilities	***1.00*** LS	**156**	**12,614**	**60,345**		**144**	**6,558**		79,517.60 /LS	**79,518**	176,428.24 /LS	**176,428**
						03.0 20" Butterfly Valves	15.00 EA	**156**	**12,614**	**60,345**		**144**	**6,558**		5,301.17 /EA	**79,518**	11,761.88 /EA	**176,428**
	04.0					8" Blow Off Assembly												
		33.0				Utilities												
			33.05			**Buried Process Pipe, PVC/CPVC**												
				33.20.01.0004		8" Blow Off Assembly												
					33.20.01.08	Buried Valves, Gate Valves, 8"												
						8" pipe, DI, MJ, excav/bkfill included	150.00 LF	**72**	**5,810**	**7,832**	-	**72**	**3,279**	-	112.81 /LF	**16,921**	248.78 /LF	**37,317**
						8" DI, MJ, Ell, 90	6.00 ea	**18**	**1,453**	**2,063**	-	**18**	**820**	-	722.48 /ea	**4,335**	1,593.75 /ea	**9,562**
						8" DI, MJ, Ell, 45	6.00 ea	**18**	**1,453**	**1,762**	-	**18**	**820**	-	672.43 /ea	**4,035**	1,482.13 /ea	**8,893**
						8" DI, RJ, cap or plug	6.00 ea	**9**	**726**	**937**	-	**9**	**410**	-	345.52 /ea	**2,073**	761.81 /ea	**4,571**
						20" DI, MJ, red. tee, 20" x 8"	6.00 ea	**59**	**4,794**	**17,315**	-	**59**	**2,705**	-	4,135.58 /ea	**24,814**	9,165.39 /ea	**54,992**
						Install gate valve, Flgd, DIP, 8"	6.00 ea	**20**	**1,598**	-	-	**20**	**902**	-	416.61 /ea	**2,500**	909.82 /ea	**5,459**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	6.00 EA		-	**3,714**	-		-	-	619.00 /EA	**3,714**	1,380.51 /EA	**8,283**
						Valve accessory, extension stem	42.00 lf	**4**	**335**	**210**	-		-	-	12.98 /lf	**545**	28.37 /lf	**1,192**
						Valve accessory, stem couplings	6.00 set	**2**	**158**	**120**	-		-	-	46.33 /set	**278**	101.43 /set	**609**
						CI Valve Box & Cover, w/ Concrete Collar included	6.00 ea	**18**	**1,453**	**900**	-	**18**	**820**	-	528.73 /ea	**3,172**	1,161.64 /ea	**6,970**
						Meter Box	6.00 ea	**24**	**1,400**	**1,500**	-		-	-	483.29 /ea	**2,900**	1,060.94 /ea	**6,366**
						33.20.01.08 Buried Valves, Gate Valves, 8"	6.00 EA	**244**	**19,179**	**36,352**		**214**	**9,755**		10,881.00 /EA	**65,286**	24,035.43 /EA	**144,213**
						33.20.01.0004 8" Blow Off Assembly	6.00 EA	**244**	**19,179**	**36,352**		**214**	**9,755**		10,881.00 /EA	**65,286**	24,035.43 /EA	**144,213**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	**244**	**19,179**	**36,352**		**214**	**9,755**		**65,286.02 /LS**	**65,286**	**144,212.57 /LS**	**144,213**
						33.0 Utilities	***1.00*** LS	**244**	**19,179**	**36,352**		**214**	**9,755**		65,286.02 /LS	**65,286**	144,212.57 /LS	**144,213**
						04.0 8" Blow Off Assembly	6.00 EA	**244**	**19,179**	**36,352**		**214**	**9,755**		10,881.00 /EA	**65,286**	24,035.43 /EA	**144,213**
	05.0					2" CARV Assembly												
		33.0				Utilities												

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Hours	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
			33.05			Buried Process Pipe, PVC/CPVC												
				33.20.08.0005		2" CARV Assembly												
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"												
						Division 03 Allowance Can and Concrete Base	6.00 EA		-	-	9,000		-		1,500.00 /EA	9,000	3,236.60 /EA	19,420
						2" Corporation stop, thrd	6.00 ea	7	564		-	7	273	-	139.45 /ea	837	304.19 /ea	1,825
						Ball valve, bronze, screwed, 2"	6.00 ea	2	192	384	-		-	-	95.92 /ea	576	211.61 /ea	1,270
						2" copper pipe, K-soft	150.00 LF	11	838	1,587	-		-	-	16.17 /LF	2,425	35.65 /LF	5,348
						2" copper, ELL, 90	12.00 ea	8	622	154	-		-	-	64.71 /ea	776	140.55 /ea	1,687
						Install Air & Vacuum relief valve, 2"	6.00 ea	14	1,149	-	-		-	-	191.51 /ea	1,149	413.23 /ea	2,479
						FURNISH Air & Vacuum relief valve, iron body, 2"	6.00 ea		-	2,250	-		-	-	375.00 /ea	2,250	836.34 /ea	5,018
						Double Strap Saddle, 20" x 2"	6.00 ea	24	1,915	1,500	-		-	-	569.18 /ea	3,415	1,246.27 /ea	7,478
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	6.00 EA	66	5,280	5,875	9,000	7	273		3,404.67 /EA	20,428	7,420.66 /EA	44,524
						33.20.08.0005 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	7	273		3,404.67 /EA	20,428	7,420.66 /EA	44,524
						33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	66	5,280	5,875	9,000	7	273		20,428.03 /LS	20,428	44,523.93 /LS	44,524
						33.0 Utilities	*1.00* LS	66	5,280	5,875	9,000	7	273		20,428.03 /LS	20,428	44,523.93 /LS	44,524
						05.0 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	7	273		3,404.67 /EA	20,428	7,420.66 /EA	44,524
	06.0					Repair Concrete Cross Walks												
		03.0				Concrete Work												
			03.10			Cast-In-Place Concrete Work												
				03.10.05.0006		Repair Concrete Cross Walks												
					03.10.05.12	Cast-In-Place Concrete, Slabs on Grade, 12" thick												
						Fine grade, for slab on grade, by hand	600.00 SF	4	229	18	-		-	-	0.41 /SF	247	0.93 /SF	559
						Fill, gravel subbase, under building slab on grade	14.82 cy	7	404	415	-		-	-	55.27 /cy	819	126.82 /cy	1,879
						Fill, sand subbase, under building slab on grade	3.70 cy	3	152	67	-		-	-	59.06 /cy	219	134.64 /cy	499
						Concrete pumping, subcontract, all inclusive price	22.22 cy		-	-	333		-	-	15.00 /cy	333	33.87 /cy	753
						Slab on grade edge forms, 7" to 12"	180.00 sf	32	2,181	180	-		-	-	13.12 /sf	2,361	29.69 /sf	5,344
						Speed Dowels, #5	90.00 ea		-	1,260	-		-	-	14.00 /ea	1,260	32.62 /ea	2,936
						Reinforcing in place, A615 Gr 60, priced per lbs.	4,444.44 lb		-	2,222	1,778		-	-	0.90 /lb	4,000	2.07 /lb	9,192
						Concrete, ready mix, 4500 psi	22.22 CY		-	2,933	-		-	-	132.00 /CY	2,933	307.59 /CY	6,835
						Add for concrete waste, 4500 psi	1.11 cy		-	147	-		-	-	132.00 /cy	147	307.58 /cy	342
						Add amount for Fuel Surcharges - per concrete truck load	3.00 load		-	60	-		-	-	20.00 /load	60	46.60 /load	140
						Add amount for Environmental Fee - per concrete truck load	3.00 load		-	24	-		-	-	8.00 /load	24	18.64 /load	56
						Placing concrete, concrete pump	22.22 cy	17	909	-	-		-	-	40.91 /cy	909	92.36 /cy	2,052
						Finishing floors, monolithic, broom finish	600.00 sf	18	1,153	12	-		-	-	1.94 /sf	1,165	4.39 /sf	2,631
						Curing, membrane spray	600.00 sf	1	65	24	-		-	-	0.15 /sf	89	0.34 /sf	204
						Polyethelene vapor barrier, 10 mil thick	6.00 sq	1	86	64	-		-	-	24.88 /sq	149	56.94 /sq	342
						03.10.05.12 Cast-In-Place Concrete, Slabs on Grade, 12" thick	22.22 CY	84	5,179	7,426	2,111				662.21 /CY	14,716	1,519.33 /CY	33,762
						03.10.05.0006 Repair Concrete Cross Walks	22.22 CY	84	5,179	7,426	2,111				662.21 /CY	14,716	1,519.33 /CY	33,762
						03.10 Cast-In-Place Concrete Work	22.22 CY	84	5,179	7,426	2,111				662.21 /CY	14,716	1,519.33 /CY	33,762
						03.0 Concrete Work	22.22 CY	84	5,179	7,426	2,111				662.21 /CY	14,716	1,519.33 /CY	33,762
						06.0 Repair Concrete Cross Walks	600.00 SF	84	5,179	7,426	2,111				24.53 /SF	14,716	56.27 /SF	33,762
	07.0					Asphalt Trench Repair												
		32.0				Exterior Improvements												
			32.12			Paving												
				02.01.01.0007		Demo Asphalt												
					02.01.01.01	General Site Demolition, Asphalt Pavement												
						Saw Cutting, Ashpalt, 6" Depth	30,420.00 lf	468		-	60,840		-	-	2.00 /lf	60,840	4.52 /lf	137,360
						Asphalt Milling, 6" Depth	10,140.00 Sy	101		-	25,350		-	-	2.50 /Sy	25,350	5.64 /Sy	57,234
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,690.00 cy	174	11,843	-	-	174	16,679	-	16.88 /cy	28,522	38.82 /cy	65,605
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,690.00 cy		-	21,125	-		-	-	12.50 /cy	21,125	29.13 /cy	49,226
						02.01.01.01 General Site Demolition, Asphalt Pavement	10,140.00 Sy	743	11,843	21,125	86,190	174	16,679		13.40 /Sy	135,837	30.52 /Sy	309,425
						02.01.01.0007 Demo Asphalt	10,140.00 Sy	743	11,843	21,125	86,190	174	16,679		13.40 /Sy	135,837	30.52 /Sy	309,425
				32.40.02.0008		Trench Paving												
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt												
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	10,140.00 SY	32	2,328	8,416	-	32	1,739	-	1.23 /SY	12,483	2.85 /SY	28,920
						Fog seal, sealcoating, prepare and clean surface for sealcoating	10,140.00 sy	28	1,722	-	-	9	403	-	0.21 /sy	2,125	0.48 /sy	4,827
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	10,140.00 sy	77	5,494	116,103	-	58	5,934	-	12.58 /sy	127,531	29.27 /sy	296,780
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	10,140.00 sy	5,162	344,663	243,360	-	737	31,969	-	61.14 /sy	619,992	140.01 /sy	1,419,738
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	15,210.00 LF	43	2,612	10,343	-	43	1,734	-	0.97 /LF	14,689	2.24 /LF	34,039
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	10,140.00 SY	5,344	356,820	378,222		881	41,779		76.61 /SY	776,820	175.97 /SY	1,784,303
						32.40.02.0008 Trench Paving	10,140.00 SY	5,344	356,820	378,222		881	41,779		76.61 /SY	776,820	175.97 /SY	1,784,303
						32.12 Paving	10,140.00 SY	6,087	368,663	399,347	86,190	1,055	58,458		90.01 /SY	912,658	206.48 /SY	2,093,728
						32.0 Exterior Improvements	10,140.00 SY	6,087	368,663	399,347	86,190	1,055	58,458		90.01 /SY	912,658	206.48 /SY	2,093,728
						07.0 Asphalt Trench Repair	15,210.00 LF	6,087	368,663	399,347	86,190	1,055	58,458		60.00 /LF	912,658	137.65 /LF	2,093,728
	08.0					Traffic Control Allowance												
		33.0				Utilities												
			33.89			Pipeline - Traffic Control												
				33.00.01.0009		Traffic Control Allowance												
					33.00.01.40	Buried Pipe, Traffic Control												
						Division 33 Allowance Traffic Control	15,210.00 LF		-	-	380,250		-		25.00 /LF	380,250	53.94 /LF	820,478
						33.00.01.40 Buried Pipe, Traffic Control	15,210.00 LF				380,250				25.00 /LF	380,250	53.94 /LF	820,478
						33.00.01.0009 Traffic Control Allowance	15,210.00 LF				380,250				25.00 /LF	380,250	53.94 /LF	820,478
						33.89 Pipeline - Traffic Control	15,210.00 LF				380,250				25.00 /LF	380,250	53.94 /LF	820,478
						33.0 Utilities	*1.00* LS				380,250				380,250.00 /LS	380,250	820,477.92 /LS	820,478
						08.0 Traffic Control Allowance	15,210.00 LF				380,250				25.00 /LF	380,250	53.94 /LF	820,478
	09.0					Traffic Loop Replacement Allowance												
		26.0				Electrical Work												
			26.10			Site Electrical												
				26.00.99.0005		Replace Traffic Loops 3 Intersections												
					26.00.99.00	Electrical, Other												
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	3.00 EA		-	-	45,000		-		15,000.00 /EA	45,000	33,865.99 /EA	101,598
						26.00.99.00 Electrical, Other	3.00 EA				45,000				15,000.00 /EA	45,000	33,865.99 /EA	101,598
						26.00.99.0005 Replace Traffic Loops 3 Intersections	3.00 EA				45,000				15,000.00 /EA	45,000	33,865.99 /EA	101,598
						26.10 Site Electrical	*1.00* LS				45,000				45,000.00 /LS	45,000	101,597.97 /LS	101,598
						26.0 Electrical Work	*1.00* LS				45,000				45,000.00 /LS	45,000	101,597.97 /LS	101,598
						09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000				15,000.00 /EA	45,000	33,865.99 /EA	101,598

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Hours	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						01.0 Las Vergenes Source Water Blue Line	***1.00*** **LS**	17,490	1,175,551	1,763,085	815,531	10,781	529,286	253,530	**4,536,982.18 /LS**	4,536,982	**10,023,113.17 /LS**	10,023,113

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,175,551		17,490.396 hrs		77.288	11.73%	
Material	1,763,085				115.916	17.59%	
Subcontract	815,531				53.618	8.14%	
Equipment	529,286		10,780.551 hrs		34.799	5.28%	
Other	253,530				16.669	2.53%	
Subtotal Raw Costs	**4,536,983**	**4,536,983**			**298.289**	**45.27%**	**45.27%**
Material Sales & Use Tax - %	127,824			7.250 %	8.404	1.28%	
Construction Equip Tax - %	38,373			7.250 %	2.523	0.38%	
Total Taxes	**166,197**	**4,703,180**			**309.216**	**1.66%**	**46.92%**
Location Adj. Factor	505,447			11.800 %	33.231	5.04%	
Productivity Adjustment							
Subtotal Adj. Factors	**505,447**	**5,208,627**			**342.448**	**5.04%**	**51.97%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.242	0.04%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.740	0.11%	
Site/Civil I,OH&P	228,164			25.000 %	15.001	2.28%	
Buried Piping I,OH&P	534,691			15.000 %	35.154	5.33%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**777,784**	**5,986,411**			**393.584**	**7.76%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**5,986,411**			**393.584**		**59.73%**
Total Cost To Prime Contractor		**5,986,411**			**393.584**		**59.73%**
General Conditions	598,641			10.000 %	39.358	5.97%	
Mobilization/Demobilization	239,456			4.000 %	15.743	2.39%	
Subtotal Indirect Costs	**838,097**	**6,824,508**			**448.686**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	682,451			10.000 %	44.869	6.81%	
Prime Contractor Profit	341,225			5.000 %	22.434	3.40%	
Bonds & Insurance	170,306			2.170 %	11.197	1.70%	
Subtotal OH&P	**1,193,982**	**8,018,490**			**527.185**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**8,018,490**			**527.185**		**80.00%**
Design Contingency	2,004,623			25.000 %	131.796	20.00%	
Subtotal Contingency	**2,004,623**	**10,023,113**			**658.982**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**10,023,113**			**658.982**		**100.00%**
Total Prime Contractor Costs		**10,023,113**			**658.982**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**10,023,113**			**658.982**		**100.00%**
Total Contractor Costs w/ OFCI		**10,023,113**			**658.982**		**100.00%**
Total Construction Cost		**10,023,113**			**658.982**		**100.00%**
Total		***10,023,113***			***658.982***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Hours	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Source Water Blue Line**												
	01.0				20" C-900 PVC Water Main												
		33.0			Utilities												
			33.05		Buried Process Pipe, PVC/CPVC												
				33.00.07.0001	20" C-900 PVC Water Main	15,210.00 LF	10,428	754,613	1,248,243	253,530	9,237	448,585	253,530	194.51 /LF	2,958,501	425.82 /LF	6,476,758
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	10,428	754,613	1,248,243	253,530	9,237	448,585	253,530	**2,958,501.03 /LS**	2,958,501	**6,476,758.36 /LS**	6,476,758
					33.0 Utilities	***1.00*** LS	10,428	754,613	1,248,243	253,530	9,237	448,585	253,530	2,958,501.03 /LS	2,958,501	6,476,758.36 /LS	6,476,758
					01.0 20" C-900 PVC Water Main	15,210.00 LF	10,428	754,613	1,248,243	253,530	9,237	448,585	253,530	194.51 /LF	2,958,501	425.82 /LF	6,476,758
	02.0				36" Bore and Casing with 20" Carrier Pipe												
		33.0			Utilities												
			33.05		Buried Process Pipe, PVC/CPVC												
				33.60.02.0002	36" Bore with 20" Carrier	75.00 LF	424	10,023	5,497	39,450	124	5,657		808.35 /LF	60,626	1,754.98 /LF	131,623
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	424	10,023	5,497	39,450	124	5,657		**60,625.98 /LS**	60,626	**131,623.27 /LS**	131,623
					33.0 Utilities	***1.00*** LS	424	10,023	5,497	39,450	124	5,657		60,625.98 /LS	60,626	131,623.27 /LS	131,623
					02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	424	10,023	5,497	39,450	124	5,657		808.35 /LF	60,626	1,754.98 /LF	131,623
	03.0				20" Butterfly Valves												
		33.0			Utilities												
			33.05		Buried Process Pipe, PVC/CPVC												
				33.20.03.0003	20" Butterfly Valves	15.00 EA	156	12,614	60,345		144	6,558		5,301.17 /EA	79,518	11,761.88 /EA	176,428
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	156	12,614	60,345		144	6,558		**79,517.60 /LS**	79,518	**176,428.24 /LS**	176,428
					33.0 Utilities	***1.00*** LS	156	12,614	60,345		144	6,558		79,517.60 /LS	79,518	176,428.24 /LS	176,428
					03.0 20" Butterfly Valves	15.00 EA	156	12,614	60,345		144	6,558		5,301.17 /EA	79,518	11,761.88 /EA	176,428
	04.0				8" Blow Off Assembly												
		33.0			Utilities												
			33.05		Buried Process Pipe, PVC/CPVC												
				33.20.01.0004	8" Blow Off Assembly	6.00 EA	244	19,179	36,352		214	9,755		10,881.00 /EA	65,286	24,035.43 /EA	144,213
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	244	19,179	36,352		214	9,755		**65,286.02 /LS**	65,286	**144,212.57 /LS**	144,213
					33.0 Utilities	***1.00*** LS	244	19,179	36,352		214	9,755		65,286.02 /LS	65,286	144,212.57 /LS	144,213
					04.0 8" Blow Off Assembly	6.00 EA	244	19,179	36,352		214	9,755		10,881.00 /EA	65,286	24,035.43 /EA	144,213
	05.0				2" CARV Assembly												
		33.0			Utilities												
			33.05		Buried Process Pipe, PVC/CPVC												
				33.20.08.0005	2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	7	273		3,404.67 /EA	20,428	7,420.66 /EA	44,524
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	66	5,280	5,875	9,000	7	273		**20,428.03 /LS**	20,428	**44,523.93 /LS**	44,524
					33.0 Utilities	***1.00*** LS	66	5,280	5,875	9,000	7	273		20,428.03 /LS	20,428	44,523.93 /LS	44,524
					05.0 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	7	273		3,404.67 /EA	20,428	7,420.66 /EA	44,524
	06.0				Repair Concrete Cross Walks												
		03.0			Concrete Work												
			03.10		Cast-In-Place Concrete Work												
				03.10.05.0006	Repair Concrete Cross Walks	22.22 CY	84	5,179	7,426	2,111				662.21 /CY	14,716	1,519.33 /CY	33,762
					03.10 Cast-In-Place Concrete Work	**22.22 CY**	84	5,179	7,426	2,111				**662.21 /CY**	14,716	**1,519.33 /CY**	33,762
					03.0 Concrete Work	22.22 CY	84	5,179	7,426	2,111				662.21 /CY	14,716	1,519.33 /CY	33,762
					06.0 Repair Concrete Cross Walks	600.00 SF	84	5,179	7,426	2,111				24.53 /SF	14,716	56.27 /SF	33,762
	07.0				Asphalt Trench Repair												
		32.0			Exterior Improvements												
			32.12		Paving												
				02.01.01.0007	Demo Asphalt	10,140.00 Sy	743	11,843	21,125	86,190	174	16,679		13.40 /Sy	135,837	30.52 /Sy	309,425
				32.40.02.0008	Trench Paving	10,140.00 SY	5,344	356,820	378,222		881	41,779		76.61 /SY	776,820	175.97 /SY	1,784,303
					32.12 Paving	**10,140.00 SY**	6,087	368,663	399,347	86,190	1,055	58,458		**90.01 /SY**	912,658	**206.48 /SY**	2,093,728
					32.0 Exterior Improvements	10,140.00 SY	6,087	368,663	399,347	86,190	1,055	58,458		90.01 /SY	912,658	206.48 /SY	2,093,728
					07.0 Asphalt Trench Repair	15,210.00 LF	6,087	368,663	399,347	86,190	1,055	58,458		60.00 /LF	912,658	137.65 /LF	2,093,728
	08.0				Traffic Control Allowance												
		33.0			Utilities												
			33.89		Pipeline - Traffic Control												
				33.00.01.0009	Traffic Control Allowance	15,210.00 LF				380,250				25.00 /LF	380,250	53.94 /LF	820,478
					33.89 Pipeline - Traffic Control	**15,210.00 LF**				380,250				**25.00 /LF**	380,250	**53.94 /LF**	820,478
					33.0 Utilities	***1.00*** LS				380,250				380,250.00 /LS	380,250	820,477.92 /LS	820,478
					08.0 Traffic Control Allowance	15,210.00 LF				380,250				25.00 /LF	380,250	53.94 /LF	820,478
	09.0				Traffic Loop Replacement Allowance												
		26.0			Electrical Work												
			26.10		Site Electrical												
				26.00.99.0005	Replace Traffic Loops 3 Intersections	3.00 EA				45,000				15,000.00 /EA	45,000	33,865.99 /EA	101,598
					26.10 Site Electrical	***1.00*** **LS**				45,000				**45,000.00 /LS**	45,000	**101,597.97 /LS**	101,598
					26.0 Electrical Work	***1.00*** LS				45,000				45,000.00 /LS	45,000	101,597.97 /LS	101,598
					09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000				15,000.00 /EA	45,000	33,865.99 /EA	101,598
					01.0 Las Vergenes Source Water Blue Line	***1.00*** **LS**	17,490	1,175,551	1,763,085	815,531	10,781	529,286	253,530	**4,536,982.18 /LS**	4,536,982	**10,023,113.17 /LS**	10,023,113

BID FORM SUMMARY

Project type: Water
Job Size: 15,210 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,175,551		17,490.396 hrs		77.288	11.73%	
Material	1,763,085				115.916	17.59%	
Subcontract	815,531				53.618	8.14%	
Equipment	529,286		10,780.551 hrs		34.799	5.28%	
Other	253,530				16.669	2.53%	
Subtotal Raw Costs	**4,536,983**	**4,536,983**			**298.289**	**45.27%**	**45.27%**
Material Sales & Use Tax - %	127,824			7.250 %	8.404	1.28%	
Construction Equip Tax - %	38,373			7.250 %	2.523	0.38%	
Total Taxes	**166,197**	**4,703,180**			**309.216**	**1.66%**	**46.92%**
Location Adj. Factor	505,447			11.800 %	33.231	5.04%	
Productivity Adjustment							
Subtotal Adj. Factors	**505,447**	**5,208,627**			**342.448**	**5.04%**	**51.97%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.242	0.04%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.740	0.11%	
Site/Civil I,OH&P	228,164			25.000 %	15.001	2.28%	
Buried Piping I,OH&P	534,691			15.000 %	35.154	5.33%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**777,784**	**5,986,411**			**393.584**	**7.76%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**5,986,411**			**393.584**		**59.73%**
Total Cost To Prime Contractor		**5,986,411**			**393.584**		**59.73%**
General Conditions	598,641			10.000 %	39.358	5.97%	
Mobilization/Demobilization	239,456			4.000 %	15.743	2.39%	
Subtotal Indirect Costs	**838,097**	**6,824,508**			**448.686**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	682,451			10.000 %	44.869	6.81%	
Prime Contractor Profit	341,225			5.000 %	22.434	3.40%	
Bonds & Insurance	170,306			2.170 %	11.197	1.70%	
Subtotal OH&P	**1,193,982**	**8,018,490**			**527.185**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**8,018,490**			**527.185**		**80.00%**
Design Contingency	2,004,623			25.000 %	131.796	20.00%	
Subtotal Contingency	**2,004,623**	**10,023,113**			**658.982**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**10,023,113**			**658.982**		**100.00%**
Total Prime Contractor Costs		**10,023,113**			**658.982**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**10,023,113**			**658.982**		**100.00%**
Total Contractor Costs w/ OFCI		**10,023,113**			**658.982**		**100.00%**
Total Construction Cost		**10,023,113**			**658.982**		**100.00%**
Total		***10,023,113***			***658.982***		

Orange Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22 | Estimator: John DeWolf
Job Size: 15,360 Lf | Project Number: W9Y31200 | Rev/Date: 8/10/22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Source Water Orange Line***			
	01.0	**20" C-900 PVC Water Main**	**15,360.00 LF**	**514.80 /LF**	**7,907,387**
	02.0	**36" Bore and Casing with 20" Carrier Pipe**	**75.00 LF**	**1,753.48 /LF**	**131,511**
	03.0	**20" Butterfly Valves**	**15.00 EA**	**11,752.08 /EA**	**176,281**
	04.0	**8" Blow Off Assembly**	**6.00 EA**	**27,725.14 /EA**	**166,351**
	05.0	**2" CARV Assembly**	**6.00 EA**	**7,414.37 /EA**	**44,486**
	06.0	**Repair Concrete Cross Walks**	**600.00 SF**	**56.23 /SF**	**33,735**
	07.0	**Asphalt Trench Repair**	**15,360.00 LF**	**137.55 /LF**	**2,112,696**
	08.0	**Traffic Control Allowance**	**15,360.00 LF**	**53.90 /LF**	**827,860**
	09.0	**Traffic Loop Replacement Allowance**	**3.00 EA**	**33,838.27 /EA**	**101,515**
	01.0 Las Vergenes Source Water Orange Line		***1.00 LS***	***11,501,821.72 /LS***	***11,501,822***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,420,139		22,987.667 hrs		222.665	29.74%	
Material	4,055,171				264.009	35.26%	
Subcontract	1,786,891				116.334	15.54%	
Equipment	1,717,881		15,564.810 hrs		111.841	14.94%	
Other	521,739				33.967	4.54%	
Total Prime Contractor Costs	**11,501,821**	**11,501,821**			**748.816**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**11,501,821**			**748.816**		**100.00%**
Total		***11,501,821***			***748.816***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Source Water Orange Line**											
	01.0					20" C-900 PVC Water Main											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0001		20" C-900 PVC Water Main											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***131.00 lf***			-	-	-	-	/lf		/lf	
						Traffic Control, Labor per Day	117.00 day	1,872	109,179	-	-	-	-	933.15 /day	109,179	2,011.77 /day	235,377
						Trench Box, 8' x 24' x 10'	5.50 mo		-	-	-	12,650	-	2,300.00 /mo	12,650	5,125.29 /mo	28,189
						Dedicated Fire / Safety Monitor	524.00 hr	524	30,561	-	-	-	-	58.32 /hr	30,561	125.74 /hr	65,885
						Add for hydrotesting pipeline (labor & Equipment per day)	15,360.00 lf	184	14,936	-	-	1,335	-	1.06 /lf	16,271	2.29 /lf	35,175
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,501.27 CY	1,872	128,649	-	-	88,360	-	13.15 /CY	217,009	28.74 /CY	474,253
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	5,248.68 cy	3,276	215,011	-	-	147,164	-	69.00 /cy	362,175	150.80 /cy	791,476
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	10,568.36 cy	1,872	141,110	-	-	168,114	-	29.26 /cy	309,224	64.23 /cy	678,840
						Pipe zone material	5,248.68 cy		-	146,963	-	-	-	28.00 /cy	146,963	62.39 /cy	327,490
						Pipe bedding material	1,251.74 cy		-	35,049	-	-	-	28.00 /cy	35,049	62.39 /cy	78,102
						Imported backfill material	10,568.36 cy		-	126,820	-	-	-	12.00 /cy	126,820	26.74 /cy	282,604
						Haul spoils, offsite, 10 - 20 miles	17,068.00 cy		-	-	256,020	-	-	15.00 /cy	256,020	32.34 /cy	551,950
						Dump fees, trench spoils	17,068.00 cy		-	-	-	-	256,020	15.00 /cy	256,020	30.57 /cy	521,739
						20" DI, MJ, Ell, 90	10.00 ea	72	5,810	23,052	-	3,279	-	3,214.16 /ea	32,142	7,120.25 /ea	71,203
						20" DI, MJ, Ell, 45	2.00 ea	14	1,162	3,254	-	656	-	2,536.06 /ea	5,072	5,609.19 /ea	11,218
						20" DI, MJ, Ell, 22 1/2	10.00 ea	72	5,810	18,993	-	3,279	-	2,808.21 /ea	28,082	6,215.64 /ea	62,156
						20" DI, MJ, Ell, 11 1/4	9.00 ea	65	5,229	17,136	-	2,951	-	2,812.96 /ea	25,317	6,226.22 /ea	56,036
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	15,360.00 LF		-	900,403	-	-	-	58.62 /LF	900,403	130.63 /LF	2,006,444
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	15,360.00 lf	5,616	453,213	-	-	255,774	-	46.16 /lf	708,987	100.72 /lf	1,547,037
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,282.56 /ea	16,565
						Pipe Marking, ID Tape	15,360.00 lf	154	12,447	1,997	-	-	-	0.94 /lf	14,443	2.04 /lf	31,283
						Pipe Marking, Copper Wire	15,360.00 lf	154	12,447	3,379	-	-	-	1.03 /lf	15,826	2.24 /lf	34,364
						33.00.07.20 Buried Pipe, PVC, 20"	15,360.00 LF	15,795	1,139,437	1,278,546	256,020	685,749	256,020	235.40 /LF	3,615,772	514.80 /LF	7,907,387
						33.00.07.0001 20" C-900 PVC Water Main	15,360.00 LF	15,795	1,139,437	1,278,546	256,020	685,749	256,020	235.40 /LF	3,615,772	514.80 /LF	7,907,387
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	15,795	1,139,437	1,278,546	256,020	685,749	256,020	**3,615,771.85 /LS**	3,615,772	**7,907,387.06 /LS**	7,907,387
						33.0 Utilities	***1.00*** LS	15,795	1,139,437	1,278,546	256,020	685,749	256,020	3,615,771.85 /LS	3,615,772	7,907,387.06 /LS	7,907,387
						01.0 20" C-900 PVC Water Main	15,360.00 LF	15,795	1,139,437	1,278,546	256,020	685,749	256,020	235.40 /LF	3,615,772	514.80 /LF	7,907,387
	02.0					36" Bore and Casing with 20" Carrier Pipe											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,222.51 /ea	13,223
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,611.27 /ea	6,611
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,611.25 /ea	6,611
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,305.61 /ea	3,306
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	75.00 LF	300	-	-	39,450	-	-	526.00 /LF	39,450	1,134.00 /LF	85,050
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	222.84 /ea	891
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	779.94 /ea	1,560
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	75.00 lf		-	4,397	-	-	-	58.62 /lf	4,397	130.63 /lf	9,797
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	75.00 lf	16	1,307	-	-	738	-	27.27 /lf	2,045	59.50 /lf	4,463
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	75.00 LF	424	10,023	5,497	39,450	5,657		808.35 /LF	60,626	1,753.48 /LF	131,511
						33.60.02.0002 36" Bore with 20" Carrier	75.00 LF	424	10,023	5,497	39,450	5,657		808.35 /LF	60,626	1,753.48 /LF	131,511
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	424	10,023	5,497	39,450	5,657		**60,625.98 /LS**	60,626	**131,511.18 /LS**	131,511
						33.0 Utilities	***1.00*** LS	424	10,023	5,497	39,450	5,657		60,625.98 /LS	60,626	131,511.18 /LS	131,511
						02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	424	10,023	5,497	39,450	5,657		808.35 /LF	60,626	1,753.48 /LF	131,511
	03.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	15.00 ea	99	7,989	-	-	4,509	-	833.21 /ea	12,498	1,818.10 /ea	27,271
						Butterfly valve, iron body, MJ , NO, 250#, 20"	15.00 EA		-	57,420	-	-	-	3,828.00 /EA	57,420	8,530.26 /EA	127,954
						Valve accessory, extension stem	75.00 lf	8	598	375	-	-	-	12.98 /lf	973	28.34 /lf	2,126
						Valve accessory, stem couplings	15.00 set	5	395	300	-	-	-	46.33 /set	695	101.34 /set	1,520
						CI Valve Box & Cover, w/ Concrete Collar included	15.00 ea	45	3,632	2,250	-	2,049	-	528.73 /ea	7,931	1,160.67 /ea	17,410
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,752.08 /EA	176,281
						33.20.03.0003 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,752.08 /EA	176,281
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	156	12,614	60,345		6,558		**79,517.60 /LS**	79,518	**176,281.24 /LS**	176,281
						33.0 Utilities	***1.00*** LS	156	12,614	60,345		6,558		79,517.60 /LS	79,518	176,281.24 /LS	176,281
						03.0 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,752.08 /EA	176,281
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	150.00 LF	72	5,810	7,832	-	3,279	-	112.81 /LF	16,921	248.57 /LF	37,285
						8" DI, MJ, Ell, 90	6.00 ea	18	1,453	2,063	-	820	-	722.48 /ea	4,335	1,592.42 /ea	9,554
						8" DI, MJ, Ell, 45	6.00 ea	18	1,453	1,762	-	820	-	672.43 /ea	4,035	1,480.88 /ea	8,885
						8" DI, RJ, cap or plug	6.00 ea	9	726	937	-	410	-	345.52 /ea	2,073	761.17 /ea	4,567
						20" DI, MJ, red. tee, 20" x 8"	6.00 ea	59	4,794	17,315	-	2,705	-	4,135.58 /ea	24,814	9,157.75 /ea	54,946
						Install gate valve, Flgd, DIP, 8"	6.00 ea	20	1,598	-	-	902	-	416.61 /ea	2,500	909.05 /ea	5,454
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	6.00 EA		-	3,714	-	-	-	619.00 /EA	3,714	1,379.37 /EA	8,276
						Valve accessory, extension stem	90.00 lf	9	718	450	-	-	-	12.98 /lf	1,168	28.34 /lf	2,551
						Valve accessory, stem couplings	15.00 set	5	395	300	-	-	-	46.33 /set	695	101.34 /set	1,520
						CI Valve Box & Cover, w/ Concrete Collar included	15.00 ea	45	3,632	2,250	-	2,049	-	528.73 /ea	7,931	1,160.67 /ea	17,410
						Meter Box	15.00 ea	60	3,499	3,750	-	-	-	483.29 /ea	7,249	1,060.04 /ea	15,901
						33.20.01.08 Buried Valves, Gate Valves, 8"	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,725.14 /EA	166,351
						33.20.01.0004 8" Blow Off Assembly	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,725.14 /EA	166,351
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	315	24,077	40,372		10,985		**75,434.21 /LS**	75,434	**166,350.82 /LS**	166,351
						33.0 Utilities	***1.00*** LS	315	24,077	40,372		10,985		75,434.21 /LS	75,434	166,350.82 /LS	166,351

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						04.0 8" Blow Off Assembly	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,725.14 /EA	166,351
	05.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	6.00 EA		-	-	9,000	-		1,500.00 /EA	9,000	3,233.83 /EA	19,403
						2" Corporation stop, thrd	6.00 ea	7	564		-	273	-	139.45 /ea	837	303.94 /ea	1,824
						Ball valve, bronze, screwed, 2"	6.00 ea	2	192	384	-	-	-	95.92 /ea	576	211.43 /ea	1,269
						2" copper pipe, K-soft	150.00 LF	11	838	1,587	-	-	-	16.17 /LF	2,425	35.62 /LF	5,343
						2" copper, ELL, 90	12.00 ea	8	622	154	-	-	-	64.71 /ea	776	140.43 /ea	1,685
						Install Air & Vacuum relief valve, 2"	6.00 ea	14	1,149	-	-	-	-	191.51 /ea	1,149	412.87 /ea	2,477
						FURNISH Air & Vacuum relief valve, iron body, 2"	6.00 ea		-	2,250	-	-	-	375.00 /ea	2,250	835.64 /ea	5,014
						Double Strap Saddle, 20" x 2"	6.00 ea	24	1,915	1,500	-	-	-	569.18 /ea	3,415	1,245.22 /ea	7,471
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,414.37 /EA	44,486
						33.20.08.0005 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,414.37 /EA	44,486
						33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	66	5,280	5,875	9,000	273		20,428.03 /LS	20,428	44,486.19 /LS	44,486
						33.0 Utilities	*1.00* LS	66	5,280	5,875	9,000	273		20,428.03 /LS	20,428	44,486.19 /LS	44,486
						05.0 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,414.37 /EA	44,486
	06.0					Repair Concrete Cross Walks											
		03.0				Concrete Work											
			03.10			Cast-In-Place Concrete Work											
				03.10.05.0006		Repair Concrete Cross Walks											
					03.10.05.12	Cast-In-Place Concrete, Slabs on Grade, 12" thick											
						Fine grade, for slab on grade, by hand	600.00 SF	4	229	18	-	-	-	0.41 /SF	247	0.93 /SF	559
						Fill, gravel subbase, under building slab on grade	14.82 cy	7	404	415	-	-	-	55.27 /cy	819	126.71 /cy	1,877
						Fill, sand subbase, under building slab on grade	3.70 cy	3	152	67	-	-	-	59.06 /cy	219	134.53 /cy	498
						Concrete pumping, subcontract, all inclusive price	22.22 cy		-	-	333	-	-	15.00 /cy	333	33.84 /cy	752
						Slab on grade edge forms, 7" to 12"	180.00 sf	32	2,181	180	-	-	-	13.12 /sf	2,361	29.66 /sf	5,339
						Speed Dowels, #5	90.00 ea		-	1,260	-	-	-	14.00 /ea	1,260	32.60 /ea	2,934
						Reinforcing in place, A615 Gr 60, priced per lbs.	4,444.44 lb		-	2,222	1,778	-	-	0.90 /lb	4,000	2.07 /lb	9,185
						Concrete, ready mix, 4500 psi	22.22 CY		-	2,933	-	-	-	132.00 /CY	2,933	307.35 /CY	6,830
						Add for concrete waste, 4500 psi	1.11 cy		-	147	-	-	-	132.00 /cy	147	307.33 /cy	341
						Add amount for Fuel Surcharges - per concrete truck load	3.00 load		-	60	-	-	-	20.00 /load	60	46.57 /load	140
						Add amount for Environmental Fee - per concrete truck load	3.00 load		-	24	-	-	-	8.00 /load	24	18.63 /load	56
						Placing concrete, concrete pump	22.22 cy	17	909	-	-	-	-	40.91 /cy	909	92.28 /cy	2,051
						Finishing floors, monolithic, broom finish	600.00 sf	18	1,153	12	-	-	-	1.94 /sf	1,165	4.38 /sf	2,629
						Curing, membrane spray	600.00 sf	1	65	24	-	-	-	0.15 /sf	89	0.34 /sf	204
						Polyethelene vapor barrier, 10 mil thick	6.00 sq	1	86	64	-	-	-	24.88 /sq	149	56.90 /sq	341
						03.10.05.12 Cast-In-Place Concrete, Slabs on Grade, 12" thick	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,518.10 /CY	33,735
						03.10.05.0006 Repair Concrete Cross Walks	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,518.10 /CY	33,735
						03.10 Cast-In-Place Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,518.10 /CY	33,735
						03.0 Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,518.10 /CY	33,735
						06.0 Repair Concrete Cross Walks	600.00 SF	84	5,179	7,426	2,111			24.53 /SF	14,716	56.23 /SF	33,735
	07.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	30,720.00 lf	473		-	61,440	-	-	2.00 /lf	61,440	4.51 /lf	138,602
						Asphalt Milling, 6" Depth	10,240.00 Sy	102		-	25,600	-	-	2.50 /Sy	25,600	5.64 /Sy	57,751
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,707.00 cy	176	11,962	-	-	16,847	-	16.88 /cy	28,809	38.79 /cy	66,212
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,707.00 cy		-	21,338	-	-	-	12.50 /cy	21,338	29.10 /cy	49,682
						02.01.01.01 General Site Demolition, Asphalt Pavement	10,240.00 Sy	751	11,962	21,338	87,040	16,847		13.40 /Sy	137,187	30.49 /Sy	312,246
						02.01.01.0007 Demo Asphalt	10,240.00 Sy	751	11,962	21,338	87,040	16,847		13.40 /Sy	137,187	30.49 /Sy	312,246
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	10,240.00 SY	33	2,351	8,499	-	1,756	-	1.23 /SY	12,606	2.85 /SY	29,181
						Fog seal, sealcoating, prepare and clean surface for sealcoating	10,240.00 sy	29	1,739	-	-	407	-	0.21 /sy	2,146	0.48 /sy	4,871
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	10,240.00 sy	78	5,548	117,248	-	5,993	-	12.58 /sy	128,789	29.24 /sy	299,468
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	10,240.00 sy	5,213	348,062	245,760	-	32,284	-	61.14 /sy	626,106	139.90 /sy	1,432,582
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	15,360.00 LF	44	2,638	10,445	-	1,751	-	0.97 /LF	14,834	2.24 /LF	34,348
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	10,240.00 SY	5,397	360,338	381,952		42,191		76.61 /SY	784,481	175.83 /SY	1,800,450
						32.40.02.0008 Trench Paving	10,240.00 SY	5,397	360,338	381,952		42,191		76.61 /SY	784,481	175.83 /SY	1,800,450
						32.12 Paving	10,240.00 SY	6,147	372,301	403,290	87,040	59,038		90.01 /SY	921,668	206.32 /SY	2,112,696
						32.0 Exterior Improvements	10,240.00 SY	6,147	372,301	403,290	87,040	59,038		90.01 /SY	921,668	206.32 /SY	2,112,696
						07.0 Asphalt Trench Repair	15,360.00 LF	6,147	372,301	403,290	87,040	59,038		60.00 /LF	921,668	137.55 /LF	2,112,696
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	15,360.00 LF		-	-	384,000	-		25.00 /LF	384,000	53.90 /LF	827,860
						33.00.01.40 Buried Pipe, Traffic Control	15,360.00 LF				384,000			25.00 /LF	384,000	53.90 /LF	827,860
						33.00.01.0009 Traffic Control Allowance	15,360.00 LF				384,000			25.00 /LF	384,000	53.90 /LF	827,860
						33.89 Pipeline - Traffic Control	15,360.00 LF				384,000			25.00 /LF	384,000	53.90 /LF	827,860
						33.0 Utilities	*1.00* LS				384,000			384,000.00 /LS	384,000	827,859.59 /LS	827,860
						08.0 Traffic Control Allowance	15,360.00 LF				384,000			25.00 /LF	384,000	53.90 /LF	827,860
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	3.00 EA		-	-	45,000	-		15,000.00 /EA	45,000	33,838.27 /EA	101,515

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						26.00.99.00 Electrical, Other	3.00 EA				45,000			15,000.00 /EA	45,000	33,838.27 /EA	101,515
						26.00.99.0005 Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,838.27 /EA	101,515
						26.10 Site Electrical	*1.00* LS				45,000			45,000.00 /LS	45,000	101,514.80 /LS	101,515
						26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,514.80 /LS	101,515
						09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,838.27 /EA	101,515
						01.0 Las Vergenes Source Water Orange Line	*1.00* LS	22,988	1,568,911	1,801,350	822,621	768,259	256,020	5,217,161.53 /LS	5,217,162	11,501,821.72 /LS	11,501,822

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,568,911		22,987.667 hrs		102.143	13.64%	
Material	1,801,350				117.275	15.66%	
Subcontract	822,621				53.556	7.15%	
Equipment	768,259		15,564.810 hrs		50.017	6.68%	
Other	256,020				16.668	2.23%	
Subtotal Raw Costs	**5,217,161**	**5,217,161**			**339.659**	**45.36%**	**45.36%**
Material Sales & Use Tax - %	130,598			7.250 %	8.502	1.14%	
Construction Equip Tax - %	55,699			7.250 %	3.626	0.48%	
Total Taxes	**186,297**	**5,403,458**			**351.788**	**1.62%**	**46.98%**
Location Adj. Factor	585,415			11.800 %	38.113	5.09%	
Productivity Adjustment							
Subtotal Adj. Factors	**585,415**	**5,988,873**			**389.901**	**5.09%**	**52.07%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.240	0.03%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.732	0.10%	
Site/Civil I,OH&P	230,417			25.000 %	15.001	2.00%	
Buried Piping I,OH&P	635,367			15.000 %	41.365	5.52%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**880,713**	**6,869,586**			**447.239**	**7.66%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**6,869,586**			**447.239**		**59.73%**
Total Cost To Prime Contractor		**6,869,586**			**447.239**		**59.73%**
General Conditions	686,959			10.000 %	44.724	5.97%	
Mobilization/Demobilization	274,783			4.000 %	17.890	2.39%	
Subtotal Indirect Costs	**961,742**	**7,831,328**			**509.852**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	783,133			10.000 %	50.985	6.81%	
Prime Contractor Profit	391,566			5.000 %	25.493	3.40%	
Bonds & Insurance	195,431			2.170 %	12.723	1.70%	
Subtotal OH&P	**1,370,130**	**9,201,458**			**599.053**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**9,201,458**			**599.053**		**80.00%**
Design Contingency	2,300,364			25.000 %	149.763	20.00%	
Subtotal Contingency	**2,300,364**	**11,501,822**			**748.817**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**11,501,822**			**748.817**		**100.00%**
Total Prime Contractor Costs		**11,501,822**			**748.817**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**11,501,822**			**748.817**		**100.00%**
Total Contractor Costs w/ OFCI		**11,501,822**			**748.817**		**100.00%**
Total Construction Cost		**11,501,822**			**748.817**		**100.00%**
Total		***11,501,822***			***748.817***		

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Source Water Orange Line**											
	01.0				20" C-900 PVC Water Main											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0001	20" C-900 PVC Water Main	15,360.00 LF	15,795	1,139,437	1,278,546	256,020	685,749	256,020	235.40 /LF	3,615,772	514.80 /LF	7,907,387
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* **LS**	15,795	1,139,437	1,278,546	256,020	685,749	256,020	**3,615,771.85 /LS**	3,615,772	**7,907,387.06 /LS**	7,907,387
					33.0 Utilities	*1.00* LS	15,795	1,139,437	1,278,546	256,020	685,749	256,020	3,615,771.85 /LS	3,615,772	7,907,387.06 /LS	7,907,387
					01.0 20" C-900 PVC Water Main	15,360.00 LF	15,795	1,139,437	1,278,546	256,020	685,749	256,020	235.40 /LF	3,615,772	514.80 /LF	7,907,387
	02.0				36" Bore and Casing with 20" Carrier Pipe											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	75.00 LF	424	10,023	5,497	39,450	5,657		808.35 /LF	60,626	1,753.48 /LF	131,511
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* **LS**	424	10,023	5,497	39,450	5,657		**60,625.98 /LS**	60,626	**131,511.18 /LS**	131,511
					33.0 Utilities	*1.00* LS	424	10,023	5,497	39,450	5,657		60,625.98 /LS	60,626	131,511.18 /LS	131,511
					02.0 36" Bore and Casing with 20" Carrier Pipe	75.00 LF	424	10,023	5,497	39,450	5,657		808.35 /LF	60,626	1,753.48 /LF	131,511
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,752.08 /EA	176,281
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* **LS**	156	12,614	60,345		6,558		**79,517.60 /LS**	79,518	**176,281.24 /LS**	176,281
					33.0 Utilities	*1.00* LS	156	12,614	60,345		6,558		79,517.60 /LS	79,518	176,281.24 /LS	176,281
					03.0 20" Butterfly Valves	15.00 EA	156	12,614	60,345		6,558		5,301.17 /EA	79,518	11,752.08 /EA	176,281
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,725.14 /EA	166,351
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* **LS**	315	24,077	40,372		10,985		**75,434.21 /LS**	75,434	**166,350.82 /LS**	166,351
					33.0 Utilities	*1.00* LS	315	24,077	40,372		10,985		75,434.21 /LS	75,434	166,350.82 /LS	166,351
					04.0 8" Blow Off Assembly	6.00 EA	315	24,077	40,372		10,985		12,572.37 /EA	75,434	27,725.14 /EA	166,351
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,414.37 /EA	44,486
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* **LS**	66	5,280	5,875	9,000	273		**20,428.03 /LS**	20,428	**44,486.19 /LS**	44,486
					33.0 Utilities	*1.00* LS	66	5,280	5,875	9,000	273		20,428.03 /LS	20,428	44,486.19 /LS	44,486
					05.0 2" CARV Assembly	6.00 EA	66	5,280	5,875	9,000	273		3,404.67 /EA	20,428	7,414.37 /EA	44,486
	06.0				Repair Concrete Cross Walks											
		03.0			Concrete Work											
			03.10		Cast-In-Place Concrete Work											
				03.10.05.0006	Repair Concrete Cross Walks	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,518.10 /CY	33,735
					03.10 Cast-In-Place Concrete Work	**22.22 CY**	84	5,179	7,426	2,111			**662.21 /CY**	14,716	**1,518.10 /CY**	33,735
					03.0 Concrete Work	22.22 CY	84	5,179	7,426	2,111			662.21 /CY	14,716	1,518.10 /CY	33,735
					06.0 Repair Concrete Cross Walks	600.00 SF	84	5,179	7,426	2,111			24.53 /SF	14,716	56.23 /SF	33,735
	07.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	10,240.00 Sy	751	11,962	21,338	87,040	16,847		13.40 /Sy	137,187	30.49 /Sy	312,246
				32.40.02.0008	Trench Paving	10,240.00 SY	5,397	360,338	381,952		42,191		76.61 /SY	784,481	175.83 /SY	1,800,450
					32.12 Paving	**10,240.00 SY**	6,147	372,301	403,290	87,040	59,038		**90.01 /SY**	921,668	**206.32 /SY**	2,112,696
					32.0 Exterior Improvements	10,240.00 SY	6,147	372,301	403,290	87,040	59,038		90.01 /SY	921,668	206.32 /SY	2,112,696
					07.0 Asphalt Trench Repair	15,360.00 LF	6,147	372,301	403,290	87,040	59,038		60.00 /LF	921,668	137.55 /LF	2,112,696
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	15,360.00 LF				384,000			25.00 /LF	384,000	53.90 /LF	827,860
					33.89 Pipeline - Traffic Control	**15,360.00 LF**				384,000			**25.00 /LF**	384,000	**53.90 /LF**	827,860
					33.0 Utilities	*1.00* LS				384,000			384,000.00 /LS	384,000	827,859.59 /LS	827,860
					08.0 Traffic Control Allowance	15,360.00 LF				384,000			25.00 /LF	384,000	53.90 /LF	827,860
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,838.27 /EA	101,515
					26.10 Site Electrical	*1.00* **LS**				45,000			**45,000.00 /LS**	45,000	**101,514.80 /LS**	101,515
					26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,514.80 /LS	101,515
					09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,838.27 /EA	101,515
					01.0 Las Vergenes Source Water Orange Line	*1.00* **LS**	22,988	1,568,911	1,801,350	822,621	768,259	256,020	**5,217,161.53 /LS**	5,217,162	**11,501,821.72 /LS**	11,501,822

BID FORM SUMMARY

Project type: Water
Job Size: 15,360 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Orange 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,568,911		22,987.667 hrs		102.143	13.64%	
Material	1,801,350				117.275	15.66%	
Subcontract	822,621				53.556	7.15%	
Equipment	768,259		15,564.810 hrs		50.017	6.68%	
Other	256,020				16.668	2.23%	
Subtotal Raw Costs	**5,217,161**	**5,217,161**			**339.659**	**45.36%**	**45.36%**
Material Sales & Use Tax - %	130,598			7.250 %	8.502	1.14%	
Construction Equip Tax - %	55,699			7.250 %	3.626	0.48%	
Total Taxes	**186,297**	**5,403,458**			**351.788**	**1.62%**	**46.98%**
Location Adj. Factor	585,415			11.800 %	38.113	5.09%	
Productivity Adjustment							
Subtotal Adj. Factors	**585,415**	**5,988,873**			**389.901**	**5.09%**	**52.07%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	3,679			25.000 %	0.240	0.03%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.732	0.10%	
Site/Civil I,OH&P	230,417			25.000 %	15.001	2.00%	
Buried Piping I,OH&P	635,367			15.000 %	41.365	5.52%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**880,713**	**6,869,586**			**447.239**	**7.66%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**6,869,586**			**447.239**		**59.73%**
Total Cost To Prime Contractor		**6,869,586**			**447.239**		**59.73%**
General Conditions	686,959			10.000 %	44.724	5.97%	
Mobilization/Demobilization	274,783			4.000 %	17.890	2.39%	
Subtotal Indirect Costs	**961,742**	**7,831,328**			**509.852**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	783,133			10.000 %	50.985	6.81%	
Prime Contractor Profit	391,566			5.000 %	25.493	3.40%	
Bonds & Insurance	195,431			2.170 %	12.723	1.70%	
Subtotal OH&P	**1,370,130**	**9,201,458**			**599.053**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**9,201,458**			**599.053**		**80.00%**
Design Contingency	2,300,364			25.000 %	149.763	20.00%	
Subtotal Contingency	**2,300,364**	**11,501,822**			**748.817**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**11,501,822**			**748.817**		**100.00%**
Total Prime Contractor Costs		**11,501,822**			**748.817**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**11,501,822**			**748.817**		**100.00%**
Total Contractor Costs w/ OFCI		**11,501,822**			**748.817**		**100.00%**
Total Construction Cost		**11,501,822**			**748.817**		**100.00%**
Total		***11,501,822***			***748.817***		

Red Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22 | Estimator: John DeWolf
Job Size: 9,590 Lf | Project Number: W9Y31200 | Rev/Date: 8/10/22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Source Water Red Line***			
	01.0	**20" C-900 PVC Water Main**	**9,590.00 LF**	**434.10 /LF**	**4,162,980**
	02.0	**Bridge Crossing Allowance**	**300.00 LF**	**1,268.58 /LF**	**380,573**
	03.0	**20" Butterfly Valves**	**10.00 EA**	**11,756.67 /EA**	**117,567**
	04.0	**8" Blow Off Assembly**	**4.00 EA**	**24,251.58 /EA**	**97,006**
	05.0	**2" CARV Assembly**	**5.00 EA**	**7,417.31 /EA**	**37,087**
	06.0	**Asphalt Trench Repair**	**9,590.00 LF**	**138.10 /LF**	**1,324,381**
	07.0	**Bore at Channel Crossing**	**50.00 LF**	**1,968.95 /LF**	**98,447**
	08.0	**Traffic Control Allowance**	**9,590.00 LF**	**53.92 /LF**	**517,081**
	09.0	**Traffic Loop Replacement Allowance**	**7.00 EA**	**33,851.24 /EA**	**236,959**
	01.0 Las Vergenes Source Water Red Line		***1.00 LS***	***6,972,080.77 /LS***	***6,972,081***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,659,760		11,246.732 hrs		173.072	23.81%	
Material	2,597,316				270.836	37.25%	
Subcontract	1,617,828				168.699	23.20%	
Equipment	771,304		6,992.717 hrs		80.428	11.06%	
Other	325,874				33.981	4.67%	
Total Prime Contractor Costs	**6,972,082**	**6,972,082**			**727.016**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**6,972,082**			**727.016**		**100.00%**
Total		***6,972,082***			***727.016***		

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Amount	Grand Total Price
01.0						**Las Vergenes Source Water Red Line**											
	01.0					20" C-900 PVC Water Main											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0001		20" C-900 PVC Water Main											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	***/lf***			***/lf***
						Traffic Control, Labor per Day	48.00 day	768	44,791	-	-	-	-	933.15 /day	44,791	96,604	2,012.58 /day
						Trench Box, 8' x 24' x 10'	2.25 mo		-	-	-	5,175	-	2,300.00 /mo	5,175	11,536	5,127.28 /mo
						Dedicated Fire / Safety Monitor	192.00 hr	192	11,198	-	-	-	-	58.32 /hr	11,198	24,151	125.79 /hr
						Add for hydrotesting pipeline (labor & Equipment per day)	9,590.00 lf	115	9,325	-	-	833	-	1.06 /lf	10,159	21,970	2.29 /lf
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	10,302.55 CY	768	52,778	-	-	36,250	-	8.64 /CY	89,028	194,639	18.89 /CY
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	3,277.01 cy	1,344	88,210	-	-	60,375	-	45.34 /cy	148,585	324,837	99.13 /cy
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	6,598.34 cy	768	57,891	-	-	68,970	-	19.23 /cy	126,862	278,609	42.22 /cy
						Pipe zone material	3,277.01 cy		-	91,756	-	-	-	28.00 /cy	91,756	204,548	62.42 /cy
						Pipe bedding material	781.53 cy		-	21,883	-	-	-	28.00 /cy	21,883	48,782	62.42 /cy
						Imported backfill material	6,598.34 cy		-	79,180	-	-	-	12.00 /cy	79,180	176,512	26.75 /cy
						Haul spoils, offsite, 10 - 20 miles	10,656.00 cy		-	-	159,840	-	-	15.00 /cy	159,840	344,735	32.35 /cy
						Dump fees, trench spoils	10,656.00 cy		-	-	-	-	159,840	15.00 /cy	159,840	325,874	30.58 /cy
						20" DI, MJ, Ell, 90	7.00 ea	50	4,067	16,136	-	2,295	-	3,214.16 /ea	22,499	49,861	7,123.03 /ea
						20" DI, MJ, Ell, 45	6.00 ea	43	3,486	9,763	-	1,968	-	2,536.06 /ea	15,216	33,668	5,611.38 /ea
						20" DI, MJ, Ell, 22 1/2	3.00 ea	22	1,743	5,698	-	984	-	2,808.21 /ea	8,425	18,654	6,218.06 /ea
						20" DI, MJ, Ell, 11 1/4	10.00 ea	72	5,810	19,040	-	3,279	-	2,812.96 /ea	28,130	62,287	6,228.66 /ea
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	9,590.00 LF		-	562,166	-	-	-	58.62 /LF	562,166	1,253,208	130.68 /LF
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	9,590.00 lf	2,304	185,933	-	-	104,932	-	30.33 /lf	290,865	634,931	66.21 /lf
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	16,572	8,285.83 /ea
						Pipe Marking, ID Tape	9,590.00 lf	96	7,771	1,247	-	-	-	0.94 /lf	9,018	19,539	2.04 /lf
						Pipe Marking, Copper Wire	9,590.00 lf	96	7,771	2,110	-	-	-	1.03 /lf	9,881	21,464	2.24 /lf
						33.00.07.20 Buried Pipe, PVC, 20"	9,590.00 LF	6,686	484,649	810,478	159,840	287,248	159,840	198.34 /LF	1,902,055	4,162,980	434.10 /LF
						33.00.07.0001 20" C-900 PVC Water Main	9,590.00 LF	6,686	484,649	810,478	159,840	287,248	159,840	198.34 /LF	1,902,055	4,162,980	434.10 /LF
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	6,686	484,649	810,478	159,840	287,248	159,840	**1,902,055.39 /LS**	1,902,055	4,162,980	**4,162,980.38 /LS**
						33.0 Utilities	***1.00*** LS	6,686	484,649	810,478	159,840	287,248	159,840	1,902,055.39 /LS	1,902,055	4,162,980	4,162,980.38 /LS
						01.0 20" C-900 PVC Water Main	9,590.00 LF	6,686	484,649	810,478	159,840	287,248	159,840	198.34 /LF	1,902,055	4,162,980	434.10 /LF
	02.0					Bridge Crossing Allowance											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0002		Bridge Crossing Allowance											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Division 33 Allowance Support Pipe Inside Bridge	300.00 lf		-	-	150,000	-	-	500.00 /lf	150,000	323,512	1,078.37 /lf
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	300.00 LF		-	17,586	-	-	-	58.62 /LF	17,586	39,204	130.68 /LF
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	300.00 lf	65	5,229	-	-	2,951	-	27.27 /lf	8,181	17,857	59.52 /lf
						33.00.07.20 Buried Pipe, PVC, 20"	300.00 LF	65	5,229	17,586	150,000	2,951		585.89 /LF	175,767	380,573	1,268.58 /LF
						33.00.07.0002 Bridge Crossing Allowance	300.00 LF	65	5,229	17,586	150,000	2,951		585.89 /LF	175,767	380,573	1,268.58 /LF
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	65	5,229	17,586	150,000	2,951		**175,766.61 /LS**	175,767	380,573	**380,573.42 /LS**
						33.0 Utilities	***1.00*** LS	65	5,229	17,586	150,000	2,951		175,766.61 /LS	175,767	380,573	380,573.42 /LS
						02.0 Bridge Crossing Allowance	300.00 LF	65	5,229	17,586	150,000	2,951		585.89 /LF	175,767	380,573	1,268.58 /LF
	03.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	10.00 ea	66	5,326	-	-	3,006	-	833.21 /ea	8,332	18,188	1,818.82 /ea
						Butterfly valve, iron body, MJ , NO, 250#, 20"	10.00 EA		-	38,280	-	-	-	3,828.00 /EA	38,280	85,336	8,533.57 /EA
						Valve accessory, extension stem	50.00 lf	5	399	250	-	-	-	12.98 /lf	649	1,418	28.36 /lf
						Valve accessory, stem couplings	10.00 set	3	263	200	-	-	-	46.33 /set	463	1,014	101.38 /set
						CI Valve Box & Cover, w/ Concrete Collar included	10.00 ea	30	2,421	1,500	-	1,366	-	528.73 /ea	5,287	11,611	1,161.12 /ea
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	117,567	11,756.67 /EA
						33.20.03.0003 20" Butterfly Valves	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	117,567	11,756.67 /EA
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	104	8,410	40,230		4,372		**53,011.73 /LS**	53,012	117,567	**117,566.67 /LS**
						33.0 Utilities	***1.00*** LS	104	8,410	40,230		4,372		53,011.73 /LS	53,012	117,567	117,566.67 /LS
						03.0 20" Butterfly Valves	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	117,567	11,756.67 /EA
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	100.00 LF	48	3,874	5,221	-	2,186	-	112.81 /LF	11,281	24,867	248.67 /LF
						8" DI, MJ, Ell, 90	4.00 ea	12	968	1,375	-	547	-	722.48 /ea	2,890	6,372	1,593.04 /ea
						8" DI, MJ, Ell, 45	4.00 ea	12	968	1,175	-	547	-	672.43 /ea	2,690	5,926	1,481.47 /ea
						8" DI, RJ, cap or plug	4.00 ea	6	484	625	-	273	-	345.52 /ea	1,382	3,046	761.46 /ea
						20" DI, MJ, red. tee, 20" x 8"	4.00 ea	40	3,196	11,543	-	1,804	-	4,135.59 /ea	16,542	36,645	9,161.33 /ea
						Install gate valve, Flgd, DIP, 8"	4.00 ea	13	1,065	-	-	601	-	416.61 /ea	1,666	3,638	909.41 /ea
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	4.00 EA		-	2,476	-	-	-	619.00 /EA	2,476	5,520	1,379.91 /EA
						Valve accessory, extension stem	60.00 lf	6	479	300	-	-	-	12.98 /lf	779	1,701	28.36 /lf
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	406	101.38 /set
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	4,645	1,161.13 /ea
						Meter Box	4.00 ea	16	933	1,000	-	-	-	483.29 /ea	1,933	4,242	1,060.45 /ea
						33.20.01.08 Buried Valves, Gate Valves, 8"	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	97,006	24,251.58 /EA
						33.20.01.0004 8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	97,006	24,251.58 /EA
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	166	13,041	24,394		6,504		**43,939.38 /LS**	43,939	97,006	**97,006.34 /LS**

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Amount	Grand Total Price
						33.0 Utilities	1.00 LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	97,006	97,006.34 /LS
						04.0 8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	97,006	24,251.58 /EA
	05.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	5.00 EA		-	-	7,500	-		1,500.00 /EA	7,500	16,176	3,235.13 /EA
						2" Corporation stop, thrd	5.00 ea	6	470		-	227	-	139.45 /ea	697	1,520	304.06 /ea
						Ball valve, bronze, screwed, 2"	5.00 ea	2	160	320	-	-	-	95.92 /ea	480	1,058	211.51 /ea
						2" copper pipe, K-soft	125.00 LF	9	698	1,323	-	-	-	16.17 /LF	2,021	4,455	35.64 /LF
						2" copper, ELL, 90	10.00 ea	7	519	128	-	-	-	64.71 /ea	647	1,405	140.49 /ea
						Install Air & Vacuum relief valve, 2"	5.00 ea	12	958	-	-	-	-	191.51 /ea	958	2,065	413.04 /ea
						FURNISH Air & Vacuum relief valve, iron body, 2"	5.00 ea		-	1,875	-	-	-	375.00 /ea	1,875	4,180	835.97 /ea
						Double Strap Saddle, 20" x 2"	5.00 ea	20	1,596	1,250	-	-	-	569.18 /ea	2,846	6,229	1,245.71 /ea
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	37,087	7,417.31 /EA
						33.20.08.0005 2" CARV Assembly	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	37,087	7,417.31 /EA
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	55	4,400	4,896	7,500	227		17,023.36 /LS	17,023	37,087	37,086.54 /LS
						33.0 Utilities	1.00 LS	55	4,400	4,896	7,500	227		17,023.36 /LS	17,023	37,087	37,086.54 /LS
						05.0 2" CARV Assembly	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	37,087	7,417.31 /EA
	06.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	19,180.00 lf	295		-	38,360	-	-	2.00 /lf	38,360	86,569	4.51 /lf
						Asphalt Milling, 6" Depth	6,394.00 Sy	64		-	15,985	-	-	2.50 /Sy	15,985	36,074	5.64 /Sy
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,066.00 cy	110	7,470	-	-	10,521	-	16.88 /cy	17,991	41,364	38.80 /cy
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,066.00 cy		-	13,325	-	-	-	12.50 /cy	13,325	31,037	29.12 /cy
						02.01.01.01 General Site Demolition, Asphalt Pavement	6,394.00 Sy	469	7,470	13,325	54,345	10,521		13.40 /Sy	85,661	195,044	30.50 /Sy
						02.01.01.0007 Demo Asphalt	6,394.00 Sy	469	7,470	13,325	54,345	10,521		13.40 /Sy	85,661	195,044	30.50 /Sy
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	6,393.33 SY	34	2,446	5,690	-	1,827	-	1.56 /SY	9,964	23,030	3.60 /SY
						Fog seal, sealcoating, prepare and clean surface for sealcoating	6,393.33 sy	18	1,086	-	-	254	-	0.21 /sy	1,340	3,042	0.48 /sy
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	6,393.33 sy	49	3,464	73,204	-	3,742	-	12.58 /sy	80,409	187,042	29.26 /sy
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	6,393.33 sy	3,255	217,312	153,440	-	20,156	-	61.14 /sy	390,909	894,769	139.95 /sy
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	9,590.00 LF	27	1,647	6,521	-	1,093	-	0.97 /LF	9,261	21,453	2.24 /LF
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	6,393.33 SY	3,383	225,956	238,855		27,073		76.94 /SY	491,883	1,129,337	176.64 /SY
						32.40.02.0008 Trench Paving	6,393.33 SY	3,383	225,956	238,855		27,073		76.94 /SY	491,883	1,129,337	176.64 /SY
						32.12 Paving	6,393.33 SY	3,852	233,426	252,180	54,345	37,593		90.34 /SY	577,544	1,324,381	207.15 /SY
						32.0 Exterior Improvements	6,393.33 SY	3,852	233,426	252,180	54,345	37,593		90.34 /SY	577,544	1,324,381	207.15 /SY
						06.0 Asphalt Trench Repair	9,590.00 LF	3,852	233,426	252,180	54,345	37,593		60.22 /LF	577,544	1,324,381	138.10 /LF
	07.0					Bore at Channel Crossing											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,228	13,227.78 /ea
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,614	6,613.86 /ea
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,614	6,613.90 /ea
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,307	3,306.90 /ea
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	200		-	26,300	-	-	526.00 /LF	26,300	56,723	1,134.45 /LF
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	892	222.93 /ea
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	1,560	780.24 /ea
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	50.00 lf		-	2,931	-	-	-	58.62 /lf	2,931	6,534	130.68 /lf
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	50.00 lf	11	872	-	-	492	-	27.27 /lf	1,363	2,976	59.53 /lf
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	98,447	1,968.95 /LF
						33.60.02.0002 36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	98,447	1,968.95 /LF
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,447	98,447.32 /LS
						33.0 Utilities	1.00 LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,447	98,447.32 /LS
						07.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	98,447	1,968.95 /LF
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	9,590.00 LF		-	-	239,750	-		25.00 /LF	239,750	517,081	53.92 /LF
						33.00.01.40 Buried Pipe, Traffic Control	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
						33.00.01.0009 Traffic Control Allowance	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
						33.89 Pipeline - Traffic Control	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
						33.0 Utilities	1.00 LS				239,750			239,750.00 /LS	239,750	517,081	517,080.59 /LS
						08.0 Traffic Control Allowance	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	7.00 EA		-	-	105,000	-		15,000.00 /EA	105,000	236,959	33,851.24 /EA

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Amount	Grand Total Price
						26.00.99.00 Electrical, Other	7.00 EA				105,000			15,000.00 /EA	105,000	236,959	33,851.24 /EA
						26.00.99.0005 Replace Traffic Loops 3 Intersections	7.00 EA				105,000			15,000.00 /EA	105,000	236,959	33,851.24 /EA
						26.10 Site Electrical	1.00 LS				105,000			105,000.00 /LS	105,000	236,959	236,958.67 /LS
						26.0 Electrical Work	1.00 LS				105,000			105,000.00 /LS	105,000	236,959	236,958.67 /LS
						09.0 Traffic Loop Replacement Allowance	7.00 EA				105,000			15,000.00 /EA	105,000	236,959	33,851.24 /EA
						01.0 Las Vergenes Source Water Red Line	**1.00 LS**	**11,247**	**758,742**	**1,153,796**	**742,735**	**344,306**	**159,840**	**3,159,419.39 /LS**	**3,159,419**	**6,972,081**	**6,972,080.77 /LS**

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	758,742		11,246.732 hrs		79.118	10.88%	
Material	1,153,796				120.312	16.55%	
Subcontract	742,735				77.449	10.65%	
Equipment	344,306		6,992.717 hrs		35.903	4.94%	
Other	159,840				16.667	2.29%	
Subtotal Raw Costs	**3,159,419**	**3,159,419**			**329.449**	**45.32%**	**45.32%**
Material Sales & Use Tax - %	83,650			7.250 %	8.723	1.20%	
Construction Equip Tax - %	24,962			7.250 %	2.603	0.36%	
Total Taxes	**108,612**	**3,268,031**			**340.775**	**1.56%**	**46.87%**
Location Adj. Factor	353,950			11.800 %	36.908	5.08%	
Productivity Adjustment							
Subtotal Adj. Factors	**353,950**	**3,621,981**			**377.683**	**5.08%**	**51.95%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	26,250			25.000 %	2.737	0.38%	
Site/Civil I,OH&P	144,386			25.000 %	15.056	2.07%	
Buried Piping I,OH&P	371,531			15.000 %	38.742	5.33%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**542,167**	**4,164,148**			**434.218**	**7.78%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**4,164,148**			**434.218**		**59.73%**
Total Cost To Prime Contractor		**4,164,148**			**434.218**		**59.73%**
General Conditions	416,415			10.000 %	43.422	5.97%	
Mobilization/Demobilization	166,566			4.000 %	17.369	2.39%	
Subtotal Indirect Costs	**582,981**	**4,747,129**			**495.008**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	474,713			10.000 %	49.501	6.81%	
Prime Contractor Profit	237,357			5.000 %	24.750	3.40%	
Bonds & Insurance	118,465			2.170 %	12.353	1.70%	
Subtotal OH&P	**830,535**	**5,577,664**			**581.613**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**5,577,664**			**581.613**		**80.00%**
Design Contingency	1,394,416			25.000 %	145.403	20.00%	
Subtotal Contingency	**1,394,416**	**6,972,080**			**727.016**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**6,972,080**			**727.016**		**100.00%**
Total Prime Contractor Costs		**6,972,080**			**727.016**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**6,972,080**			**727.016**		**100.00%**
Total Contractor Costs w/ OFCI		**6,972,080**			**727.016**		**100.00%**
Total Construction Cost		**6,972,080**			**727.016**		**100.00%**
Total		***6,972,080***			***727.016***		

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Amount	Grand Total Price
01.0					**Las Vergenes Source Water Red Line**											
	01.0				20" C-900 PVC Water Main											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0001	20" C-900 PVC Water Main	9,590.00 LF	6,686	484,649	810,478	159,840	287,248	159,840	198.34 /LF	1,902,055	4,162,980	434.10 /LF
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	6,686	484,649	810,478	159,840	287,248	159,840	1,902,055.39 /LS	1,902,055	4,162,980	4,162,980.38 /LS
					33.0 Utilities	*1.00* LS	6,686	484,649	810,478	159,840	287,248	159,840	1,902,055.39 /LS	1,902,055	4,162,980	4,162,980.38 /LS
					01.0 20" C-900 PVC Water Main	9,590.00 LF	6,686	484,649	810,478	159,840	287,248	159,840	198.34 /LF	1,902,055	4,162,980	434.10 /LF
	02.0				Bridge Crossing Allowance											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0002	Bridge Crossing Allowance	300.00 LF	65	5,229	17,586	150,000	2,951		585.89 /LF	175,767	380,573	1,268.58 /LF
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	65	5,229	17,586	150,000	2,951		175,766.61 /LS	175,767	380,573	380,573.42 /LS
					33.0 Utilities	*1.00* LS	65	5,229	17,586	150,000	2,951		175,766.61 /LS	175,767	380,573	380,573.42 /LS
					02.0 Bridge Crossing Allowance	300.00 LF	65	5,229	17,586	150,000	2,951		585.89 /LF	175,767	380,573	1,268.58 /LF
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	117,567	11,756.67 /EA
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	104	8,410	40,230		4,372		53,011.73 /LS	53,012	117,567	117,566.67 /LS
					33.0 Utilities	*1.00* LS	104	8,410	40,230		4,372		53,011.73 /LS	53,012	117,567	117,566.67 /LS
					03.0 20" Butterfly Valves	10.00 EA	104	8,410	40,230		4,372		5,301.17 /EA	53,012	117,567	11,756.67 /EA
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	97,006	24,251.58 /EA
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	97,006	97,006.34 /LS
					33.0 Utilities	*1.00* LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	97,006	97,006.34 /LS
					04.0 8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	97,006	24,251.58 /EA
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	37,087	7,417.31 /EA
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	55	4,400	4,896	7,500	227		17,023.36 /LS	17,023	37,087	37,086.54 /LS
					33.0 Utilities	*1.00* LS	55	4,400	4,896	7,500	227		17,023.36 /LS	17,023	37,087	37,086.54 /LS
					05.0 2" CARV Assembly	5.00 EA	55	4,400	4,896	7,500	227		3,404.67 /EA	17,023	37,087	7,417.31 /EA
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	6,394.00 Sy	469	7,470	13,325	54,345	10,521		13.40 /Sy	85,661	195,044	30.50 /Sy
				32.40.02.0008	Trench Paving	6,393.33 SY	3,383	225,956	238,855		27,073		76.94 /SY	491,883	1,129,337	176.64 /SY
					32.12 Paving	6,393.33 SY	3,852	233,426	252,180	54,345	37,593		90.34 /SY	577,544	1,324,381	207.15 /SY
					32.0 Exterior Improvements	6,393.33 SY	3,852	233,426	252,180	54,345	37,593		90.34 /SY	577,544	1,324,381	207.15 /SY
					06.0 Asphalt Trench Repair	9,590.00 LF	3,852	233,426	252,180	54,345	37,593		60.22 /LF	577,544	1,324,381	138.10 /LF
	07.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	98,447	1,968.95 /LF
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,447	98,447.32 /LS
					33.0 Utilities	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,447	98,447.32 /LS
					07.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	98,447	1,968.95 /LF
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
					33.89 Pipeline - Traffic Control	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
					33.0 Utilities	*1.00* LS				239,750			239,750.00 /LS	239,750	517,081	517,080.59 /LS
					08.0 Traffic Control Allowance	9,590.00 LF				239,750			25.00 /LF	239,750	517,081	53.92 /LF
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	7.00 EA				105,000			15,000.00 /EA	105,000	236,959	33,851.24 /EA
					26.10 Site Electrical	*1.00* LS				105,000			105,000.00 /LS	105,000	236,959	236,958.67 /LS
					26.0 Electrical Work	*1.00* LS				105,000			105,000.00 /LS	105,000	236,959	236,958.67 /LS
					09.0 Traffic Loop Replacement Allowance	7.00 EA				105,000			15,000.00 /EA	105,000	236,959	33,851.24 /EA
					01.0 Las Vergenes Source Water Red Line	*1.00* LS	11,247	758,742	1,153,796	742,735	344,306	159,840	**3,159,419.39 /LS**	3,159,419	6,972,081	**6,972,080.77 /LS**

BID FORM SUMMARY

Project type: Water
Job Size: 9,590 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	758,742		11,246.732 hrs		79.118	10.88%	
Material	1,153,796				120.312	16.55%	
Subcontract	742,735				77.449	10.65%	
Equipment	344,306		6,992.717 hrs		35.903	4.94%	
Other	159,840				16.667	2.29%	
Subtotal Raw Costs	**3,159,419**	**3,159,419**			**329.449**	**45.32%**	**45.32%**
Material Sales & Use Tax - %	83,650			7.250 %	8.723	1.20%	
Construction Equip Tax - %	24,962			7.250 %	2.603	0.36%	
Total Taxes	**108,612**	**3,268,031**			**340.775**	**1.56%**	**46.87%**
Location Adj. Factor	353,950			11.800 %	36.908	5.08%	
Productivity Adjustment							
Subtotal Adj. Factors	**353,950**	**3,621,981**			**377.683**	**5.08%**	**51.95%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	26,250			25.000 %	2.737	0.38%	
Site/Civil I,OH&P	144,386			25.000 %	15.056	2.07%	
Buried Piping I,OH&P	371,531			15.000 %	38.742	5.33%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**542,167**	**4,164,148**			**434.218**	**7.78%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**4,164,148**			**434.218**		**59.73%**
Total Cost To Prime Contractor		**4,164,148**			**434.218**		**59.73%**
General Conditions	416,415			10.000 %	43.422	5.97%	
Mobilization/Demobilization	166,566			4.000 %	17.369	2.39%	
Subtotal Indirect Costs	**582,981**	**4,747,129**			**495.008**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	474,713			10.000 %	49.501	6.81%	
Prime Contractor Profit	237,357			5.000 %	24.750	3.40%	
Bonds & Insurance	118,465			2.170 %	12.353	1.70%	
Subtotal OH&P	**830,535**	**5,577,664**			**581.613**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**5,577,664**			**581.613**		**80.00%**
Design Contingency	1,394,416			25.000 %	145.403	20.00%	
Subtotal Contingency	**1,394,416**	**6,972,080**			**727.016**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**6,972,080**			**727.016**		**100.00%**
Total Prime Contractor Costs		**6,972,080**			**727.016**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**6,972,080**			**727.016**		**100.00%**
Total Contractor Costs w/ OFCI		**6,972,080**			**727.016**		**100.00%**
Total Construction Cost		**6,972,080**			**727.016**		**100.00%**
Total		***6,972,080***			***727.016***		

Yellow Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22 | Estimator: John DeWolf
Job Size: 6,070 Lf | Project Number: W9Y31200 | Rev/Date: 8/10/22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Source Water Yellow Line***			
	01.0	**20" C-900 PVC Water Main**	**6,070.00 LF**	**425.51 /LF**	**2,582,841**
	02.0	**36" Bore and Casing with 20" Carrier Pipe**	**420.00 LF**	**1,408.70 /LF**	**591,653**
	03.0	**20" Butterfly Valves**	**6.00 EA**	**11,738.66 /EA**	**70,432**
	04.0	**8" Blow Off Assembly**	**4.00 EA**	**24,214.27 /EA**	**96,857**
	05.0	**2" CARV Assembly**	**4.00 EA**	**7,405.75 /EA**	**29,623**
	06.0	**Repair Concrete**	**250.00 SF**	**33.12 /SF**	**8,280**
	07.0	**Trench Repair**	***6,070.00*** **LF**	**126.59 /LF**	**768,413**
	08.0	**Traffic Control Allowance**	**6,070.00 LF**	**53.83 /LF**	**326,771**
	09.0	**Traffic Loop Replacement Allowance**	**2.00 EA**	**33,800.28 /EA**	**67,601**
		01.0 Las Vergenes Source Water Yellow Line	***1.00 LS***	***4,542,469.79 /LS***	***4,542,470***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,018,405		8,441.497 hrs		167.777	22.42%	
Material	1,615,185				266.093	35.56%	
Subcontract	1,217,137				200.517	26.79%	
Equipment	485,817		4,441.645 hrs		80.036	10.69%	
Other	205,927				33.925	4.53%	
Total Prime Contractor Costs	**4,542,471**	**4,542,471**			**748.348**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**4,542,471**			**748.348**		**100.00%**
Total		***4,542,471***			***748.348***		

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Source Water Yellow Line**											
	01.0					20" C-900 PVC Water Main											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0001		20" C-900 PVC Water Main											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	30.00 day	480	27,995	-	-	-	-	933.15 /day	27,995	2,009.40 /day	60,282
						Trench Box, 8' x 24' x 10'	1.50 mo		-	-	-	3,450	-	2,300.00 /mo	3,450	5,119.46 /mo	7,679
						Dedicated Fire / Safety Monitor	120.00 hr	120	6,999	-	-	-	-	58.32 /hr	6,999	125.59 /hr	15,071
						Add for hydrotesting pipeline (labor & Equipment per day)	6,070.00 lf	73	5,902	-	-	528	-	1.06 /lf	6,430	2.29 /lf	13,884
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	6,521.01 CY	480	32,987	-	-	22,656	-	8.53 /CY	55,643	18.63 /CY	121,461
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	2,074.19 cy	840	55,131	-	-	37,734	-	44.77 /cy	92,866	97.73 /cy	202,708
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	4,176.42 cy	480	36,182	-	-	43,106	-	18.98 /cy	79,288	41.63 /cy	173,861
						Pipe zone material	2,074.19 cy		-	58,077	-	-	-	28.00 /cy	58,077	62.32 /cy	129,272
						Pipe bedding material	494.67 cy		-	13,851	-	-	-	28.00 /cy	13,851	62.32 /cy	30,830
						Imported backfill material	4,176.42 cy		-	50,117	-	-	-	12.00 /cy	50,117	26.71 /cy	111,553
						Haul spoils, offsite, 10 - 20 miles	6,745.00 cy		-	-	101,175	-	-	15.00 /cy	101,175	32.30 /cy	217,865
						Dump fees, trench spoils	6,745.00 cy		-	-	-	-	101,175	15.00 /cy	101,175	30.53 /cy	205,927
						20" DI, MJ, Ell, 90	3.00 ea	22	1,743	6,916	-	984	-	3,214.16 /ea	9,642	7,112.11 /ea	21,336
						20" DI, MJ, Ell, 45	5.00 ea	36	2,905	8,136	-	1,640	-	2,536.06 /ea	12,680	5,602.76 /ea	28,014
						20" DI, MJ, Ell, 22 1/2	2.00 ea	14	1,162	3,799	-	656	-	2,808.21 /ea	5,616	6,208.53 /ea	12,417
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	6,070.00 LF		-	355,823	-	-	-	58.62 /LF	355,823	130.48 /LF	792,010
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	6,070.00 lf	1,440	116,207	-	-	65,582	-	29.95 /lf	181,790	65.27 /lf	396,212
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,272.99 /ea	16,546
						Pipe Marking, ID Tape	6,070.00 lf	61	4,919	789	-	-	-	0.94 /lf	5,708	2.03 /lf	12,348
						Pipe Marking, Copper Wire	6,070.00 lf	61	4,919	1,335	-	-	-	1.03 /lf	6,254	2.23 /lf	13,564
						33.00.07.20 Buried Pipe, PVC, 20"	6,070.00 LF	4,154	300,924	500,343	101,175	178,522	101,175	194.75 /LF	1,182,139	425.51 /LF	2,582,841
						33.00.07.0001 20" C-900 PVC Water Main	6,070.00 LF	4,154	300,924	500,343	101,175	178,522	101,175	194.75 /LF	1,182,139	425.51 /LF	2,582,841
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	4,154	300,924	500,343	101,175	178,522	101,175	1,182,138.91 /LS	1,182,139	2,582,840.56 /LS	2,582,841
						33.0 Utilities	***1.00*** LS	4,154	300,924	500,343	101,175	178,522	101,175	1,182,138.91 /LS	1,182,139	2,582,840.56 /LS	2,582,841
						01.0 20" C-900 PVC Water Main	6,070.00 LF	4,154	300,924	500,343	101,175	178,522	101,175	194.75 /LF	1,182,139	425.51 /LF	2,582,841
	02.0					36" Bore and Casing with 20" Carrier Pipe											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,207.19 /ea	13,207
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,603.57 /ea	6,604
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,603.59 /ea	6,604
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,301.76 /ea	3,302
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	420.00 LF	1,680		-	220,920	-	-	526.00 /LF	220,920	1,132.66 /LF	475,719
						Horizontal boring, 36" diameter casing spacer	22.00 ea		-	2,200	-	-	-	100.00 /ea	2,200	222.59 /ea	4,897
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	779.06 /ea	1,558
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	420.00 lf		-	24,620	-	-	-	58.62 /lf	24,620	130.48 /lf	54,801
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	420.00 lf	91	7,321	-	-	4,132	-	27.27 /lf	11,453	59.43 /lf	24,962
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	420.00 LF	1,879	16,037	27,520	220,920	9,050		651.26 /LF	273,528	1,408.70 /LF	591,653
						33.60.02.0002 36" Bore with 20" Carrier	420.00 LF	1,879	16,037	27,520	220,920	9,050		651.26 /LF	273,528	1,408.70 /LF	591,653
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	1,879	16,037	27,520	220,920	9,050		273,527.58 /LS	273,528	591,652.61 /LS	591,653
						33.0 Utilities	***1.00*** LS	1,879	16,037	27,520	220,920	9,050		273,527.58 /LS	273,528	591,652.61 /LS	591,653
						02.0 36" Bore and Casing with 20" Carrier Pipe	420.00 LF	1,879	16,037	27,520	220,920	9,050		651.26 /LF	273,528	1,408.70 /LF	591,653
	03.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	6.00 ea	40	3,196	-	-	1,804	-	833.21 /ea	4,999	1,815.99 /ea	10,896
						Butterfly valve, iron body, MJ , NO, 250#, 20"	6.00 EA		-	22,968	-	-	-	3,828.00 /EA	22,968	8,520.56 /EA	51,123
						Valve accessory, extension stem	30.00 lf	3	239	150	-	-	-	12.98 /lf	389	28.31 /lf	849
						Valve accessory, stem couplings	6.00 set	2	158	120	-	-	-	46.33 /set	278	101.22 /set	607
						CI Valve Box & Cover, w/ Concrete Collar included	6.00 ea	18	1,453	900	-	820	-	528.73 /ea	3,172	1,159.33 /ea	6,956
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,738.66 /EA	70,432
						33.20.03.0003 20" Butterfly Valves	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,738.66 /EA	70,432
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** LS	63	5,046	24,138		2,623		31,807.04 /LS	31,807	70,431.97 /LS	70,432
						33.0 Utilities	***1.00*** LS	63	5,046	24,138		2,623		31,807.04 /LS	31,807	70,431.97 /LS	70,432
						03.0 20" Butterfly Valves	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,738.66 /EA	70,432
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	100.00 LF	48	3,874	5,221	-	2,186	-	112.81 /LF	11,281	248.28 /LF	24,828
						8" DI, MJ, Ell, 90	4.00 ea	12	968	1,375	-	547	-	722.48 /ea	2,890	1,590.59 /ea	6,362
						8" DI, MJ, Ell, 45	4.00 ea	12	968	1,175	-	547	-	672.43 /ea	2,690	1,479.18 /ea	5,917
						8" DI, RJ, cap or plug	4.00 ea	6	484	625	-	273	-	345.52 /ea	1,382	760.29 /ea	3,041
						20" DI, MJ, red. tee, 20" x 8"	4.00 ea	40	3,196	11,543	-	1,804	-	4,135.59 /ea	16,542	9,147.28 /ea	36,589
						Install gate valve, Flgd, DIP, 8"	4.00 ea	13	1,065	-	-	601	-	416.61 /ea	1,666	907.99 /ea	3,632
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	4.00 EA		-	2,476	-	-	-	619.00 /EA	2,476	1,377.80 /EA	5,511
						Valve accessory, extension stem	60.00 lf	6	479	300	-	-	-	12.98 /lf	779	28.31 /lf	1,699
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	101.22 /set	405
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	1,159.32 /ea	4,637

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						Meter Box	4.00 ea	16	933	1,000	-	-	-	483.29 /ea	1,933	1,058.82 /ea	4,235
						33.20.01.08 Buried Valves, Gate Valves, 8"	**4.00 EA**	**166**	**13,041**	**24,394**		**6,504**		**10,984.85 /EA**	**43,939**	**24,214.27 /EA**	**96,857**
						33.20.01.0004 8" Blow Off Assembly	**4.00 EA**	**166**	**13,041**	**24,394**		**6,504**		**10,984.85 /EA**	**43,939**	**24,214.27 /EA**	**96,857**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00* LS**	**166**	**13,041**	**24,394**		**6,504**		**43,939.38 /LS**	**43,939**	**96,857.08 /LS**	**96,857**
						33.0 Utilities	***1.00* LS**	**166**	**13,041**	**24,394**		**6,504**		**43,939.38 /LS**	**43,939**	**96,857.08 /LS**	**96,857**
						04.0 8" Blow Off Assembly	**4.00 EA**	**166**	**13,041**	**24,394**		**6,504**		**10,984.85 /EA**	**43,939**	**24,214.27 /EA**	**96,857**
	05.0					**2" CARV Assembly**											
		33.0				**Utilities**											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	4.00 EA		-	-	**6,000**	-		1,500.00 /EA	**6,000**	3,230.03 /EA	**12,920**
						2" Corporation stop, thrd	4.00 ea	5	376		-	182	-	139.45 /ea	558	303.58 /ea	1,214
						Ball valve, bronze, screwed, 2"	4.00 ea	2	128	256	-	-	-	95.92 /ea	384	211.19 /ea	845
						2" copper pipe, K-soft	100.00 LF	7	559	1,058	-	-	-	16.17 /LF	1,617	35.58 /LF	3,558
						2" copper, ELL, 90	8.00 ea	5	415	103	-	-	-	64.71 /ea	518	140.27 /ea	1,122
						Install Air & Vacuum relief valve, 2"	4.00 ea	10	766	-	-	-	-	191.51 /ea	766	412.39 /ea	1,650
						FURNISH Air & Vacuum relief valve, iron body, 2"	4.00 ea		-	1,500	-	-	-	375.00 /ea	1,500	834.70 /ea	3,339
						Double Strap Saddle, 20" x 2"	4.00 ea	16	1,277	1,000	-	-	-	569.19 /ea	2,277	1,243.78 /ea	4,975
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**4.00 EA**	**44**	**3,520**	**3,917**	**6,000**	**182**		**3,404.67 /EA**	**13,619**	**7,405.75 /EA**	**29,623**
						33.20.08.0005 2" CARV Assembly	**4.00 EA**	**44**	**3,520**	**3,917**	**6,000**	**182**		**3,404.67 /EA**	**13,619**	**7,405.75 /EA**	**29,623**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00* LS**	**44**	**3,520**	**3,917**	**6,000**	**182**		**13,618.69 /LS**	**13,619**	**29,622.98 /LS**	**29,623**
						33.0 Utilities	***1.00* LS**	**44**	**3,520**	**3,917**	**6,000**	**182**		**13,618.69 /LS**	**13,619**	**29,622.98 /LS**	**29,623**
						05.0 2" CARV Assembly	**4.00 EA**	**44**	**3,520**	**3,917**	**6,000**	**182**		**3,404.67 /EA**	**13,619**	**7,405.75 /EA**	**29,623**
	06.0					**Repair Concrete**											
		03.0				**Concrete Work**											
			03.10			**Cast-In-Place Concrete Work**											
				03.10.05.0006		**Repair Concrete**											
					03.10.05.12	**Cast-In-Place Concrete, Slabs on Grade, 12" thick**											
						Fine grade, for slab on grade, by hand	250.00 SF	2	95	8	-	-	-	0.41 /SF	103	0.93 /SF	233
						Fill, gravel subbase, under building slab on grade	6.17 cy	3	168	173	-	-	-	55.27 /cy	341	126.57 /cy	781
						Fill, sand subbase, under building slab on grade	1.54 cy	1	63	28	-	-	-	59.06 /cy	91	134.41 /cy	207
						Concrete pumping, subcontract, all inclusive price	4.63 cy		-	-	69	-	-	15.00 /cy	69	33.80 /cy	156
						Slab on grade edge forms, up to 6"	82.00 lf	4	293	21	-	-	-	3.83 /lf	314	8.64 /lf	709
						Speed Dowels, #5	30.00 ea		-	420	-	-	-	14.00 /ea	420	32.56 /ea	977
						Reinforcing in place, A615 Gr 60, priced per lbs.	925.93 lb		-	463	370	-	-	0.90 /lb	833	2.06 /lb	1,911
						Concrete, ready mix, 4500 psi	4.63 CY		-	611	-	-	-	132.00 /CY	611	307.01 /CY	1,421
						Add for concrete waste, 4500 psi	0.23 cy		-	30	-	-	-	132.00 /cy	30	307.01 /cy	71
						Add amount for Fuel Surcharges - per concrete truck load	1.00 load		-	20	-	-	-	20.00 /load	20	46.51 /load	47
						Add amount for Environmental Fee - per concrete truck load	1.00 load		-	8	-	-	-	8.00 /load	8	18.61 /load	19
						Placing concrete, concrete pump	4.63 cy	3	189	-	-	-	-	40.91 /cy	189	92.17 /cy	427
						Finishing floors, monolithic, broom finish	250.00 sf	8	480	5	-	-	-	1.94 /sf	485	4.38 /sf	1,094
						Curing, membrane spray	250.00 sf	1	27	10	-	-	-	0.15 /sf	37	0.34 /sf	85
						Polyethelene vapor barrier, 10 mil thick	2.50 sq	1	36	27	-	-	-	24.88 /sq	62	56.83 /sq	142
						03.10.05.12 Cast-In-Place Concrete, Slabs on Grade, 12" thick	**4.63 CY**	**22**	**1,352**	**1,824**	**440**			**780.96 /CY**	**3,616**	**1,788.35 /CY**	**8,280**
						03.10.05.0006 Repair Concrete	**4.63 CY**	**22**	**1,352**	**1,824**	**440**			**780.96 /CY**	**3,616**	**1,788.35 /CY**	**8,280**
						03.10 Cast-In-Place Concrete Work	**4.63 CY**	**22**	**1,352**	**1,824**	**440**			**780.96 /CY**	**3,616**	**1,788.35 /CY**	**8,280**
						03.0 Concrete Work	**4.63 CY**	**22**	**1,352**	**1,824**	**440**			**780.96 /CY**	**3,616**	**1,788.35 /CY**	**8,280**
						06.0 Repair Concrete	**250.00 SF**	**22**	**1,352**	**1,824**	**440**			**14.46 /SF**	**3,616**	**33.12 /SF**	**8,280**
	07.0					**Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	10,440.00 lf	161		-	20,880	-	-	2.00 /lf	20,880	4.51 /lf	47,050
						Asphalt Milling, 6" Depth	3,480.00 Sy	35		-	8,700	-	-	2.50 /Sy	8,700	5.63 /Sy	19,604
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	580.00 cy	60	4,065	-	-	5,724	-	16.88 /cy	9,789	38.75 /cy	22,473
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	580.00 cy		-	7,250	-	-	-	12.50 /cy	7,250	29.07 /cy	16,862
						02.01.01.01 General Site Demolition, Asphalt Pavement	**3,480.00 Sy**	**255**	**4,065**	**7,250**	**29,580**	**5,724**		**13.40 /Sy**	**46,619**	**30.46 /Sy**	**105,989**
						02.01.01.0007 Demo Asphalt	**3,480.00 Sy**	**255**	**4,065**	**7,250**	**29,580**	**5,724**		**13.40 /Sy**	**46,619**	**30.46 /Sy**	**105,989**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	3,480.00 SY	19	1,332	3,097	-	995	-	1.56 /SY	5,423	3.60 /SY	12,517
						Fog seal, sealcoating, prepare and clean surface for sealcoating	3,480.00 sy	10	591	-	-	138	-	0.21 /sy	729	0.48 /sy	1,653
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	3,480.00 sy	27	1,886	39,846	-	2,037	-	12.58 /sy	43,768	29.21 /sy	101,662
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	3,480.00 sy	1,772	118,287	83,520	-	10,972	-	61.14 /sy	212,778	139.75 /sy	486,315
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	5,220.00 LF	15	897	3,550	-	595	-	0.97 /LF	5,041	2.23 /LF	11,660
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**3,480.00 SY**	**1,841**	**122,991**	**130,013**		**14,736**		**76.94 /SY**	**267,740**	**176.38 /SY**	**613,808**
						32.40.02.0008 Trench Paving	**3,480.00 SY**	**1,841**	**122,991**	**130,013**		**14,736**		**76.94 /SY**	**267,740**	**176.38 /SY**	**613,808**
						32.12 Paving	**3,480.00 SY**	**2,096**	**127,056**	**137,263**	**29,580**	**20,460**		**90.33 /SY**	**314,359**	**206.84 /SY**	**719,797**
			32.50			**Site, Improvements**											
				32.40.04.0010		**Gravel Road Replacment**											
					32.40.04.00	**Site Improvements, Paving, Gravel Road**											
						Gravel Road Subgrade Prep	950.00 SY	9		-	1,425	-	-	1.50 /SY	1,425	3.38 /SY	3,211
						Gravel Road Import Aggregate Base	650.00 TN	8		-	20,150	-	-	31.00 /TN	20,150	69.85 /TN	45,405
						32.40.04.00 Site Improvements, Paving, Gravel Road	**650.00 TN**	**17**			**21,575**			**33.19 /TN**	**21,575**	**74.79 /TN**	**48,616**
						32.40.04.0010 Gravel Road Replacment	**950.00 SY**	**17**			**21,575**			**22.71 /SY**	**21,575**	**51.17 /SY**	**48,616**

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						32.50 Site, Improvements	***850.00*** **LF**	**17**			**21,575**			**25.38 /LF**	**21,575**	**57.20 /LF**	**48,616**
						32.0 Exterior Improvements	**4,430.00 SY**	**2,113**	**127,056**	**137,263**	**51,155**	**20,460**		**75.83 /SY**	**335,934**	**173.46 /SY**	**768,413**
						07.0 Trench Repair	***6,070.00*** **LF**	**2,113**	**127,056**	**137,263**	**51,155**	**20,460**		**55.34 /LF**	**335,934**	**126.59 /LF**	**768,413**
	08.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	6,070.00 LF		-	-	**151,750**	-		25.00 /LF	**151,750**	53.83 /LF	**326,771**
						33.00.01.40 Buried Pipe, Traffic Control	**6,070.00 LF**				**151,750**			**25.00 /LF**	**151,750**	**53.83 /LF**	**326,771**
						33.00.01.0009 Traffic Control Allowance	**6,070.00 LF**				**151,750**			**25.00 /LF**	**151,750**	**53.83 /LF**	**326,771**
						33.89 Pipeline - Traffic Control	**6,070.00 LF**				**151,750**			**25.00 /LF**	**151,750**	**53.83 /LF**	**326,771**
						33.0 Utilities	***1.00*** **LS**				**151,750**			**151,750.00 /LS**	**151,750**	**326,771.22 /LS**	**326,771**
						08.0 Traffic Control Allowance	**6,070.00 LF**				**151,750**			**25.00 /LF**	**151,750**	**53.83 /LF**	**326,771**
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	2.00 EA		-	-	**30,000**	-		15,000.00 /EA	**30,000**	33,800.28 /EA	**67,601**
						26.00.99.00 Electrical, Other	**2.00 EA**				**30,000**			**15,000.00 /EA**	**30,000**	**33,800.28 /EA**	**67,601**
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**2.00 EA**				**30,000**			**15,000.00 /EA**	**30,000**	**33,800.28 /EA**	**67,601**
						26.10 Site Electrical	***1.00*** **LS**				**30,000**			**30,000.00 /LS**	**30,000**	**67,600.56 /LS**	**67,601**
						26.0 Electrical Work	***1.00*** **LS**				**30,000**			**30,000.00 /LS**	**30,000**	**67,600.56 /LS**	**67,601**
						09.0 Traffic Loop Replacement Allowance	**2.00 EA**				**30,000**			**15,000.00 /EA**	**30,000**	**33,800.28 /EA**	**67,601**
						01.0 Las Vergenes Source Water Yellow Line	***1.00*** **LS**	**8,441**	**466,976**	**719,399**	**561,440**	**217,342**	**101,175**	**2,066,331.55 /LS**	**2,066,332**	**4,542,469.79 /LS**	**4,542,470**

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	466,976		8,441.497 hrs		76.932	10.28%	
Material	719,399				118.517	15.84%	
Subcontract	561,440				92.494	12.36%	
Equipment	217,342		4,441.645 hrs		35.806	4.78%	
Other	101,175				16.668	2.23%	
Subtotal Raw Costs	**2,066,332**	**2,066,332**			**340.417**	**45.49%**	**45.49%**
Material Sales & Use Tax - %	52,156			7.250 %	8.592	1.15%	
Construction Equip Tax - %	15,757			7.250 %	2.596	0.35%	
Total Taxes	**67,913**	**2,134,245**			**351.605**	**1.50%**	**46.98%**
Location Adj. Factor	231,888			11.800 %	38.202	5.10%	
Productivity Adjustment							
Subtotal Adj. Factors	**231,888**	**2,366,133**			**389.808**	**5.10%**	**52.09%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	904			25.000 %	0.149	0.02%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	1.236	0.17%	
Site/Civil I,OH&P	83,984			25.000 %	13.836	1.85%	
Buried Piping I,OH&P	254,517			15.000 %	41.930	5.60%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**346,905**	**2,713,038**			**446.958**	**7.64%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,713,038**			**446.958**		**59.73%**
Total Cost To Prime Contractor		**2,713,038**			**446.958**		**59.73%**
General Conditions	271,304			10.000 %	44.696	5.97%	
Mobilization/Demobilization	108,522			4.000 %	17.878	2.39%	
Subtotal Indirect Costs	**379,826**	**3,092,864**			**509.533**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	309,286			10.000 %	50.953	6.81%	
Prime Contractor Profit	154,643			5.000 %	25.477	3.40%	
Bonds & Insurance	77,182			2.170 %	12.715	1.70%	
Subtotal OH&P	**541,111**	**3,633,975**			**598.678**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,633,975**			**598.678**		**80.00%**
Design Contingency	908,494			25.000 %	149.670	20.00%	
Subtotal Contingency	**908,494**	**4,542,469**			**748.347**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**4,542,469**			**748.347**		**100.00%**
Total Prime Contractor Costs		**4,542,469**			**748.347**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**4,542,469**			**748.347**		**100.00%**
Total Contractor Costs w/ OFCI		**4,542,469**			**748.347**		**100.00%**
Total Construction Cost		**4,542,469**			**748.347**		**100.00%**
Total		***4,542,469***			***748.347***		

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Source Water Yellow Line**											
	01.0				20" C-900 PVC Water Main											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0001	20" C-900 PVC Water Main	6,070.00 LF	4,154	300,924	500,343	101,175	178,522	101,175	194.75 /LF	1,182,139	425.51 /LF	2,582,841
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	4,154	300,924	500,343	101,175	178,522	101,175	1,182,138.91 /LS	1,182,139	2,582,840.56 /LS	2,582,841
					33.0 Utilities	*1.00* LS	4,154	300,924	500,343	101,175	178,522	101,175	1,182,138.91 /LS	1,182,139	2,582,840.56 /LS	2,582,841
					01.0 20" C-900 PVC Water Main	6,070.00 LF	4,154	300,924	500,343	101,175	178,522	101,175	194.75 /LF	1,182,139	425.51 /LF	2,582,841
	02.0				36" Bore and Casing with 20" Carrier Pipe											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	420.00 LF	1,879	16,037	27,520	220,920	9,050		651.26 /LF	273,528	1,408.70 /LF	591,653
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	1,879	16,037	27,520	220,920	9,050		273,527.58 /LS	273,528	591,652.61 /LS	591,653
					33.0 Utilities	*1.00* LS	1,879	16,037	27,520	220,920	9,050		273,527.58 /LS	273,528	591,652.61 /LS	591,653
					02.0 36" Bore and Casing with 20" Carrier Pipe	420.00 LF	1,879	16,037	27,520	220,920	9,050		651.26 /LF	273,528	1,408.70 /LF	591,653
	03.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,738.66 /EA	70,432
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	63	5,046	24,138		2,623		31,807.04 /LS	31,807	70,431.97 /LS	70,432
					33.0 Utilities	*1.00* LS	63	5,046	24,138		2,623		31,807.04 /LS	31,807	70,431.97 /LS	70,432
					03.0 20" Butterfly Valves	6.00 EA	63	5,046	24,138		2,623		5,301.17 /EA	31,807	11,738.66 /EA	70,432
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,214.27 /EA	96,857
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	96,857.08 /LS	96,857
					33.0 Utilities	*1.00* LS	166	13,041	24,394		6,504		43,939.38 /LS	43,939	96,857.08 /LS	96,857
					04.0 8" Blow Off Assembly	4.00 EA	166	13,041	24,394		6,504		10,984.85 /EA	43,939	24,214.27 /EA	96,857
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,405.75 /EA	29,623
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,622.98 /LS	29,623
					33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,622.98 /LS	29,623
					05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,405.75 /EA	29,623
	06.0				Repair Concrete											
		03.0			Concrete Work											
			03.10		Cast-In-Place Concrete Work											
				03.10.05.0006	Repair Concrete	4.63 CY	22	1,352	1,824	440			780.96 /CY	3,616	1,788.35 /CY	8,280
					03.10 Cast-In-Place Concrete Work	4.63 CY	22	1,352	1,824	440			780.96 /CY	3,616	1,788.35 /CY	8,280
					03.0 Concrete Work	4.63 CY	22	1,352	1,824	440			780.96 /CY	3,616	1,788.35 /CY	8,280
					06.0 Repair Concrete	250.00 SF	22	1,352	1,824	440			14.46 /SF	3,616	33.12 /SF	8,280
	07.0				Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	3,480.00 Sy	255	4,065	7,250	29,580	5,724		13.40 /Sy	46,619	30.46 /Sy	105,989
				32.40.02.0008	Trench Paving	3,480.00 SY	1,841	122,991	130,013		14,736		76.94 /SY	267,740	176.38 /SY	613,808
					32.12 Paving	3,480.00 SY	2,096	127,056	137,263	29,580	20,460		90.33 /SY	314,359	206.84 /SY	719,797
			32.50		Site, Improvements											
				32.40.04.0010	Gravel Road Replacment	950.00 SY	17			21,575			22.71 /SY	21,575	51.17 /SY	48,616
					32.50 Site, Improvements	*850.00* LF	17			21,575			25.38 /LF	21,575	57.20 /LF	48,616
					32.0 Exterior Improvements	4,430.00 SY	2,113	127,056	137,263	51,155	20,460		75.83 /SY	335,934	173.46 /SY	768,413
					07.0 Trench Repair	*6,070.00* LF	2,113	127,056	137,263	51,155	20,460		55.34 /LF	335,934	126.59 /LF	768,413
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	6,070.00 LF				151,750			25.00 /LF	151,750	53.83 /LF	326,771
					33.89 Pipeline - Traffic Control	6,070.00 LF				151,750			25.00 /LF	151,750	53.83 /LF	326,771
					33.0 Utilities	*1.00* LS				151,750			151,750.00 /LS	151,750	326,771.22 /LS	326,771
					08.0 Traffic Control Allowance	6,070.00 LF				151,750			25.00 /LF	151,750	53.83 /LF	326,771
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,800.28 /EA	67,601
					26.10 Site Electrical	*1.00* LS				30,000			30,000.00 /LS	30,000	67,600.56 /LS	67,601
					26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,600.56 /LS	67,601
					09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,800.28 /EA	67,601
					01.0 Las Vergenes Source Water Yellow Line	*1.00* LS	8,441	466,976	719,399	561,440	217,342	101,175	**2,066,331.55 /LS**	2,066,332	**4,542,469.79 /LS**	4,542,470

BID FORM SUMMARY

Project type: Water
Job Size: 6,070 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Yellow Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	466,976		8,441.497 hrs		76.932	10.28%	
Material	719,399				118.517	15.84%	
Subcontract	561,440				92.494	12.36%	
Equipment	217,342		4,441.645 hrs		35.806	4.78%	
Other	101,175				16.668	2.23%	
Subtotal Raw Costs	**2,066,332**	**2,066,332**			**340.417**	**45.49%**	**45.49%**
Material Sales & Use Tax - %	52,156			7.250 %	8.592	1.15%	
Construction Equip Tax - %	15,757			7.250 %	2.596	0.35%	
Total Taxes	**67,913**	**2,134,245**			**351.605**	**1.50%**	**46.98%**
Location Adj. Factor	231,888			11.800 %	38.202	5.10%	
Productivity Adjustment							
Subtotal Adj. Factors	**231,888**	**2,366,133**			**389.808**	**5.10%**	**52.09%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P	904			25.000 %	0.149	0.02%	
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	1.236	0.17%	
Site/Civil I,OH&P	83,984			25.000 %	13.836	1.85%	
Buried Piping I,OH&P	254,517			15.000 %	41.930	5.60%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**346,905**	**2,713,038**			**446.958**	**7.64%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,713,038**			**446.958**		**59.73%**
Total Cost To Prime Contractor		**2,713,038**			**446.958**		**59.73%**
General Conditions	271,304			10.000 %	44.696	5.97%	
Mobilization/Demobilization	108,522			4.000 %	17.878	2.39%	
Subtotal Indirect Costs	**379,826**	**3,092,864**			**509.533**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	309,286			10.000 %	50.953	6.81%	
Prime Contractor Profit	154,643			5.000 %	25.477	3.40%	
Bonds & Insurance	77,182			2.170 %	12.715	1.70%	
Subtotal OH&P	**541,111**	**3,633,975**			**598.678**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,633,975**			**598.678**		**80.00%**
Design Contingency	908,494			25.000 %	149.670	20.00%	
Subtotal Contingency	**908,494**	**4,542,469**			**748.347**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**4,542,469**			**748.347**		**100.00%**
Total Prime Contractor Costs		**4,542,469**			**748.347**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**4,542,469**			**748.347**		**100.00%**
Total Contractor Costs w/ OFCI		**4,542,469**			**748.347**		**100.00%**
Total Construction Cost		**4,542,469**			**748.347**		**100.00%**
Total		***4,542,469***			***748.347***		

Green Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Source Green Line 8-10-22 | Estimator: John DeWolf
Job Size: 4,400 Lf | Project Number: W9Y31200 | Rev/Date: 8/10/22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Source Water Green Line***			
	01.0	**20" C-900 PVC Water Main**	**4,400.00 LF**	**444.49 /LF**	**1,955,739**
	02.0	**20" Butterfly Valves**	**5.00 EA**	**11,759.33 /EA**	**58,797**
	03.0	**8" Blow Off Assembly**	**3.00 EA**	**24,257.13 /EA**	**72,771**
	04.0	**2" CARV Assembly**	**2.00 EA**	**7,419.03 /EA**	**14,838**
	05.0	**Asphalt Trench Repair**	**4,400.00 LF**	**138.14 /LF**	**607,832**
	06.0	**Bore at Channel Crossing**	**50.00 LF**	**1,969.40 /LF**	**98,470**
	07.0	**Traffic Control Allowance**	**4,400.00 LF**	**53.93 /LF**	**237,298**
	08.0	**Traffic Loop Replacement Allowance**	**1.00 EA**	**33,858.79 /EA**	**33,859**
	01.0 Las Vergenes Source Water Green Line		***1.00 LS***	***3,079,603.59 /LS***	***3,079,604***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	785,672		5,407.278 hrs		178.562	25.51%	
Material	1,221,591				277.634	39.67%	
Subcontract	548,845				124.738	17.82%	
Equipment	373,947		3,554.539 hrs		84.988	12.14%	
Other	149,549				33.988	4.86%	
Total Prime Contractor Costs	**3,079,604**	**3,079,604**			**699.910**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**3,079,604**			**699.910**		**100.00%**
Total		***3,079,604***			***699.910***		

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Source Water Green Line**											
	01.0					20" C-900 PVC Water Main											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0001		20" C-900 PVC Water Main											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	22.00 day	352	20,529	-	-	-	-	933.15 /day	20,529	2,013.04 /day	44,287
						Trench Box, 8' x 24' x 10'	2.25 mo		-	-	-	5,175	-	2,300.00 /mo	5,175	5,128.43 /mo	11,539
						Dedicated Fire / Safety Monitor	88.00 hr	88	5,132	-	-	-	-	58.32 /hr	5,132	125.82 /hr	11,072
						Add for hydrotesting pipeline (labor & Equipment per day)	4,400.00 lf	53	4,279	-	-	382	-	1.06 /lf	4,661	2.29 /lf	10,083
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	4,726.93 CY	352	24,215	-	-	16,632	-	8.64 /CY	40,847	18.90 /CY	89,323
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	1,503.53 cy	617	40,472	-	-	27,701	-	45.34 /cy	68,172	99.15 /cy	149,073
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	3,027.40 cy	352	26,561	-	-	31,644	-	19.23 /cy	58,206	42.23 /cy	127,859
						Pipe zone material	1,503.53 cy		-	42,099	-	-	-	28.00 /cy	42,099	62.43 /cy	93,870
						Pipe bedding material	358.57 cy		-	10,040	-	-	-	28.00 /cy	10,040	62.43 /cy	22,387
						Imported backfill material	3,027.40 cy		-	36,329	-	-	-	12.00 /cy	36,329	26.76 /cy	81,004
						Haul spoils, offsite, 10 - 20 miles	4,889.00 cy		-	-	73,335	-	-	15.00 /cy	73,335	32.36 /cy	158,202
						Dump fees, trench spoils	4,889.00 cy		-	-	-	-	73,335	15.00 /cy	73,335	30.59 /cy	149,549
						20" DI, MJ, Ell, 90	8.00 ea	58	4,648	18,442	-	2,623	-	3,214.16 /ea	25,713	7,124.65 /ea	56,997
						20" DI, MJ, Ell, 45	2.00 ea	14	1,162	3,254	-	656	-	2,536.06 /ea	5,072	5,612.66 /ea	11,225
						20" DI, MJ, Ell, 11 1/4	6.00 ea	43	3,486	11,424	-	1,968	-	2,812.96 /ea	16,878	6,230.07 /ea	37,380
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	4,400.00 LF		-	257,928	-	-	-	58.62 /LF	257,928	130.71 /LF	575,116
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	4,400.00 lf	1,057	85,308	-	-	48,144	-	30.33 /lf	133,452	66.22 /lf	291,381
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,287.74 /ea	16,575
						Pipe Marking, ID Tape	4,400.00 lf	44	3,565	572	-	-	-	0.94 /lf	4,137	2.04 /lf	8,967
						Pipe Marking, Copper Wire	4,400.00 lf	44	3,565	968	-	-	-	1.03 /lf	4,533	2.24 /lf	9,850
						33.00.07.20 Buried Pipe, PVC, 20"	4,400.00 LF	3,122	226,798	382,555	73,335	137,111	73,335	202.99 /LF	893,134	444.49 /LF	1,955,739
						33.00.07.0001 20" C-900 PVC Water Main	4,400.00 LF	3,122	226,798	382,555	73,335	137,111	73,335	202.99 /LF	893,134	444.49 /LF	1,955,739
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	3,122	226,798	382,555	73,335	137,111	73,335	**893,134.32 /LS**	893,134	**1,955,738.58 /LS**	1,955,739
						33.0 Utilities	***1.00*** LS	3,122	226,798	382,555	73,335	137,111	73,335	893,134.32 /LS	893,134	1,955,738.58 /LS	1,955,739
						01.0 20" C-900 PVC Water Main	4,400.00 LF	3,122	226,798	382,555	73,335	137,111	73,335	202.99 /LF	893,134	444.49 /LF	1,955,739
	02.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	5.00 ea	33	2,663	-	-	1,503	-	833.21 /ea	4,166	1,819.24 /ea	9,096
						Butterfly valve, iron body, MJ , NO, 250#, 20"	5.00 EA		-	19,140	-	-	-	3,828.00 /EA	19,140	8,535.49 /EA	42,677
						Valve accessory, extension stem	25.00 lf	3	199	125	-	-	-	12.98 /lf	324	28.36 /lf	709
						Valve accessory, stem couplings	5.00 set	2	132	100	-	-	-	46.33 /set	232	101.40 /set	507
						CI Valve Box & Cover, w/ Concrete Collar included	5.00 ea	15	1,211	750	-	683	-	528.73 /ea	2,644	1,161.39 /ea	5,807
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,759.33 /EA	58,797
						33.20.03.0003 20" Butterfly Valves	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,759.33 /EA	58,797
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	52	4,205	20,115		2,186		**26,505.86 /LS**	26,506	**58,796.67 /LS**	58,797
						33.0 Utilities	***1.00*** LS	52	4,205	20,115		2,186		26,505.86 /LS	26,506	58,796.67 /LS	58,797
						02.0 20" Butterfly Valves	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,759.33 /EA	58,797
	03.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	36	2,905	3,916	-	1,640	-	112.81 /LF	8,461	248.72 /LF	18,654
						8" DI, MJ, Ell, 90	3.00 ea	9	726	1,031	-	410	-	722.48 /ea	2,167	1,593.40 /ea	4,780
						8" DI, MJ, Ell, 45	3.00 ea	9	726	881	-	410	-	672.43 /ea	2,017	1,481.81 /ea	4,445
						8" DI, RJ, cap or plug	3.00 ea	5	363	468	-	205	-	345.52 /ea	1,037	761.64 /ea	2,285
						20" DI, MJ, red. tee, 20" x 8"	3.00 ea	30	2,397	8,657	-	1,353	-	4,135.59 /ea	12,407	9,163.41 /ea	27,490
						Install gate valve, Flgd, DIP, 8"	3.00 ea	10	799	-	-	451	-	416.61 /ea	1,250	909.62 /ea	2,729
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		-	1,857	-	-	-	619.00 /EA	1,857	1,380.22 /EA	4,141
						Valve accessory, extension stem	45.00 lf	5	359	225	-	-	-	12.98 /lf	584	28.36 /lf	1,276
						Valve accessory, stem couplings	3.00 set	1	79	60	-	-	-	46.33 /set	139	101.40 /set	304
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	9	726	450	-	410	-	528.73 /ea	1,586	1,161.40 /ea	3,484
						Meter Box	3.00 ea	12	700	750	-	-	-	483.29 /ea	1,450	1,060.70 /ea	3,182
						33.20.01.08 Buried Valves, Gate Valves, 8"	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,257.13 /EA	72,771
						33.20.01.0004 8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,257.13 /EA	72,771
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	125	9,781	18,296		4,878		**32,954.55 /LS**	32,955	**72,771.38 /LS**	72,771
						33.0 Utilities	***1.00*** LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,771.38 /LS	72,771
						03.0 8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,257.13 /EA	72,771
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	2.00 EA		-	-	3,000	-		1,500.00 /EA	3,000	3,235.88 /EA	6,472
						2" Corporation stop, thrd	2.00 ea	2	188		-	91	-	139.46 /ea	279	304.13 /ea	608
						Ball valve, bronze, screwed, 2"	2.00 ea	1	64	128	-	-	-	95.92 /ea	192	211.56 /ea	423
						2" copper pipe, K-soft	50.00 LF	4	279	529	-	-	-	16.17 /LF	808	35.65 /LF	1,782
						2" copper, ELL, 90	4.00 ea	3	207	51	-	-	-	64.71 /ea	259	140.53 /ea	562
						Install Air & Vacuum relief valve, 2"	2.00 ea	5	383	-	-	-	-	191.51 /ea	383	413.13 /ea	826
						FURNISH Air & Vacuum relief valve, iron body, 2"	2.00 ea		-	750	-	-	-	375.00 /ea	750	836.16 /ea	1,672
						Double Strap Saddle, 20" x 2"	2.00 ea	8	638	500	-	-	-	569.19 /ea	1,138	1,246.00 /ea	2,492

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,419.03 /EA	14,838
						33.20.08.0005 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,419.03 /EA	14,838
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	22	1,760	1,958	3,000	91		**6,809.36 /LS**	6,809	**14,838.06 /LS**	14,838
						33.0 Utilities	***1.00*** LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,838.06 /LS	14,838
						04.0 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,419.03 /EA	14,838
	05.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			**Paving**											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	8,800.00 lf	135		-	17,600	-	-	2.00 /lf	17,600	4.51 /lf	39,728
						Asphalt Milling, 6" Depth	2,933.00 Sy	29		-	7,333	-	-	2.50 /Sy	7,333	5.64 /Sy	16,551
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	490.00 cy	50	3,434	-	-	4,836	-	16.88 /cy	8,270	38.81 /cy	19,018
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	490.00 cy		-	6,125	-	-	-	12.50 /cy	6,125	29.12 /cy	14,270
						02.01.01.01 General Site Demolition, Asphalt Pavement	2,933.00 Sy	215	3,434	6,125	24,933	4,836		13.41 /Sy	39,327	30.54 /Sy	89,566
						02.01.01.0007 Demo Asphalt	2,933.00 Sy	215	3,434	6,125	24,933	4,836		13.41 /Sy	39,327	30.54 /Sy	89,566
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	2,933.33 SY	16	1,122	2,611	-	838	-	1.56 /SY	4,571	3.60 /SY	10,569
						Fog seal, sealcoating, prepare and clean surface for sealcoating	2,933.33 sy	8	498	-	-	117	-	0.21 /sy	615	0.48 /sy	1,396
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	2,933.33 sy	22	1,589	33,587	-	1,717	-	12.58 /sy	36,893	29.26 /sy	85,836
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	2,933.33 sy	1,493	99,705	70,400	-	9,248	-	61.14 /sy	179,353	139.98 /sy	410,620
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	4,400.00 LF	13	756	2,992	-	502	-	0.97 /LF	4,249	2.24 /LF	9,845
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	2,933.33 SY	1,552	103,671	109,589		12,421		76.94 /SY	225,681	176.68 /SY	518,266
						32.40.02.0008 Trench Paving	2,933.33 SY	1,552	103,671	109,589		12,421		76.94 /SY	225,681	176.68 /SY	518,266
						32.12 Paving	**2,933.33 SY**	1,767	107,105	115,714	24,933	17,257		**90.34 /SY**	265,009	**207.22 /SY**	607,832
						32.0 Exterior Improvements	2,933.33 SY	1,767	107,105	115,714	24,933	17,257		90.34 /SY	265,009	207.22 /SY	607,832
						05.0 Asphalt Trench Repair	4,400.00 LF	1,767	107,105	115,714	24,933	17,257		60.23 /LF	265,009	138.14 /LF	607,832
	06.0					Bore at Channel Crossing											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,230.80 /ea	13,231
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,615.40 /ea	6,615
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,615.41 /ea	6,615
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,307.69 /ea	3,308
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	200		-	26,300	-	-	526.00 /LF	26,300	1,134.71 /LF	56,736
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	222.98 /ea	892
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	780.42 /ea	1,561
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	50.00 lf		-	2,931	-	-	-	58.62 /lf	2,931	130.71 /lf	6,535
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	50.00 lf	11	872	-	-	492	-	27.27 /lf	1,363	59.54 /lf	2,977
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,969.40 /LF	98,470
						33.60.02.0002 36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,969.40 /LF	98,470
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	319	9,587	4,031	26,300	5,411		**45,328.77 /LS**	45,329	**98,470.11 /LS**	98,470
						33.0 Utilities	***1.00*** LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,470.11 /LS	98,470
						06.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,969.40 /LF	98,470
	07.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	4,400.00 LF			-	-	110,000	-	25.00 /LF	110,000	53.93 /LF	237,298
						33.00.01.40 Buried Pipe, Traffic Control	4,400.00 LF					110,000		25.00 /LF	110,000	53.93 /LF	237,298
						33.00.01.0009 Traffic Control Allowance	4,400.00 LF					110,000		25.00 /LF	110,000	53.93 /LF	237,298
						33.89 Pipeline - Traffic Control	**4,400.00 LF**					110,000		**25.00 /LF**	110,000	**53.93 /LF**	237,298
						33.0 Utilities	***1.00*** LS					110,000		110,000.00 /LS	110,000	237,297.78 /LS	237,298
						07.0 Traffic Control Allowance	4,400.00 LF					110,000		25.00 /LF	110,000	53.93 /LF	237,298
	08.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			**Site Electrical**											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	1.00 EA			-	-	15,000	-	15,000.00 /EA	15,000	33,858.79 /EA	33,859
						26.00.99.00 Electrical, Other	1.00 EA					15,000		15,000.00 /EA	15,000	33,858.79 /EA	33,859
						26.00.99.0005 Replace Traffic Loops 3 Intersections	1.00 EA					15,000		15,000.00 /EA	15,000	33,858.79 /EA	33,859
						26.10 Site Electrical	***1.00*** **LS**					15,000		**15,000.00 /LS**	15,000	**33,858.79 /LS**	33,859
						26.0 Electrical Work	***1.00*** LS					15,000		15,000.00 /LS	15,000	33,858.79 /LS	33,859
						08.0 Traffic Loop Replacement Allowance	1.00 EA					15,000		15,000.00 /EA	15,000	33,858.79 /EA	33,859
						01.0 Las Vergenes Source Water Green Line	***1.00*** **LS**	5,407	359,235	542,670	252,568	166,934	73,335	**1,394,741.65 /LS**	1,394,742	**3,079,603.59 /LS**	3,079,604

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	359.235		5,407.278 hrs		81.644	11.66%	
Material	542.670				123.334	17.62%	
Subcontract	252,568				57.402	8.20%	
Equipment	166,934		3,554.539 hrs		37.940	5.42%	
Other	73,335				16.667	2.38%	
Subtotal Raw Costs	**1,394,742**	**1,394,742**			**316.987**	**45.29%**	**45.29%**
Material Sales & Use Tax - %	39,344			7.250 %	8.942	1.28%	
Construction Equip Tax - %	12,103			7.250 %	2.751	0.39%	
Total Taxes	**51,447**	**1,446,189**			**328.679**	**1.67%**	**46.96%**
Location Adj. Factor	155,926			11.800 %	35.438	5.06%	
Productivity Adjustment							
Subtotal Adj. Factors	**155,926**	**1,602,115**			**364.117**	**5.06%**	**52.02%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	0.852	0.12%	
Site/Civil I,OH&P	66,252			25.000 %	15.057	2.15%	
Buried Piping I,OH&P	167,210			15.000 %	38.002	5.43%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**237,212**	**1,839,327**			**418.029**	**7.70%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**1,839,327**			**418.029**		**59.73%**
Total Cost To Prime Contractor		**1,839,327**			**418.029**		**59.73%**
General Conditions	183,933			10.000 %	41.803	5.97%	
Mobilization/Demobilization	73,573			4.000 %	16.721	2.39%	
Subtotal Indirect Costs	**257,506**	**2,096,833**			**476.553**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	209,683			10.000 %	47.655	6.81%	
Prime Contractor Profit	104,842			5.000 %	23.828	3.40%	
Bonds & Insurance	52,326			2.170 %	11.892	1.70%	
Subtotal OH&P	**366,851**	**2,463,684**			**559.928**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**2,463,684**			**559.928**		**80.00%**
Design Contingency	615,921			25.000 %	139.982	20.00%	
Subtotal Contingency	**615,921**	**3,079,605**			**699.910**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**3,079,605**			**699.910**		**100.00%**
Total Prime Contractor Costs		**3,079,605**			**699.910**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**3,079,605**			**699.910**		**100.00%**
Total Contractor Costs w/ OFCI		**3,079,605**			**699.910**		**100.00%**
Total Construction Cost		**3,079,605**			**699.910**		**100.00%**
Total		***3,079,605***			***699.910***		

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Source Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Source Water Green Line**											
	01.0				20" C-900 PVC Water Main											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0001	20" C-900 PVC Water Main	4,400.00 LF	3,122	226,798	382,555	73,335	137,111	73,335	202.99 /LF	893,134	444.49 /LF	1,955,739
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	3,122	226,798	382,555	73,335	137,111	73,335	893,134.32 /LS	893,134	1,955,738.58 /LS	1,955,739
					33.0 Utilities	*1.00* LS	3,122	226,798	382,555	73,335	137,111	73,335	893,134.32 /LS	893,134	1,955,738.58 /LS	1,955,739
					01.0 20" C-900 PVC Water Main	4,400.00 LF	3,122	226,798	382,555	73,335	137,111	73,335	202.99 /LF	893,134	444.49 /LF	1,955,739
	02.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,759.33 /EA	58,797
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	52	4,205	20,115		2,186		26,505.86 /LS	26,506	58,796.67 /LS	58,797
					33.0 Utilities	*1.00* LS	52	4,205	20,115		2,186		26,505.86 /LS	26,506	58,796.67 /LS	58,797
					02.0 20" Butterfly Valves	5.00 EA	52	4,205	20,115		2,186		5,301.17 /EA	26,506	11,759.33 /EA	58,797
	03.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,257.13 /EA	72,771
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,771.38 /LS	72,771
					33.0 Utilities	*1.00* LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,771.38 /LS	72,771
					03.0 8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,257.13 /EA	72,771
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,419.03 /EA	14,838
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,838.06 /LS	14,838
					33.0 Utilities	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,838.06 /LS	14,838
					04.0 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,419.03 /EA	14,838
	05.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	2,933.00 Sy	215	3,434	6,125	24,933	4,836		13.41 /Sy	39,327	30.54 /Sy	89,566
				32.40.02.0008	Trench Paving	2,933.33 SY	1,552	103,671	109,589		12,421		76.94 /SY	225,681	176.68 /SY	518,266
					32.12 Paving	2,933.33 SY	1,767	107,105	115,714	24,933	17,257		90.34 /SY	265,009	207.22 /SY	607,832
					32.0 Exterior Improvements	2,933.33 SY	1,767	107,105	115,714	24,933	17,257		90.34 /SY	265,009	207.22 /SY	607,832
					05.0 Asphalt Trench Repair	4,400.00 LF	1,767	107,105	115,714	24,933	17,257		60.23 /LF	265,009	138.14 /LF	607,832
	06.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,969.40 /LF	98,470
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,470.11 /LS	98,470
					33.0 Utilities	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,470.11 /LS	98,470
					06.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,969.40 /LF	98,470
	07.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	4,400.00 LF				110,000			25.00 /LF	110,000	53.93 /LF	237,298
					33.89 Pipeline - Traffic Control	4,400.00 LF				110,000			25.00 /LF	110,000	53.93 /LF	237,298
					33.0 Utilities	*1.00* LS				110,000			110,000.00 /LS	110,000	237,297.78 /LS	237,298
					07.0 Traffic Control Allowance	4,400.00 LF				110,000			25.00 /LF	110,000	53.93 /LF	237,298
	08.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,858.79 /EA	33,859
					26.10 Site Electrical	*1.00* LS				15,000			15,000.00 /LS	15,000	33,858.79 /LS	33,859
					26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,858.79 /LS	33,859
					08.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,858.79 /EA	33,859
					01.0 Las Vergenes Source Water Green Line	*1.00* LS	5,407	359,235	542,670	252,568	166,934	73,335	**1,394,741.65 /LS**	1,394,742	**3,079,603.59 /LS**	3,079,604

BID FORM SUMMARY

Project type: Water
Job Size: 4,400 Lf
Duration:

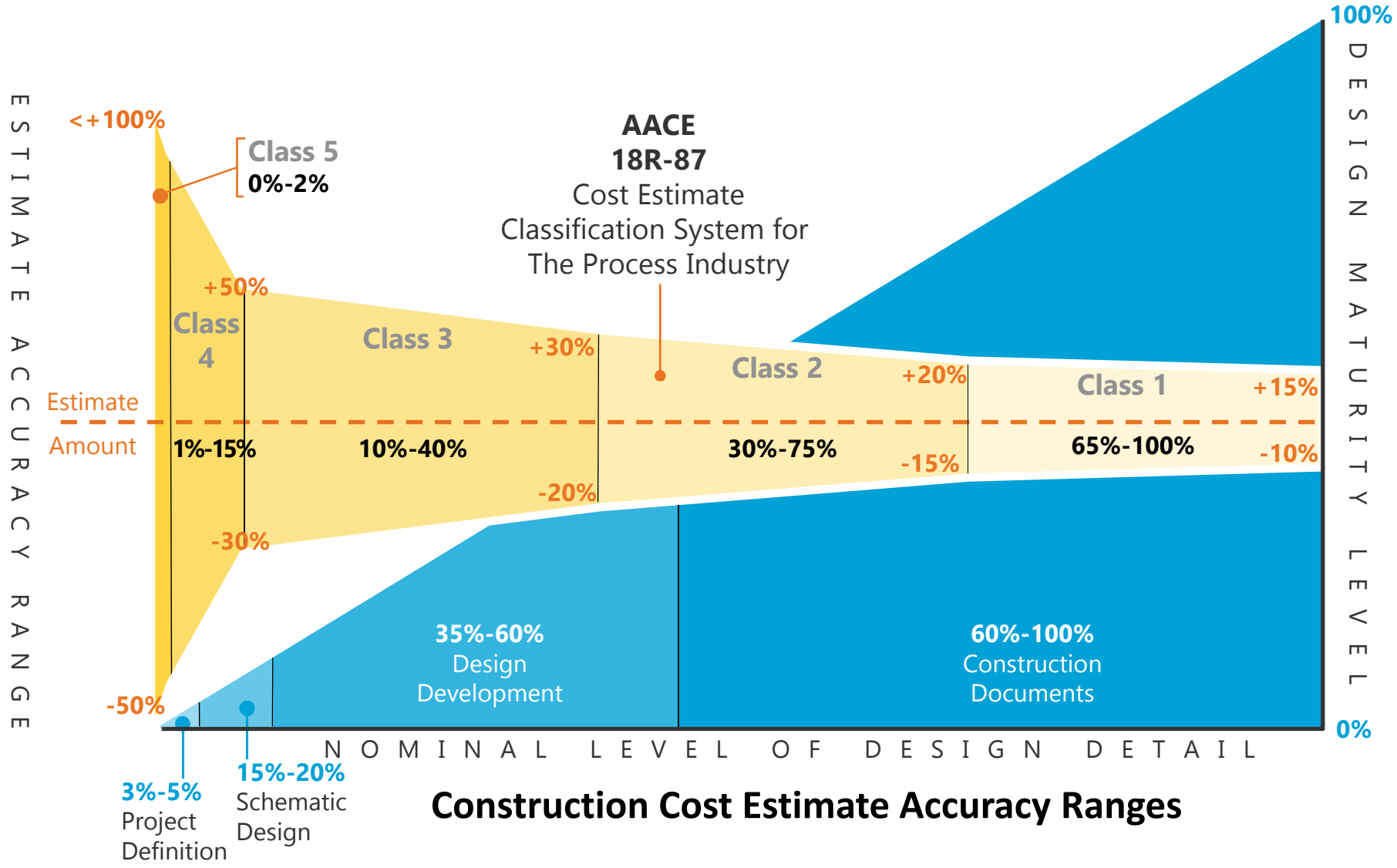
Project Name: W9Y31200 Las Vergenes Source Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8/10/22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	359,235		5,407.278 hrs		81.644	11.66%	
Material	542,670				123.334	17.62%	
Subcontract	252,568				57.402	8.20%	
Equipment	166,934		3,554.539 hrs		37.940	5.42%	
Other	73,335				16.667	2.38%	
Subtotal Raw Costs	**1,394,742**	**1,394,742**			**316.987**	**45.29%**	**45.29%**
Material Sales & Use Tax - %	39,344			7.250 %	8.942	1.28%	
Construction Equip Tax - %	12,103			7.250 %	2.751	0.39%	
Total Taxes	**51,447**	**1,446,189**			**328.679**	**1.67%**	**46.96%**
Location Adj. Factor	155,926			11.800 %	35.438	5.06%	
Productivity Adjustment							
Subtotal Adj. Factors	**155,926**	**1,602,115**			**364.117**	**5.06%**	**52.02%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				25.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	0.852	0.12%	
Site/Civil I,OH&P	66,252			25.000 %	15.057	2.15%	
Buried Piping I,OH&P	167,210			15.000 %	38.002	5.43%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**237,212**	**1,839,327**			**418.029**	**7.70%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**1,839,327**			**418.029**		**59.73%**
Total Cost To Prime Contractor		**1,839,327**			**418.029**		**59.73%**
General Conditions	183,933			10.000 %	41.803	5.97%	
Mobilization/Demobilization	73,573			4.000 %	16.721	2.39%	
Subtotal Indirect Costs	**257,506**	**2,096,833**			**476.553**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	209,683			10.000 %	47.655	6.81%	
Prime Contractor Profit	104,842			5.000 %	23.828	3.40%	
Bonds & Insurance	52,326			2.170 %	11.892	1.70%	
Subtotal OH&P	**366,851**	**2,463,684**			**559.928**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**2,463,684**			**559.928**		**80.00%**
Design Contingency	615,921			25.000 %	139.982	20.00%	
Subtotal Contingency	**615,921**	**3,079,605**			**699.910**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**3,079,605**			**699.910**		**100.00%**
Total Prime Contractor Costs		**3,079,605**			**699.910**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**3,079,605**			**699.910**		**100.00%**
Total Contractor Costs w/ OFCI		**3,079,605**			**699.910**		**100.00%**
Total Construction Cost		**3,079,605**			**699.910**		**100.00%**
Total		***3,079,605***			***699.910***		

AACE Information



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	**0% to 2%**	**1% to 15%**	**10% to 40%**	**30% to 70%**	**50% to 100%**
END USAGE Typical Purpose of Estimate	**Concept Screening**	**Study or Feasibility**	**Budget Authorization, or Control**	**Control or Bid / Tender**	**Check Estimate or Bid / Tender**
METHODOLOGY Typical estimating method	**Capacity Factored, Parametric Models, Judgment, or Analogy**	**Equipment Factored or Parametric Models**	**Semi-Detailed Unit Costs with Assembly Level Line Items**	**Detailed Unit Cost with Forced Detailed Take-Off**	**Detailed Unit Cost with Detailed Take-Off**
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	**L: -20% to -50%** / **H: +30% to +100%**	**L: -15% to -30%** / **H: +20% to +50%**	**L: -10% to -20%** / **H: +10% to +30%**	**L: -5% to -15%** / **H: +5% to +20%**	**L: -3% to -10%** / **H: +3% to +15%**
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	**1**	**2 to 4**	**3 to 10**	**4 to 20**	**5 to 100**
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	**Class 5**	**Class 4**	**Class 3**	**Class 2**	**Class 1**
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete

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Las Virgenes-Triunfo Purified Water Line Rev. #2

Agoura Hills and Westlake Village CA.

Class 5

Prepared:
November 17, 2022

Jacobs

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Project Cost Estimate 1

Jacobs

Basis of Estimate

Jacobs

Basis of Estimate

1. Project Information

Client/Owner:	Las Virgenes-Triunfo
Project Manager:	Jennifer Phillips
Design Manager:	TBD
Architect:	TBD
Project Description:	Purified Water Line Rev#2
Location:	Agoura Hills and West Lake Village Ca.
Estimate Date:	November 17, 2022
Design Level:	Conceptual
Estimate Classification	Class 5
Estimate Number:	W9Y31200
Contracting Method:	Design, Bid, Build
Project Size:	See Each Estimate for the size and scope.
Construction Budget:	See Section 4. Overall Cost
Construction Start:	TBD
Construction Duration:	TBD

2. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer's opinion of probable construction cost at the 10% level of design development.

3. General Project Description

This project is for the construction of Source Water Pipelines as detailed in estimates below in the cities of Agoura Hills and Westlake Village CA.

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4. Overall Costs

REACH 1

No. 1-1 Light Blue Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$10,335,000	**$14,764,000**	$22,146,000

No. 1-2 Green Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$11,164,000	**$15,949,000**	$23,924,000

REACH 2

No. 2-1 Pink Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$3,441,000	**$4,916,000**	$7,374,000

No. 2-2 Dark Blue Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$3,432,000	**$4,903,000**	$7,355,000

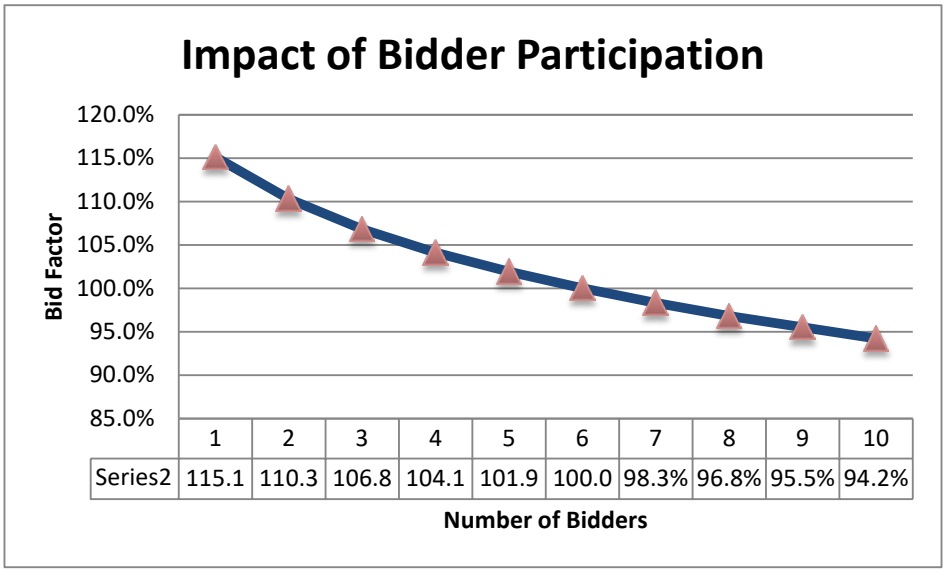
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5. General Qualifications

A. We recommend the Owner and/or designated representatives review the estimate in detail for items that may not be consistent with the program intent.

B. The final costs of the project will depend on actual labor and material costs, competitive market conditions, actual project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein.

C. This estimate is based upon a competitive bid contracting method with five to seven responsible bidders (see chart below for modifications due to number of responsible bidders). Any single source specification selection will have an increased impact on the overall cost.



No. Bidders	Bid Factor
1	115.1%
2	110.3%
3	106.8%
4	104.1%
5	101.9%
6	100.0%
7	98.3%
8	96.8%
9	95.5%
10	94.2%

Data Source: PACES 2007, Mark-ups Screen, Prime and Subcontractor Profit Calculation Factors

D. The estimate does not include impacts due to contracting methods other than “open” competitive procurement. Pricing is not valid for negotiated contracts.

E. Pricing is not valid for HUB Zone and “set-aside” contract award.

6. Estimate Basis

A. Basis

- Other: Word documenting the scope of work with Google Earth KMZ files showing the approximate alignment of the pipeline.

B. Format

- This estimate is presented in CSI Masterformat 2004.
- The following Work Breakdown Structure (WBS) has been utilized to further segregate cost:
  - Area
  - Bid Item
  - Work Package
  - Trade Package
  - Work Activity
  - Unit Price

C. Labor Rates

Labor rates are based on local prevailing wages and are fully burdened to include both direct and indirect subcontract mark-ups. Labor Rates include base, fringes, payroll taxes and insurance, small tools, consumables, field supervision and field overhead as well as subcontractor overhead and profit. ENR CCI at the time of this estimate is 13575.17 for July 2022.

The estimate has been adjusted for local area labor rates, based upon 2022 RS Means National Average labor rates for the state of California. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index for Los Angeles CA. Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

D. Material Pricing

Materials pricing is based upon the national average as determined by RS Means or other data sources. Quotes on certain items may have been obtained and included in this estimate. Many quotes given for engineering estimates are budgetary and may not reflect actual contractor pricing.

E. Subcontracted Costs

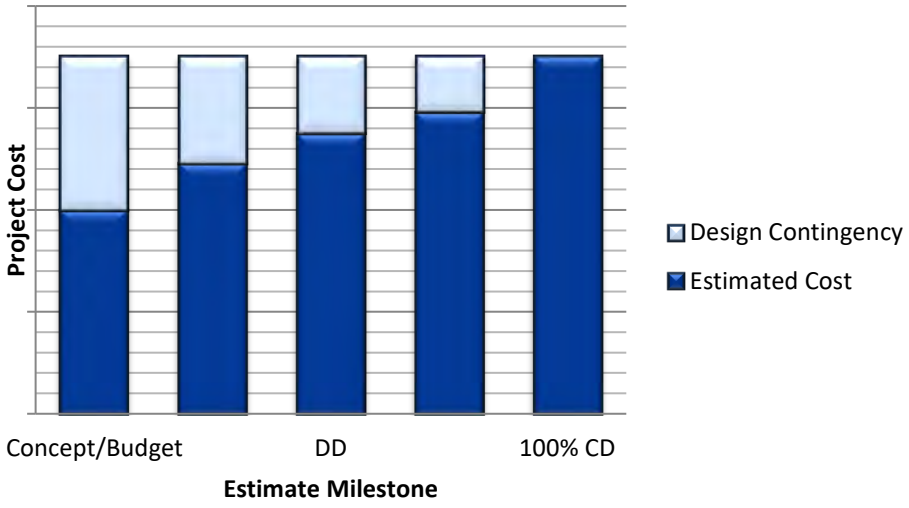
It is assumed that General Contractors will subcontract a portion of the work. Items listed in the cost estimate as subcontractor includes all anticipated markups that a general contractor would receive.

F. Construction Equipment Cost

Equipment items listed in this cost estimate are for the construction equipment necessary for the installation of the work. Equipment rates in this estimate are assumed to be 100% of 2022 Blue Book value. This is to account for contractor owned equipment or discounted rental equipment. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index Los Angeles CA.

G. Design Contingency

Design Contingency is considered to be owned by the project. At each milestone estimate, contingency (based on the level of design detail available) is applied against the total estimated construction cost, including General Conditions (when applicable). This risk-based contingency is intended to cover the cost associated with the further refinement of the design and details that are not completed on the plans. The design contingency is a function of the level of design at the time of the cost estimate development. As the design details increase at each milestone estimate, the contingency decreases until, at 100% design completion, the contingency is generally 0%. The following graph is a theoretical representation of this process.



Design Contingency is not intended to cover owner changes, nor does it address unforeseeable events such as labor strikes, natural disasters or extraordinary economic events.

A Design Contingency of 25% is included.

H. Market Adjustment Factor or Contingency

A market adjustment factor or contingency has been added to the estimate, to account for lack of potential bidders in a geographical area, based upon the amount of current workload by the general contractors or subcontractors.

A Market Adjustment Factor is not included.

I. Construction Contingency

Construction Contingency is a typical consideration on any Guaranteed Maximum Price (GMP) contract. It is often owned by the project but controlled by the owner. Meaning, the owner has approval rights as to whether this contingency fund is utilized. Its purpose

is to cover purchasing gaps and omissions in the GMP bidding process and to cover unforeseen costs due to weather or scheduling conflicts. Typically, as part of a GMP, the unspent portion of the construction contingency is returned to the owner when the project is closed out.

A Construction Contingency is not included.

J. Owner's Contingency

Owner's Contingency is a recommended amount to cover the costs associated with unforeseen conditions during the construction phase such as unknown site conditions, schedule delays and trade coordination issues that may lead to change orders. This contingency is not meant for scope enhancements or for additions to the project. The suggested percentage for Owner's Contingency is based on Industry standards for the type and location of the project.

Owner's Contingency is not included in this estimate.

K. Escalation

The pricing presented herein is based on current market costs. An escalation rate is applied at the summary level of the estimate for costs associated with the following:

- Yearly merit raises for open shop contractors.
- Yearly renegotiation of union agreements.
- Material price increases (typically assessed quarterly).

Escalation is not intended to cover increases due to fluctuations in market conditions such as over saturation of projects during the anticipated bidding phase or temporary reductions in availability of manpower for selected labor pools.

Escalation is not included.

7. Taxes

An 7.25% sales tax was added to all material costs within the estimate including process equipment.

8. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- Jacobs Historical Data

- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

9. Constructability Or Phase Comments

A Constructability Study was not conducted by estimating.

10. Project Allowances

01 - Allowances

Allowances are an allotted sum of money included for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost. Allowances include project direct costs - including labor, material, equipment and any subcontractor costs.

1. Allowances are detailed in the attached “Detail Estimate for each alternate.

11. Major Assumptions

01 – General Requirements

1. Material that is to be excavated can be done with a standard excavator.
2. All backfill will be new imported material.
3. A Dump site for excavated spoils will be available within 20 miles of the project.
4. Traffic will be allowed to be detoured around the work site.

12. General Exclusions:

- Professional fees, inspections and/or third-party testing
- Owner furnished items
- Hazardous waste removal and disposal
- Unforeseen sub-surface or existing conditions
- State/Local license, fees and/or permits
- Owner’s contingency
- Any Blasting

13. Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was

prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The impacts of the COVID-19 pandemic on the construction industry are not known at this time and will likely have some impact on the costs presented herein. This situation should be monitored and costs adjusted as the impacts become realized and published by the leading industry sources.

While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends.

REACH 1

No. 1-1 Light Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31- | Estimator: John DeWolf
Job Size: 12,710 Lf | Project Number: W9Y31200 | Rev/Date: Rev #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Purified 1-1 Light Blue Line***			
	01.0	**20" 3/16" CS Waterline**	**12,710.00 LF**	**896.27 /LF**	**11,391,640**
	02.0	**Bridge Crossing Allowance**	**200.00 LF**	**1,388.95 /LF**	**277,789**
	03.0	**Bore at Channel Crossing**	**100.00 LF**	**1,044.41 /LF**	**104,441**
	04.0	**8" Blow Off Assembly**	**5.00 EA**	**19,593.77 /EA**	**97,969**
	05.0	**2" CARV Assembly**	**4.00 EA**	**7,411.98 /EA**	**29,648**
	06.0	**20" Butterfly Valves**	**13.00 EA**	**11,748.37 /EA**	**152,729**
	07.0	**Asphalt Trenc Repair**	**12,710.00 LF**	**138.00 /LF**	**1,753,999**
	08.0	**Traffic Control Allowance**	**12,710.00 LF**	**53.88 /LF**	**684,810**
	09.0	**Traffic Loop Replacement Allowance**	**3.00 EA**	**33,827.75 /EA**	**101,483**
	10.0	**Purified Water Bypass**	**1.00 EA**	**169,577.09 /EA**	**169,577**
	01.0 Las Virgenes Purified 1-1 Light Blue Line		***1.00 LS***	***14,764,083.68 /LS***	***14,764,084***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	4,234,176		27,477.468 hrs		333.137	28.68%	
Material	5,868,965				461.760	39.75%	
Subcontract	1,961,066				154.293	13.28%	
Equipment	2,268,309		17,532.606 hrs		178.466	15.36%	
Other	431,567				33.955	2.92%	
Total Prime Contractor Costs	**14,764,083**	**14,764,083**			**1,161.612**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**14,764,083**			**1,161.612**		**100.00%**
Total		***14,764,083***			***1,161.612***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Purified 1-1 Light Blue Line**											
	01.0					20" 3/16" CS Waterline											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.00.05.1001		20" 3/16" CS Waterline											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***100.00 ea***			-	-	-	-	***/ea***		***/ea***	
						Traffic Control, Labor per Day	127.00 day	2,032	118,510	-	-	-	-	933.15 /day	118,510	2,011.11 /day	255,411
						Trench Box, 8' x 24' x 10'	6.00 mo		-	-	-	13,800	-	2,300.00 /mo	13,800	5,123.67 /mo	30,742
						Dedicated Fire / Safety Monitor	508.00 hr	508	29,628	-	-	-	-	58.32 /hr	29,628	125.69 /hr	63,853
						50 tn Rough Terrain (per day)	127.00 day	1,016	80,389	-	-	200,711	-	2,213.38 /day	281,100	4,884.83 /day	620,373
						Add for hydrotesting pipeline (labor & Equipment per day)	12,710.00 lf	153	12,359	-	-	1,105	-	1.06 /lf	13,464	2.29 /lf	29,097
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	13,654.37 CY	2,032	139,645	-	-	95,912	-	17.25 /CY	235,557	37.69 /CY	514,622
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	4,343.15 cy	3,556	233,388	-	-	159,742	-	90.52 /cy	393,129	197.75 /cy	858,847
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	8,745.05 cy	2,032	153,170	-	-	182,483	-	38.38 /cy	335,653	84.23 /cy	736,624
						Pipe zone material	4,343.15 cy		-	121,608	-	-	-	28.00 /cy	121,608	62.38 /cy	270,905
						Pipe bedding material	1,035.78 cy		-	29,002	-	-	-	28.00 /cy	29,002	62.38 /cy	64,607
						Haul spoils, offsite, 10 - 20 miles	14,123.00 cy		-	-	211,845	-	-	15.00 /cy	211,845	32.33 /cy	456,565
						Dump fees, trench spoils	14,123.00 cy		-	-	-	-	211,845	15.00 /cy	211,845	30.56 /cy	431,567
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	12,710.00 LF	6,096	491,947	1,367,914	-	277,634	-	168.17 /LF	2,137,494	371.83 /LF	4,725,994
						20" CS Ell, 90	7.00 ea	43	3,502	5,653	-	1,977	-	1,590.21 /ea	11,131	3,506.22 /ea	24,544
						20" CS Ell, 45	8.00 ea	50	4,003	3,240	-	2,259	-	1,187.71 /ea	9,502	2,609.57 /ea	20,877
						20" CS Ell, 11.25	12.00 ea	74	6,004	4,860	-	3,388	-	1,187.71 /ea	14,253	2,609.57 /ea	31,315
						20" CS butt weld, 3/16" wall	690.00 ea		-	-	125,580	-	-	182.00 /ea	125,580	392.24 /ea	270,648
						CLSM, pipe encasement	8,745.05 cy		-	524,703	-	-	-	60.00 /cy	524,703	133.66 /cy	1,168,872
						Tape wrap joint, 20" pipe	690.00 ea	1,242	100,229	34,500	-	-	-	195.26 /ea	134,729	424.45 /ea	292,868
						Grout joint, I.D., 20" pipe	690.00 ea	1,380	111,826	8,280	-	-	-	174.07 /ea	120,106	376.01 /ea	259,450
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,279.91 /ea	16,560
						Cathodic protection, joint jumpers	690.00 ea	690	55,913	17,250	-	-	-	106.03 /ea	73,163	230.33 /ea	158,930
						Cathodic protection, anode, 30 lbs	13.00 ea	52	4,214	1,950	-	-	-	474.13 /ea	6,164	1,032.72 /ea	13,425
						Cathodic protection, test station	13.00 ea	208	16,855	5,720	-	-	-	1,736.53 /ea	22,575	3,774.44 /ea	49,068
						Pipe Marking, ID Tape	12,710.00 lf	127	10,299	1,652	-	-	-	0.94 /lf	11,952	2.04 /lf	25,878
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	12,710.00 LF	21,339	1,575,753	2,127,832	337,425	941,196	211,845	408.66 /LF	5,194,051	896.27 /LF	11,391,640
						33.00.05.1001 20" 3/16" CS Waterline	12,710.00 LF	21,339	1,575,753	2,127,832	337,425	941,196	211,845	408.66 /LF	5,194,051	896.27 /LF	11,391,640
						33.03 Buried Process Pipe, Carbon Steel	**12,710.00 LF**	21,339	1,575,753	2,127,832	337,425	941,196	211,845	**408.66 /LF**	5,194,051	**896.27 /LF**	11,391,640
						33.0 Utilities	***1.00*** LS	21,339	1,575,753	2,127,832	337,425	941,196	211,845	5,194,051.05 /LS	5,194,051	11,391,639.87 /LS	11,391,640
						01.0 20" 3/16" CS Waterline	12,710.00 LF	21,339	1,575,753	2,127,832	337,425	941,196	211,845	408.66 /LF	5,194,051	896.27 /LF	11,391,640
	02.0					Bridge Crossing Allowance											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.00.07.0002		Bridge Crossing Allowance											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Division 33 Allowance Support Pipe Inside Bridge	200.00 lf		-	-	100,000	-		500.00 /lf	100,000	1,077.59 /lf	215,518
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	200.00 LF	52	4,196	21,525	-	2,368	-	140.45 /LF	28,090	311.35 /LF	62,271
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,388.95 /LF	277,789
						33.00.07.0002 Bridge Crossing Allowance	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,388.95 /LF	277,789
						33.03 Buried Process Pipe, Carbon Steel	**200.00 LF**	52	4,196	21,525	100,000	2,368		**640.45 /LF**	128,090	**1,388.95 /LF**	277,789
						33.0 Utilities	***1.00*** LS	52	4,196	21,525	100,000	2,368		128,089.69 /LS	128,090	277,789.06 /LS	277,789
						02.0 Bridge Crossing Allowance	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,388.95 /LF	277,789
	03.0					Bore at Channel Crossing											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,218.26 /ea	13,218
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,609.14 /ea	6,609
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,609.12 /ea	6,609
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,304.55 /ea	3,305
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	200		-	26,300	-	-	526.00 /LF	26,300	1,133.63 /LF	56,681
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	222.77 /ea	891
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	779.70 /ea	1,559
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	50.00 LF	13	1,049	5,381	-	592	-	140.45 /LF	7,022	311.35 /LF	15,568
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	100.00 LF	321	9,765	6,481	26,300	5,511		480.57 /LF	48,057	1,044.41 /LF	104,441
						33.60.02.0002 36" Bore with 20" Carrier	100.00 LF	321	9,765	6,481	26,300	5,511		480.57 /LF	48,057	1,044.41 /LF	104,441
						33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	321	9,765	6,481	26,300	5,511		**480.57 /LF**	48,057	**1,044.41 /LF**	104,441
						33.0 Utilities	***1.00*** LS	321	9,765	6,481	26,300	5,511		48,056.75 /LS	48,057	104,440.54 /LS	104,441
						03.0 Bore at Channel Crossing	100.00 LF	321	9,765	6,481	26,300	5,511		480.57 /LF	48,057	1,044.41 /LF	104,441
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						20" CS tee	5.00 ea	31	2,502	6,300	-	1,412	-	2,042.71 /ea	10,214	4,514.24 /ea	22,571
						8" pipe, DI, MJ, excav/bkfill included	125.00 LF	60	4,842	6,526	-	2,733	-	112.81 /LF	14,101	248.49 /LF	31,061
						8" DI, MJ, Ell, 90	5.00 ea	15	1,211	1,719	-	683	-	722.48 /ea	3,612	1,591.91 /ea	7,960
						8" DI, MJ, Ell, 45	5.00 ea	15	1,211	1,469	-	683	-	672.43 /ea	3,362	1,480.41 /ea	7,402
						8" DI, RJ, cap or plug	5.00 ea	8	605	781	-	342	-	345.52 /ea	1,728	760.93 /ea	3,805
						Install gate valve, Flgd, DIP, 8"	5.00 ea	17	1,332	-	-	751	-	416.61 /ea	2,083	908.76 /ea	4,544
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	5.00 EA		-	3,095	-	-	-	619.00 /EA	3,095	1,378.93 /EA	6,895
						Valve accessory, extension stem	75.00 lf	8	598	375	-	-	-	12.98 /lf	973	28.34 /lf	2,125
						Valve accessory, stem couplings	5.00 set	2	132	100	-	-	-	46.33 /set	232	101.30 /set	507
						CI Valve Box & Cover, w/ Concrete Collar included	5.00 ea	15	1,211	750	-	683	-	528.73 /ea	2,644	1,160.30 /ea	5,802
						Meter Box	5.00 ea	20	1,166	1,250	-	-	-	483.29 /ea	2,416	1,059.70 /ea	5,298
						33.20.01.08 Buried Valves, Gate Valves, 8"	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,593.77 /EA	97,969
						33.20.01.0004 8" Blow Off Assembly	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,593.77 /EA	97,969
						33.03 Buried Process Pipe, Carbon Steel	**125.00 LF**	189	14,809	22,364		7,287		**355.68 /LF**	44,460	**783.75 /LF**	97,969
						33.0 Utilities	***1.00*** LS	189	14,809	22,364		7,287		44,459.85 /LS	44,460	97,968.84 /LS	97,969

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						04.0 8" Blow Off Assembly	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,593.77 /EA	97,969
	05.0					2" CARV Assembly											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	4.00 EA		-	-	6,000	-		1,500.00 /EA	6,000	3,232.78 /EA	12,931
						2" Corporation stop, thrd	4.00 ea	5	376		-	182	-	139.45 /ea	558	303.84 /ea	1,215
						Ball valve, bronze, screwed, 2"	4.00 ea	2	128	256	-	-	-	95.92 /ea	384	211.36 /ea	845
						2" copper pipe, K-soft	100.00 LF	7	559	1,058	-	-	-	16.17 /LF	1,617	35.61 /LF	3,561
						2" copper, ELL, 90	8.00 ea	5	415	103	-	-	-	64.71 /ea	518	140.39 /ea	1,123
						Install Air & Vacuum relief valve, 2"	4.00 ea	10	766	-	-	-	-	191.51 /ea	766	412.74 /ea	1,651
						FURNISH Air & Vacuum relief valve, iron body, 2"	4.00 ea		-	1,500	-	-	-	375.00 /ea	1,500	835.38 /ea	3,342
						Double Strap Saddle, 20" x 2"	4.00 ea	16	1,277	1,000	-	-	-	569.19 /ea	2,277	1,244.83 /ea	4,979
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,411.98 /EA	29,648
						33.20.08.0005 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,411.98 /EA	29,648
						33.03 Buried Process Pipe, Carbon Steel	100.00 LF	44	3,520	3,917	6,000	182		136.19 /LF	13,619	296.48 /LF	29,648
						33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,647.93 /LS	29,648
						05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,411.98 /EA	29,648
	06.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	13.00 ea	86	6,924	-	-	3,908	-	833.21 /ea	10,832	1,817.51 /ea	23,628
						Butterfly valve, iron body, MJ , NO, 250#, 20"	13.00 EA		-	49,764	-	-	-	3,828.00 /EA	49,764	8,527.57 /EA	110,858
						Valve accessory, extension stem	65.00 lf	7	519	325	-	-	-	12.98 /lf	844	28.34 /lf	1,842
						Valve accessory, stem couplings	13.00 set	4	342	260	-	-	-	46.33 /set	602	101.31 /set	1,317
						CI Valve Box & Cover, w/ Concrete Collar included	13.00 ea	39	3,147	1,950	-	1,776	-	528.73 /ea	6,874	1,160.29 /ea	15,084
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,748.37 /EA	152,729
						33.20.03.0003 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,748.37 /EA	152,729
						33.03 Buried Process Pipe, Carbon Steel	*1.00* LF	136	10,932	52,299		5,684		68,915.25 /LF	68,915	152,728.76 /LF	152,729
						33.0 Utilities	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,728.76 /LS	152,729
						06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,748.37 /EA	152,729
	07.0					Asphalt Trenc Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	25,420.00 lf	391		-	50,840	-	-	2.00 /lf	50,840	4.51 /lf	114,654
						Asphalt Milling, 6" Depth	8,474.00 Sy	85		-	21,185	-	-	2.50 /Sy	21,185	5.64 /Sy	47,776
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,412.00 cy	145	9,895	-	-	13,936	-	16.88 /cy	23,831	38.78 /cy	54,753
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,412.00 cy		-	17,650	-	-	-	12.50 /cy	17,650	29.10 /cy	41,084
						02.01.01.01 General Site Demolition, Asphalt Pavement	8,474.00 Sy	621	9,895	17,650	72,025	13,936		13.39 /Sy	113,506	30.48 /Sy	258,266
						02.01.01.0007 Demo Asphalt	8,474.00 Sy	621	9,895	17,650	72,025	13,936		13.39 /Sy	113,506	30.48 /Sy	258,266
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	8,473.33 SY	45	3,242	7,541	-	2,422	-	1.56 /SY	13,205	3.60 /SY	30,502
						Fog seal, sealcoating, prepare and clean surface for sealcoating	8,473.33 sy	24	1,439	-	-	337	-	0.21 /sy	1,776	0.48 /sy	4,029
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	8,473.33 sy	65	4,591	97,020	-	4,959	-	12.58 /sy	106,570	29.24 /sy	247,728
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	8,473.33 sy	4,314	288,013	203,360	-	26,714	-	61.14 /sy	518,087	139.86 /sy	1,185,061
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	12,710.00 LF	36	2,183	8,643	-	1,449	-	0.97 /LF	12,275	2.24 /LF	28,413
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	8,473.33 SY	4,484	299,468	316,564		35,880		76.94 /SY	651,912	176.52 /SY	1,495,733
						32.40.02.0008 Trench Paving	8,473.33 SY	4,484	299,468	316,564		35,880		76.94 /SY	651,912	176.52 /SY	1,495,733
						32.12 Paving	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.00 /SY	1,753,999
						32.0 Exterior Improvements	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.00 /SY	1,753,999
						07.0 Asphalt Trenc Repair	12,710.00 LF	5,105	309,363	334,214	72,025	49,816		60.22 /LF	765,417	138.00 /LF	1,753,999
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	12,710.00 LF		-	-	317,750	-		25.00 /LF	317,750	53.88 /LF	684,810
						33.00.01.40 Buried Pipe, Traffic Control	12,710.00 LF				317,750			25.00 /LF	317,750	53.88 /LF	684,810
						33.00.01.0009 Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.88 /LF	684,810
						33.89 Pipeline - Traffic Control	12,710.00 LF				317,750			25.00 /LF	317,750	53.88 /LF	684,810
						33.0 Utilities	*1.00* LS				317,750			317,750.00 /LS	317,750	684,809.55 /LS	684,810
						08.0 Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.88 /LF	684,810
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	3.00 EA		-	-	45,000	-		15,000.00 /EA	45,000	33,827.75 /EA	101,483
						26.00.99.00 Electrical, Other	3.00 EA				45,000			15,000.00 /EA	45,000	33,827.75 /EA	101,483
						26.00.99.0005 Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,827.75 /EA	101,483
						26.10 Site Electrical	*1.00* LS				45,000			45,000.00 /LS	45,000	101,483.25 /LS	101,483
						26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,483.25 /LS	101,483
						09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,827.75 /EA	101,483
	10.0					Purified Water Bypass											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.00.07.0010		Purified Water Bypass											

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.00.07.20	**Buried Pipe, PVC, 20"**											
						Utility vaults, precast concrete, 5' x 10' x 6' high, i.d	1.00 EA	**28**	**1,763**	**2,425**	**-**	**259**	**-**	4,446.96 /EA	**4,447**	9,778.62 /EA	**9,779**
						Utility vaults, precast concrete, 8' x 14' x 7' high, i.d	1.00 ea	**56**	**3,525**	**4,225**	**-**	**518**	**-**	8,268.92 /ea	**8,269**	18,164.92 /ea	**18,165**
						20" CS Ell, 90	2.00 ea	**12**	**1,001**	**1,615**	**-**	**565**	**-**	1,590.22 /ea	**3,180**	3,506.23 /ea	**7,012**
						20" CS tee	2.00 ea	**12**	**1,001**	**2,520**	**-**	**565**	**-**	2,042.72 /ea	**4,085**	4,514.25 /ea	**9,028**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	100.00 LF		**-**	**5,862**	**-**	**-**	**-**	58.62 /LF	**5,862**	130.59 /LF	**13,059**
						20" Bolt & Gasket Kits, CS, 150#	15.00 ea	**72**	**5,745**	**1,200**	**-**	**-**	**-**	463.02 /ea	**6,945**	1,003.70 /ea	**15,055**
						Install butterfly valve, Flgd, DIP, 20"	4.00 ea	**42**	**3,389**	**-**	**-**	**1,913**	**-**	1,325.56 /ea	**5,302**	2,891.50 /ea	**11,566**
						Butterfly valve, iron body, Flgd, NO., 150#, 20"	1.00 ea		**-**	**2,436**	**-**	**-**	**-**	2,436.00 /ea	**2,436**	5,426.64 /ea	**5,427**
						Butterfly valve, iron body, Flgd, MTR OPER, 150#, 20"	3.00 ea		**-**	**19,140**	**-**	**-**	**-**	6,380.00 /ea	**19,140**	14,212.62 /ea	**42,638**
						Valve accessory, extension stem	5.00 lf	**1**	**40**	**25**	**-**	**-**	**-**	12.98 /lf	**65**	28.34 /lf	**142**
						Valve accessory, stem couplings	1.00 set	**0**	**26**	**20**	**-**	**-**	**-**	46.33 /set	**46**	101.30 /set	**101**
						CI Valve Box & Cover, w/ Concrete Collar included	1.00 ea	**3**	**242**	**150**	**-**	**137**	**-**	528.73 /ea	**529**	1,160.29 /ea	**1,160**
						20" DI, flanged coupling adapter	7.00 ea	**65**	**5,223**	**11,307**	**-**	**-**	**-**	2,361.41 /ea	**16,530**	5,206.39 /ea	**36,445**
						33.00.07.20 Buried Pipe, PVC, 20"	**100.00 LF**	**292**	**21,955**	**50,925**		**3,957**		**768.37 /LF**	**76,837**	**1,695.77 /LF**	**169,577**
						33.00.07.0010 Purified Water Bypass	**1.00 EA**	**292**	**21,955**	**50,925**		**3,957**		**76,837.15 /EA**	**76,837**	**169,577.09 /EA**	**169,577**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00* LS**	**292**	**21,955**	**50,925**		**3,957**		**76,837.15 /LS**	**76,837**	**169,577.09 /LS**	**169,577**
						33.0 Utilities	***1.00* LS**	**292**	**21,955**	**50,925**		**3,957**		**76,837.15 /LS**	**76,837**	**169,577.09 /LS**	**169,577**
						10.0 Purified Water Bypass	**1.00 EA**	**292**	**21,955**	**50,925**		**3,957**		**76,837.15 /EA**	**76,837**	**169,577.09 /EA**	**169,577**
						01.0 Las Virgenes Purified 1-1 Light Blue Line	***1.00* LS**	**27,477**	**1,950,293**	**2,619,557**	**904,500**	**1,016,000**	**211,845**	**6,702,195.80 /LS**	**6,702,196**	**14,764,083.68 /LS**	**14,764,084**

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,950.293		27,477.468 hrs		153.446	13.21%	
Material	2,619.557				206.102	17.74%	
Subcontract	904,500				71.164	6.13%	
Equipment	1,016,000		17,532.606 hrs		79.937	6.88%	
Other	211,845				16.668	1.43%	
Subtotal Raw Costs	**6,702,195**	**6,702,195**			**527.317**	**45.40%**	**45.40%**
Material Sales & Use Tax - %	189,918			7.250 %	14.942	1.29%	
Construction Equip Tax - %	73,660			7.250 %	5.795	0.50%	
Total Taxes	**263,578**	**6,965,773**			**548.055**	**1.79%**	**47.18%**
Location Adj. Factor	765,861			11.800 %	60.257	5.19%	
Productivity Adjustment							
Subtotal Adj. Factors	**765,861**	**7,731,634**			**608.311**	**5.19%**	**52.37%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.885	0.08%	
Site/Civil I,OH&P	191,354			25.000 %	15.055	1.30%	
Buried Piping I,OH&P	883,767			15.000 %	69.533	5.99%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,086,371**	**8,818,005**			**693.785**	**7.36%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**8,818,005**			**693.785**		**59.73%**
Total Cost To Prime Contractor		**8,818,005**			**693.785**		**59.73%**
General Conditions	881,801			10.000 %	69.378	5.97%	
Mobilization/Demobilization	352,720			4.000 %	27.751	2.39%	
Subtotal Indirect Costs	**1,234,521**	**10,052,526**			**790.915**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,005,253			10.000 %	79.091	6.81%	
Prime Contractor Profit	502,626			5.000 %	39.546	3.40%	
Bonds & Insurance	250,861			2.170 %	19.737	1.70%	
Subtotal OH&P	**1,758,740**	**11,811,266**			**929.289**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**11,811,266**			**929.289**		**80.00%**
Design Contingency	2,952,817			25.000 %	232.322	20.00%	
Subtotal Contingency	**2,952,817**	**14,764,083**			**1,161.612**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**14,764,083**			**1,161.612**		**100.00%**
Total Prime Contractor Costs		**14,764,083**			**1,161.612**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**14,764,083**			**1,161.612**		**100.00%**
Total Contractor Costs w/ OFCI		**14,764,083**			**1,161.612**		**100.00%**
Total Construction Cost		**14,764,083**			**1,161.612**		**100.00%**
Total		***14,764,083***			***1,161.612***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Purified 1-1 Light Blue Line**											
	01.0				20" 3/16" CS Waterline											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Waterline	12,710.00 LF	21,339	1,575,753	2,127,832	337,425	941,196	211,845	408.66 /LF	5,194,051	896.27 /LF	11,391,640
					33.03 Buried Process Pipe, Carbon Steel	**12,710.00 LF**	21,339	1,575,753	2,127,832	337,425	941,196	211,845	**408.66 /LF**	5,194,051	**896.27 /LF**	11,391,640
					33.0 Utilities	*1.00* LS	21,339	1,575,753	2,127,832	337,425	941,196	211,845	5,194,051.05 /LS	5,194,051	11,391,639.87 /LS	11,391,640
					01.0 20" 3/16" CS Waterline	12,710.00 LF	21,339	1,575,753	2,127,832	337,425	941,196	211,845	408.66 /LF	5,194,051	896.27 /LF	11,391,640
	02.0				Bridge Crossing Allowance											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.07.0002	Bridge Crossing Allowance	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,388.95 /LF	277,789
					33.03 Buried Process Pipe, Carbon Steel	**200.00 LF**	52	4,196	21,525	100,000	2,368		**640.45 /LF**	128,090	**1,388.95 /LF**	277,789
					33.0 Utilities	*1.00* LS	52	4,196	21,525	100,000	2,368		128,089.69 /LS	128,090	277,789.06 /LS	277,789
					02.0 Bridge Crossing Allowance	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,388.95 /LF	277,789
	03.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.60.02.0002	36" Bore with 20" Carrier	100.00 LF	321	9,765	6,481	26,300	5,511		480.57 /LF	48,057	1,044.41 /LF	104,441
					33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	321	9,765	6,481	26,300	5,511		**480.57 /LF**	48,057	**1,044.41 /LF**	104,441
					33.0 Utilities	*1.00* LS	321	9,765	6,481	26,300	5,511		48,056.75 /LS	48,057	104,440.54 /LS	104,441
					03.0 Bore at Channel Crossing	100.00 LF	321	9,765	6,481	26,300	5,511		480.57 /LF	48,057	1,044.41 /LF	104,441
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,593.77 /EA	97,969
					33.03 Buried Process Pipe, Carbon Steel	**125.00 LF**	189	14,809	22,364		7,287		**355.68 /LF**	44,460	**783.75 /LF**	97,969
					33.0 Utilities	*1.00* LS	189	14,809	22,364		7,287		44,459.85 /LS	44,460	97,968.84 /LS	97,969
					04.0 8" Blow Off Assembly	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,593.77 /EA	97,969
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,411.98 /EA	29,648
					33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	44	3,520	3,917	6,000	182		**136.19 /LF**	13,619	**296.48 /LF**	29,648
					33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,647.93 /LS	29,648
					05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,411.98 /EA	29,648
	06.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,748.37 /EA	152,729
					33.03 Buried Process Pipe, Carbon Steel	*1.00* **LF**	136	10,932	52,299		5,684		**68,915.25 /LF**	68,915	**152,728.76 /LF**	152,729
					33.0 Utilities	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,728.76 /LS	152,729
					06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,748.37 /EA	152,729
	07.0				Asphalt Trenc Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	8,474.00 Sy	621	9,895	17,650	72,025	13,936		13.39 /Sy	113,506	30.48 /Sy	258,266
				32.40.02.0008	Trench Paving	8,473.33 SY	4,484	299,468	316,564		35,880		76.94 /SY	651,912	176.52 /SY	1,495,733
					32.12 Paving	**8,473.33 SY**	5,105	309,363	334,214	72,025	49,816		**90.33 /SY**	765,417	**207.00 /SY**	1,753,999
					32.0 Exterior Improvements	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.00 /SY	1,753,999
					07.0 Asphalt Trenc Repair	12,710.00 LF	5,105	309,363	334,214	72,025	49,816		60.22 /LF	765,417	138.00 /LF	1,753,999
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.88 /LF	684,810
					33.89 Pipeline - Traffic Control	**12,710.00 LF**				317,750			**25.00 /LF**	317,750	**53.88 /LF**	684,810
					33.0 Utilities	*1.00* LS				317,750			317,750.00 /LS	317,750	684,809.55 /LS	684,810
					08.0 Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.88 /LF	684,810
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,827.75 /EA	101,483
					26.10 Site Electrical	*1.00* **LS**				45,000			**45,000.00 /LS**	45,000	**101,483.25 /LS**	101,483
					26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,483.25 /LS	101,483
					09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,827.75 /EA	101,483
	10.0				Purified Water Bypass											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0010	Purified Water Bypass	1.00 EA	292	21,955	50,925		3,957		76,837.15 /EA	76,837	169,577.09 /EA	169,577
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* **LS**	292	21,955	50,925		3,957		**76,837.15 /LS**	76,837	**169,577.09 /LS**	169,577
					33.0 Utilities	*1.00* LS	292	21,955	50,925		3,957		76,837.15 /LS	76,837	169,577.09 /LS	169,577
					10.0 Purified Water Bypass	1.00 EA	292	21,955	50,925		3,957		76,837.15 /EA	76,837	169,577.09 /EA	169,577
					01.0 Las Virgenes Purified 1-1 Light Blue Line	*1.00* **LS**	27,477	1,950,293	2,619,557	904,500	1,016,000	211,845	**6,702,195.80 /LS**	6,702,196	**14,764,083.68 /LS**	14,764,084

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified 1-1 Light Blue 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,950,293		27,477.468 hrs		153.446	13.21%	
Material	2,619,557				206.102	17.74%	
Subcontract	904,500				71.164	6.13%	
Equipment	1,016,000		17,532.606 hrs		79.937	6.88%	
Other	211,845				16.668	1.43%	
Subtotal Raw Costs	**6,702,195**	**6,702,195**			**527.317**	**45.40%**	**45.40%**
Material Sales & Use Tax - %	189,918			7.250 %	14.942	1.29%	
Construction Equip Tax - %	73,660			7.250 %	5.795	0.50%	
Total Taxes	**263,578**	**6,965,773**			**548.055**	**1.79%**	**47.18%**
Location Adj. Factor	765,861			11.800 %	60.257	5.19%	
Productivity Adjustment							
Subtotal Adj. Factors	**765,861**	**7,731,634**			**608.311**	**5.19%**	**52.37%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.885	0.08%	
Site/Civil I,OH&P	191,354			25.000 %	15.055	1.30%	
Buried Piping I,OH&P	883,767			15.000 %	69.533	5.99%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,086,371**	**8,818,005**			**693.785**	**7.36%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**8,818,005**			**693.785**		**59.73%**
Total Cost To Prime Contractor		**8,818,005**			**693.785**		**59.73%**
General Conditions	881,801			10.000 %	69.378	5.97%	
Mobilization/Demobilization	352,720			4.000 %	27.751	2.39%	
Subtotal Indirect Costs	**1,234,521**	**10,052,526**			**790.915**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,005,253			10.000 %	79.091	6.81%	
Prime Contractor Profit	502,626			5.000 %	39.546	3.40%	
Bonds & Insurance	250,861			2.170 %	19.737	1.70%	
Subtotal OH&P	**1,758,740**	**11,811,266**			**929.289**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**11,811,266**			**929.289**		**80.00%**
Design Contingency	2,952,817			25.000 %	232.322	20.00%	
Subtotal Contingency	**2,952,817**	**14,764,083**			**1,161.612**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**14,764,083**			**1,161.612**		**100.00%**
Total Prime Contractor Costs		**14,764,083**			**1,161.612**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**14,764,083**			**1,161.612**		**100.00%**
Total Contractor Costs w/ OFCI		**14,764,083**			**1,161.612**		**100.00%**
Total Construction Cost		**14,764,083**			**1,161.612**		**100.00%**
Total		***14,764,083***			***1,161.612***		

REACH 1

No. 1-2 Green Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line | Estimator: John DeWolf
Job Size: 12,760 Lf | Project Number: W9Y31200 | Rev/Date: Rev#1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Purified No. 1-2 Green Line***			
	01.0	**20" 3/16" CS Waterline**	**12,760.00 LF**	**987.67 /LF**	**12,602,709**
	02.0	**Bridge Crossing Allowance**	**200.00 LF**	**1,387.93 /LF**	**277,587**
	03.0	**Bore at Channel Crossing**	**50.00 LF**	**2,087.29 /LF**	**104,365**
	04.0	**8" Blow Off Assembly**	**5.00 EA**	**19,579.74 /EA**	**97,899**
	05.0	**2" CARV Assembly**	**4.00 EA**	**7,406.61 /EA**	**29,626**
	06.0	**20" Butterfly Valves**	**13.00 EA**	**11,740.00 /EA**	**152,620**
	07.0	**Asphalt Trench Repair**	**12,760.00 LF**	**137.91 /LF**	**1,759,715**
	08.0	**Traffic Control Allowance**	**12,760.00 LF**	**53.84 /LF**	**687,000**
	09.0	**Traffic Loop Replacement Allowance**	**2.00 EA**	**33,804.09 /EA**	**67,608**
	10.0	**Purified Water Bypass**	**1.00 EA**	**169,455.86 /EA**	**169,456**
	01.0 Las Virgenes Purified No. 1-2 Green Line		***1.00 LS***	***15,948,584.75 /LS***	***15,948,585***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	4,822,996		31,275.077 hrs		377.978	30.24%	
Material	5,895,195				462.006	36.96%	
Subcontract	1,991,671				156.087	12.49%	
Equipment	2,717,903		21,081.438 hrs		213.002	17.04%	
Other	520,820				40.817	3.27%	
Total Prime Contractor Costs	**15,948,585**	**15,948,585**			**1,249.889**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**15,948,585**			**1,249.889**		**100.00%**
Total		***15,948,585***			***1,249.889***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Purified No. 1-2 Green Line**											
	01.0				20" 3/16" CS Waterline											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Waterline	10,120.00 LF	17,077	1,261,803	1,697,474	296,960	750,987	211,845	416.90 /LF	4,219,069	912.92 /LF	9,238,726
				33.00.05.1002	20" 3/16" CS Waterline On The Canal Bank	2,640.00 LF	8,039	587,513	442,618	69,490	392,684	44,010	581.94 /LF	1,536,315	1,274.24 /LF	3,363,983
					33.03 Buried Process Pipe, Carbon Steel	12,760.00 LF	25,116	1,849,316	2,140,092	366,450	1,143,671	255,855	451.05 /LF	5,755,383	987.67 /LF	12,602,709
					33.0 Utilities	*1.00* LS	25,116	1,849,316	2,140,092	366,450	1,143,671	255,855	5,755,383.47 /LS	5,755,383	12,602,708.73 /LS	12,602,709
					01.0 20" 3/16" CS Waterline	12,760.00 LF	25,116	1,849,316	2,140,092	366,450	1,143,671	255,855	451.05 /LF	5,755,383	987.67 /LF	12,602,709
	02.0				Bridge Crossing Allowance											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.07.0002	Bridge Crossing Allowance	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,387.93 /LF	277,587
					33.03 Buried Process Pipe, Carbon Steel	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,387.93 /LF	277,587
					33.0 Utilities	*1.00* LS	52	4,196	21,525	100,000	2,368		128,089.69 /LS	128,090	277,586.96 /LS	277,587
					02.0 Bridge Crossing Allowance	200.00 LF	52	4,196	21,525	100,000	2,368		640.45 /LF	128,090	1,387.93 /LF	277,587
	03.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	321	9,765	6,481	26,300	5,511		961.14 /LF	48,057	2,087.29 /LF	104,365
					33.03 Buried Process Pipe, Carbon Steel	50.00 LF	321	9,765	6,481	26,300	5,511		961.14 /LF	48,057	2,087.29 /LF	104,365
					33.0 Utilities	*1.00* LS	321	9,765	6,481	26,300	5,511		48,056.75 /LS	48,057	104,364.71 /LS	104,365
					03.0 Bore at Channel Crossing	50.00 LF	321	9,765	6,481	26,300	5,511		961.14 /LF	48,057	2,087.29 /LF	104,365
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,579.74 /EA	97,899
					33.03 Buried Process Pipe, Carbon Steel	125.00 LF	189	14,809	22,364		7,287		355.68 /LF	44,460	783.19 /LF	97,899
					33.0 Utilities	*1.00* LS	189	14,809	22,364		7,287		44,459.85 /LS	44,460	97,898.71 /LS	97,899
					04.0 8" Blow Off Assembly	5.00 EA	189	14,809	22,364		7,287		8,891.97 /EA	44,460	19,579.74 /EA	97,899
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,406.61 /EA	29,626
					33.03 Buried Process Pipe, Carbon Steel	100.00 LF	44	3,520	3,917	6,000	182		136.19 /LF	13,619	296.26 /LF	29,626
					33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,626.43 /LS	29,626
					05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,406.61 /EA	29,626
	06.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,740.00 /EA	152,620
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,620.05 /LS	152,620
					33.0 Utilities	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,620.05 /LS	152,620
					06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,740.00 /EA	152,620
	07.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	8,507.00 Sy	624	9,937	17,725	72,308	13,995		13.40 /Sy	113,964	30.46 /Sy	259,130
				32.40.02.0008	Trench Paving	8,506.67 SY	4,501	300,646	317,809		36,022		76.94 /SY	654,476	176.40 /SY	1,500,585
					32.12 Paving	8,506.67 SY	5,125	310,583	335,534	72,308	50,016		90.33 /SY	768,441	206.86 /SY	1,759,715
					32.0 Exterior Improvements	8,506.67 SY	5,125	310,583	335,534	72,308	50,016		90.33 /SY	768,441	206.86 /SY	1,759,715
					07.0 Asphalt Trench Repair	12,760.00 LF	5,125	310,583	335,534	72,308	50,016		60.22 /LF	768,441	137.91 /LF	1,759,715
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.84 /LF	687,000
					33.89 Pipeline - Traffic Control	12,760.00 LF				319,000			25.00 /LF	319,000	53.84 /LF	687,000
					33.0 Utilities	*1.00* LS				319,000			319,000.00 /LS	319,000	687,000.22 /LS	687,000
					08.0 Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.84 /LF	687,000
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,804.09 /EA	67,608
					26.10 Site Electrical	*1.00* LS				30,000			30,000.00 /LS	30,000	67,608.18 /LS	67,608
					26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,608.18 /LS	67,608
					09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,804.09 /EA	67,608
	10.0				Purified Water Bypass											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.07.0010	Purified Water Bypass	1.00 EA	292	21,955	50,925		3,957		76,837.15 /EA	76,837	169,455.86 /EA	169,456
					33.03 Buried Process Pipe, Carbon Steel	100.00 LF	292	21,955	50,925		3,957		768.37 /LF	76,837	1,694.56 /LF	169,456
					33.0 Utilities	*1.00* LS	292	21,955	50,925		3,957		76,837.15 /LS	76,837	169,455.86 /LS	169,456
					10.0 Purified Water Bypass	1.00 EA	292	21,955	50,925		3,957		76,837.15 /EA	76,837	169,455.86 /EA	169,456
					01.0 Las Virgenes Purified No. 1-2 Green Line	*1.00* LS	31,275	2,225,076	2,633,137	920,057	1,218,676	255,855	**7,252,801.61 /LS**	7,252,802	**15,948,584.75 /LS**	15,948,585

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,225,076		31,275.077 hrs		174.379	13.95%	
Material	2,633,137				206.359	16.51%	
Subcontract	920,057				72.105	5.77%	
Equipment	1,218,676		21,081.438 hrs		95.508	7.64%	
Other	255,855				20.051	1.60%	
Subtotal Raw Costs	**7,252,801**	**7,252,801**			**568.401**	**45.48%**	**45.48%**
Material Sales & Use Tax - %	190,902			7.250 %	14.961	1.20%	
Construction Equip Tax - %	88,354			7.250 %	6.924	0.55%	
Total Taxes	**279,256**	**7,532,057**			**590.287**	**1.75%**	**47.23%**
Location Adj. Factor	825,640			11.800 %	64.705	5.18%	
Productivity Adjustment							
Subtotal Adj. Factors	**825,640**	**8,357,697**			**654.992**	**5.18%**	**52.40%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	0.588	0.05%	
Site/Civil I,OH&P	192,110			25.000 %	15.056	1.20%	
Buried Piping I,OH&P	968,154			15.000 %	75.874	6.07%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,167,764**	**9,525,461**			**746.509**	**7.32%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**9,525,461**			**746.509**		**59.73%**
Total Cost To Prime Contractor		**9,525,461**			**746.509**		**59.73%**
General Conditions	952,546			10.000 %	74.651	5.97%	
Mobilization/Demobilization	381,018			4.000 %	29.860	2.39%	
Subtotal Indirect Costs	**1,333,564**	**10,859,025**			**851.021**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,085,903			10.000 %	85.102	6.81%	
Prime Contractor Profit	542,951			5.000 %	42.551	3.40%	
Bonds & Insurance	270,987			2.170 %	21.237	1.70%	
Subtotal OH&P	**1,899,841**	**12,758,866**			**999.911**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**12,758,866**			**999.911**		**80.00%**
Design Contingency	3,189,717			25.000 %	249.978	20.00%	
Subtotal Contingency	**3,189,717**	**15,948,583**			**1,249.889**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**15,948,583**			**1,249.889**		**100.00%**
Total Prime Contractor Costs		**15,948,583**			**1,249.889**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**15,948,583**			**1,249.889**		**100.00%**
Total Contractor Costs w/ OFCI		**15,948,583**			**1,249.889**		**100.00%**
Total Construction Cost		**15,948,583**			**1,249.889**		**100.00%**
Total		***15,948,583***			***1,249.889***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Purified No. 1-2 Green Line**											
	01.0					20" 3/16" CS Waterline											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16" CS Waterline											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***100.00 ea***			-	-	-	-	***/ea***		***/ea***	
						Traffic Control, Labor per Day	101.00 day	1,616	94,248	-	-	-	-	933.15 /day	94,248	2,009.64 /day	202,974
						Trench Box, 8' x 24' x 10'	5.00 mo		-	-	-	11,500	-	2,300.00 /mo	11,500	5,120.04 /mo	25,600
						Dedicated Fire / Safety Monitor	404.00 hr	404	23,562	-	-	-	-	58.32 /hr	23,562	125.60 /hr	50,743
						50 tn Rough Terrain (per day)	101.00 day	808	63,931	-	-	159,620	-	2,213.38 /day	223,552	4,881.34 /day	493,015
						Add for hydrotesting pipeline (labor & Equipment per day)	12,710.00 lf	153	12,359	-	-	1,105	-	1.06 /lf	13,464	2.29 /lf	29,076
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	10,871.93 CY	1,616	111,056	-	-	76,276	-	17.23 /CY	187,332	37.62 /CY	408,969
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	3,458.12 cy	2,828	185,608	-	-	127,039	-	90.41 /cy	312,646	197.37 /cy	682,528
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	6,963.00 cy	1,616	121,812	-	-	145,124	-	38.34 /cy	266,936	84.07 /cy	585,396
						Pipe zone material	3,458.12 cy		-	96,827	-	-	-	28.00 /cy	96,827	62.33 /cy	215,548
						Pipe bedding material	824.72 cy		-	23,092	-	-	-	28.00 /cy	23,092	62.33 /cy	51,406
						Haul spoils, offsite, 10 - 20 miles	13,026.91 cy		-	-	195,404	-	-	15.00 /cy	195,404	32.30 /cy	420,822
						Dump fees, trench spoils	14,123.00 cy		-	-	-	-	211,845	15.00 /cy	211,845	30.53 /cy	431,233
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	10,120.00 LF	4,848	391,233	1,089,165	-	220,795	-	168.10 /LF	1,701,193	371.41 /LF	3,758,671
						20" CS Ell, 90	7.00 ea	43	3,502	5,653	-	1,977	-	1,590.21 /ea	11,131	3,503.71 /ea	24,526
						20" CS Ell, 45	8.00 ea	50	4,003	3,240	-	2,259	-	1,187.71 /ea	9,502	2,607.70 /ea	20,862
						20" CS Ell, 11.25	11.00 ea	68	5,504	4,455	-	3,106	-	1,187.71 /ea	13,065	2,607.70 /ea	28,685
						20" CS butt weld, 3/16" wall	558.00 ea		-	-	101,556	-	-	182.00 /ea	101,556	391.96 /ea	218,712
						CLSM, pipe encasement	6,963.00 cy		-	417,780	-	-	-	60.00 /cy	417,780	133.57 /cy	930,022
						Tape wrap joint, 20" pipe	558.00 ea	1,004	81,055	27,900	-	-	-	195.26 /ea	108,955	424.14 /ea	236,669
						Grout joint, I.D., 20" pipe	558.00 ea	1,116	90,433	6,696	-	-	-	174.07 /ea	97,129	375.74 /ea	209,663
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,273.93 /ea	16,548
						Cathodic protection, joint jumpers	558.00 ea	558	45,216	13,950	-	-	-	106.03 /ea	59,166	230.17 /ea	128,433
						Cathodic protection, anode, 30 lbs	10.00 ea	40	3,241	1,500	-	-	-	474.13 /ea	4,741	1,031.97 /ea	10,320
						Cathodic protection, test station	10.00 ea	160	12,965	4,400	-	-	-	1,736.53 /ea	17,365	3,771.70 /ea	37,717
						Pipe Marking, ID Tape	10,120.00 lf	101	8,201	1,316	-	-	-	0.94 /lf	9,516	2.03 /lf	20,589
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**10,120.00 LF**	17,077	1,261,803	1,697,474	296,960	750,987	211,845	**416.90 /LF**	4,219,069	**912.92 /LF**	9,238,726
						33.00.05.1001 20" 3/16" CS Waterline	**10,120.00 LF**	17,077	1,261,803	1,697,474	296,960	750,987	211,845	**416.90 /LF**	4,219,069	**912.92 /LF**	9,238,726
				33.00.05.1002		20" 3/16" CS Waterline On The Canal Bank											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***50.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	53.00 day	848	49,457	-	-	-	-	933.15 /day	49,457	2,009.64 /day	106,511
						Trench Box, 8' x 24' x 10'	3.00 mo		-	-	-	6,900	-	2,300.00 /mo	6,900	5,120.05 /mo	15,360
						Dedicated Fire / Safety Monitor	212.00 hr	212	12,364	-	-	-	-	58.32 /hr	12,364	125.60 /hr	26,628
						50 tn Rough Terrain (per day)	53.00 day	424	33,548	-	-	83,761	-	2,213.38 /day	117,309	4,881.34 /day	258,711
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	2,836.16 CY	848	58,277	-	-	40,026	-	34.66 /CY	98,303	75.67 /CY	214,607
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	902.12 cy	1,484	97,397	-	-	66,663	-	181.86 /cy	164,061	397.02 /cy	358,155
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	1,816.44 cy	848	63,922	-	-	76,154	-	77.12 /cy	140,076	169.12 /cy	307,189
						Pipe zone material	902.12 cy		-	25,259	-	-	-	28.00 /cy	25,259	62.33 /cy	56,230
						Pipe bedding material	215.14 cy		-	6,024	-	-	-	28.00 /cy	6,024	62.33 /cy	13,410
						Haul spoils, offsite, 10 - 20 miles	2,934.00 cy		-	-	44,010	-	-	15.00 /cy	44,010	32.30 /cy	94,780
						Dump fees, trench spoils	2,934.00 cy		-	-	-	-	44,010	15.00 /cy	44,010	30.53 /cy	89,587
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	2,640.00 LF	2,544	205,302	284,130	-	115,863	-	229.28 /LF	605,295	504.76 /LF	1,332,567
						20" CS Ell, 90	2.00 ea	12	1,001	1,615	-	565	-	1,590.22 /ea	3,180	3,503.71 /ea	7,007
						20" CS Ell, 45	2.00 ea	12	1,001	810	-	565	-	1,187.72 /ea	2,375	2,607.71 /ea	5,215
						20" CS butt weld, 3/16" wall	140.00 ea		-	-	25,480	-	-	182.00 /ea	25,480	391.96 /ea	54,874
						CLSM, pipe encasement	1,816.44 cy		-	108,986	-	-	-	60.00 /cy	108,986	133.57 /cy	242,615
						Tape wrap joint, 20" pipe	140.00 ea	252	20,336	7,000	-	-	-	195.26 /ea	27,336	424.14 /ea	59,379
						Grout joint, I.D., 20" pipe	140.00 ea	280	22,689	1,680	-	-	-	174.07 /ea	24,369	375.74 /ea	52,604
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,273.94 /ea	16,548
						Cathodic protection, joint jumpers	140.00 ea	140	11,345	3,500	-	-	-	106.03 /ea	14,845	230.17 /ea	32,223
						Cathodic protection, anode, 30 lbs	3.00 ea	12	972	450	-	-	-	474.13 /ea	1,422	1,031.97 /ea	3,096
						Cathodic protection, test station	3.00 ea	48	3,890	1,320	-	-	-	1,736.53 /ea	5,210	3,771.69 /ea	11,315
						Pipe Marking, ID Tape	2,640.00 lf	26	2,139	343	-	-	-	0.94 /lf	2,482	2.03 /lf	5,371
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**2,640.00 LF**	8,039	587,513	442,618	69,490	392,684	44,010	**581.94 /LF**	1,536,315	**1,274.24 /LF**	3,363,983
						33.00.05.1002 20" 3/16" CS Waterline On The Canal Bank	**2,640.00 LF**	8,039	587,513	442,618	69,490	392,684	44,010	**581.94 /LF**	1,536,315	**1,274.24 /LF**	3,363,983
						33.03 Buried Process Pipe, Carbon Steel	**12,760.00 LF**	25,116	1,849,316	2,140,092	366,450	1,143,671	255,855	**451.05 /LF**	5,755,383	**987.67 /LF**	12,602,709
						33.0 Utilities	***1.00 LS***	25,116	1,849,316	2,140,092	366,450	1,143,671	255,855	**5,755,383.47 /LS**	5,755,383	**12,602,708.73 /LS**	12,602,709
						01.0 20" 3/16" CS Waterline	**12,760.00 LF**	25,116	1,849,316	2,140,092	366,450	1,143,671	255,855	**451.05 /LF**	5,755,383	**987.67 /LF**	12,602,709
	02.0					Bridge Crossing Allowance											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.07.0002		Bridge Crossing Allowance											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Division 33 Allowance Support Pipe Inside Bridge	200.00 lf		-	-	100,000	-		500.00 /lf	100,000	1,076.80 /lf	215,361
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	200.00 LF	52	4,196	21,525	-	2,368	-	140.45 /LF	28,090	311.13 /LF	62,226
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**200.00 LF**	52	4,196	21,525	100,000	2,368		**640.45 /LF**	128,090	**1,387.93 /LF**	277,587
						33.00.07.0002 Bridge Crossing Allowance	**200.00 LF**	52	4,196	21,525	100,000	2,368		**640.45 /LF**	128,090	**1,387.93 /LF**	277,587
						33.03 Buried Process Pipe, Carbon Steel	**200.00 LF**	52	4,196	21,525	100,000	2,368		**640.45 /LF**	128,090	**1,387.93 /LF**	277,587
						33.0 Utilities	***1.00 LS***	52	4,196	21,525	100,000	2,368		**128,089.69 /LS**	128,090	**277,586.96 /LS**	277,587
						02.0 Bridge Crossing Allowance	**200.00 LF**	52	4,196	21,525	100,000	2,368		**640.45 /LF**	128,090	**1,387.93 /LF**	277,587
	03.0					Bore at Channel Crossing											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	48	3,874	-	-	2,186	-	6,059.71 /ea	6,060	13,208.71 /ea	13,209
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,604.35 /ea	6,604
						Horizontal boring, backfill bore pit	1.00 ea	24	1,937	-	-	1,093	-	3,029.85 /ea	3,030	6,604.34 /ea	6,604
						Horizontal boring, backfill receiving pit	1.00 ea	12	968	-	-	547	-	1,514.92 /ea	1,515	3,302.16 /ea	3,302
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 lf	200		-	26,300	-	-	526.00 /lf	26,300	1,132.80 /lf	56,640
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	400	-	-	-	100.00 /ea	400	222.61 /ea	890
						Horizontal boring, 36" diameter end seals	2.00 ea		-	700	-	-	-	350.00 /ea	700	779.13 /ea	1,558
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	50.00 LF	13	1,049	5,381	-	592	-	140.45 /LF	7,022	311.13 /LF	15,557

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	**50.00 LF**	**321**	**9,765**	**6,481**	**26,300**	**5,511**		**961.14 /LF**	**48,057**	**2,087.29 /LF**	**104,365**
						33.60.02.0002 36" Bore with 20" Carrier	**50.00 LF**	**321**	**9,765**	**6,481**	**26,300**	**5,511**		**961.14 /LF**	**48,057**	**2,087.29 /LF**	**104,365**
						33.03 Buried Process Pipe, Carbon Steel	**50.00 LF**	**321**	**9,765**	**6,481**	**26,300**	**5,511**		**961.14 /LF**	**48,057**	**2,087.29 /LF**	**104,365**
						33.0 Utilities	***1.00* LS**	**321**	**9,765**	**6,481**	**26,300**	**5,511**		**48,056.75 /LS**	**48,057**	**104,364.71 /LS**	**104,365**
						03.0 Bore at Channel Crossing	**50.00 LF**	**321**	**9,765**	**6,481**	**26,300**	**5,511**		**961.14 /LF**	**48,057**	**2,087.29 /LF**	**104,365**
	04.0					**8" Blow Off Assembly**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		**8" Blow Off Assembly**											
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						20" CS tee	5.00 ea	**31**	**2,502**	**6,300**	**-**	**1,412**	**-**	2,042.71 /ea	**10,214**	4,511.02 /ea	**22,555**
						8" pipe, DI, MJ, excav/bkfill included	125.00 LF	**60**	**4,842**	**6,526**	**-**	**2,733**	**-**	112.81 /LF	**14,101**	248.31 /LF	**31,039**
						8" DI, MJ, Ell, 90	5.00 ea	**15**	**1,211**	**1,719**	**-**	**683**	**-**	722.48 /ea	**3,612**	1,590.77 /ea	**7,954**
						8" DI, MJ, Ell, 45	5.00 ea	**15**	**1,211**	**1,469**	**-**	**683**	**-**	672.43 /ea	**3,362**	1,479.35 /ea	**7,397**
						8" DI, RJ, cap or plug	5.00 ea	**8**	**605**	**781**	**-**	**342**	**-**	345.52 /ea	**1,728**	760.38 /ea	**3,802**
						Install gate valve, Flgd, DIP, 8"	5.00 ea	**17**	**1,332**	**-**	**-**	**751**	**-**	416.61 /ea	**2,083**	908.10 /ea	**4,541**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	5.00 EA		**-**	**3,095**	**-**	**-**	**-**	619.00 /EA	**3,095**	1,377.96 /EA	**6,890**
						Valve accessory, extension stem	75.00 lf	**8**	**598**	**375**	**-**	**-**	**-**	12.98 /lf	**973**	28.32 /lf	**2,124**
						Valve accessory, stem couplings	5.00 set	**2**	**132**	**100**	**-**	**-**	**-**	46.33 /set	**232**	101.23 /set	**506**
						CI Valve Box & Cover, w/ Concrete Collar included	5.00 ea	**15**	**1,211**	**750**	**-**	**683**	**-**	528.73 /ea	**2,644**	1,159.46 /ea	**5,797**
						Meter Box	5.00 ea	**20**	**1,166**	**1,250**	**-**	**-**	**-**	483.29 /ea	**2,416**	1,058.94 /ea	**5,295**
						33.20.01.08 Buried Valves, Gate Valves, 8"	**5.00 EA**	**189**	**14,809**	**22,364**		**7,287**		**8,891.97 /EA**	**44,460**	**19,579.74 /EA**	**97,899**
						33.20.01.0004 8" Blow Off Assembly	**5.00 EA**	**189**	**14,809**	**22,364**		**7,287**		**8,891.97 /EA**	**44,460**	**19,579.74 /EA**	**97,899**
						33.03 Buried Process Pipe, Carbon Steel	**125.00 LF**	**189**	**14,809**	**22,364**		**7,287**		**355.68 /LF**	**44,460**	**783.19 /LF**	**97,899**
						33.0 Utilities	***1.00* LS**	**189**	**14,809**	**22,364**		**7,287**		**44,459.85 /LS**	**44,460**	**97,898.71 /LS**	**97,899**
						04.0 8" Blow Off Assembly	**5.00 EA**	**189**	**14,809**	**22,364**		**7,287**		**8,891.97 /EA**	**44,460**	**19,579.74 /EA**	**97,899**
	05.0					**2" CARV Assembly**											
		33.0				**Utilities**											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	4.00 EA		**-**	**-**	**6,000**	**-**		1,500.00 /EA	**6,000**	3,230.41 /EA	**12,922**
						2" Corporation stop, thrd	4.00 ea	**5**	**376**		**-**	**182**	**-**	139.45 /ea	**558**	303.62 /ea	**1,214**
						Ball valve, bronze, screwed, 2"	4.00 ea	**2**	**128**	**256**	**-**	**-**	**-**	95.92 /ea	**384**	211.21 /ea	**845**
						2" copper pipe, K-soft	100.00 LF	**7**	**559**	**1,058**	**-**	**-**	**-**	16.17 /LF	**1,617**	35.59 /LF	**3,559**
						2" copper, ELL, 90	8.00 ea	**5**	**415**	**103**	**-**	**-**	**-**	64.71 /ea	**518**	140.29 /ea	**1,122**
						Install Air & Vacuum relief valve, 2"	4.00 ea	**10**	**766**	**-**	**-**	**-**	**-**	191.51 /ea	**766**	412.44 /ea	**1,650**
						FURNISH Air & Vacuum relief valve, iron body, 2"	4.00 ea		**-**	**1,500**	**-**	**-**	**-**	375.00 /ea	**1,500**	834.79 /ea	**3,339**
						Double Strap Saddle, 20" x 2"	4.00 ea	**16**	**1,277**	**1,000**	**-**	**-**	**-**	569.19 /ea	**2,277**	1,243.93 /ea	**4,976**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**4.00 EA**	**44**	**3,520**	**3,917**	**6,000**	**182**		**3,404.67 /EA**	**13,619**	**7,406.61 /EA**	**29,626**
						33.20.08.0005 2" CARV Assembly	**4.00 EA**	**44**	**3,520**	**3,917**	**6,000**	**182**		**3,404.67 /EA**	**13,619**	**7,406.61 /EA**	**29,626**
						33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	**44**	**3,520**	**3,917**	**6,000**	**182**		**136.19 /LF**	**13,619**	**296.26 /LF**	**29,626**
						33.0 Utilities	***1.00* LS**	**44**	**3,520**	**3,917**	**6,000**	**182**		**13,618.69 /LS**	**13,619**	**29,626.43 /LS**	**29,626**
						05.0 2" CARV Assembly	**4.00 EA**	**44**	**3,520**	**3,917**	**6,000**	**182**		**3,404.67 /EA**	**13,619**	**7,406.61 /EA**	**29,626**
	06.0					**20" Butterfly Valves**											
		33.0				**Utilities**											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.03.0003		**20" Butterfly Valves**											
					33.20.03.20	**Buried Valves, Butterfly Valves, 20"**											
						Install butterfly valve, MJ, 20"	13.00 ea	**86**	**6,924**	**-**	**-**	**3,908**	**-**	833.21 /ea	**10,832**	1,816.20 /ea	**23,611**
						Butterfly valve, iron body, MJ , NO, 250#, 20"	13.00 EA		**-**	**49,764**	**-**	**-**	**-**	3,828.00 /EA	**49,764**	8,521.53 /EA	**110,780**
						Valve accessory, extension stem	65.00 lf	**7**	**519**	**325**	**-**	**-**	**-**	12.98 /lf	**844**	28.32 /lf	**1,840**
						Valve accessory, stem couplings	13.00 set	**4**	**342**	**260**	**-**	**-**	**-**	46.33 /set	**602**	101.23 /set	**1,316**
						CI Valve Box & Cover, w/ Concrete Collar included	13.00 ea	**39**	**3,147**	**1,950**	**-**	**1,776**	**-**	528.73 /ea	**6,874**	1,159.46 /ea	**15,073**
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	**13.00 EA**	**136**	**10,932**	**52,299**		**5,684**		**5,301.17 /EA**	**68,915**	**11,740.00 /EA**	**152,620**
						33.20.03.0003 20" Butterfly Valves	**13.00 EA**	**136**	**10,932**	**52,299**		**5,684**		**5,301.17 /EA**	**68,915**	**11,740.00 /EA**	**152,620**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00* LS**	**136**	**10,932**	**52,299**		**5,684**		**68,915.25 /LS**	**68,915**	**152,620.05 /LS**	**152,620**
						33.0 Utilities	***1.00* LS**	**136**	**10,932**	**52,299**		**5,684**		**68,915.25 /LS**	**68,915**	**152,620.05 /LS**	**152,620**
						06.0 20" Butterfly Valves	**13.00 EA**	**136**	**10,932**	**52,299**		**5,684**		**5,301.17 /EA**	**68,915**	**11,740.00 /EA**	**152,620**
	07.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	25,520.00 lf	**393**		**-**	**51,040**	**-**	**-**	2.00 /lf	**51,040**	4.51 /lf	**115,024**
						Asphalt Milling, 6" Depth	8,507.00 Sy	**85**		**-**	**21,268**	**-**	**-**	2.50 /Sy	**21,268**	5.63 /Sy	**47,929**
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,418.00 cy	**146**	**9,937**	**-**	**-**	**13,995**	**-**	16.88 /cy	**23,932**	38.75 /cy	**54,948**
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,418.00 cy		**-**	**17,725**	**-**	**-**	**-**	12.50 /cy	**17,725**	29.08 /cy	**41,230**
						02.01.01.01 General Site Demolition, Asphalt Pavement	**8,507.00 Sy**	**624**	**9,937**	**17,725**	**72,308**	**13,995**		**13.40 /Sy**	**113,964**	**30.46 /Sy**	**259,130**
						02.01.01.0007 Demo Asphalt	**8,507.00 Sy**	**624**	**9,937**	**17,725**	**72,308**	**13,995**		**13.40 /Sy**	**113,964**	**30.46 /Sy**	**259,130**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	8,506.67 SY	**45**	**3,255**	**7,571**	**-**	**2,431**	**-**	1.56 /SY	**13,257**	3.60 /SY	**30,601**
						Fog seal, sealcoating, prepare and clean surface for sealcoating	8,506.67 sy	**24**	**1,444**	**-**	**-**	**338**	**-**	0.21 /sy	**1,783**	0.48 /sy	**4,042**
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	8,506.67 sy	**65**	**4,609**	**97,401**	**-**	**4,978**	**-**	12.58 /sy	**106,989**	29.22 /sy	**248,533**
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	8,506.67 sy	**4,331**	**289,146**	**204,160**	**-**	**26,819**	**-**	61.14 /sy	**520,125**	139.76 /sy	**1,188,902**
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	12,760.00 LF	**36**	**2,191**	**8,677**	**-**	**1,455**	**-**	0.97 /LF	**12,323**	2.23 /LF	**28,505**
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**8,506.67 SY**	**4,501**	**300,646**	**317,809**		**36,022**		**76.94 /SY**	**654,476**	**176.40 /SY**	**1,500,585**
						32.40.02.0008 Trench Paving	**8,506.67 SY**	**4,501**	**300,646**	**317,809**		**36,022**		**76.94 /SY**	**654,476**	**176.40 /SY**	**1,500,585**
						32.12 Paving	**8,506.67 SY**	**5,125**	**310,583**	**335,534**	**72,308**	**50,016**		**90.33 /SY**	**768,441**	**206.86 /SY**	**1,759,715**
						32.0 Exterior Improvements	**8,506.67 SY**	**5,125**	**310,583**	**335,534**	**72,308**	**50,016**		**90.33 /SY**	**768,441**	**206.86 /SY**	**1,759,715**
						07.0 Asphalt Trench Repair	**12,760.00 LF**	**5,125**	**310,583**	**335,534**	**72,308**	**50,016**		**60.22 /LF**	**768,441**	**137.91 /LF**	**1,759,715**
	08.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	12,760.00 LF		-	-	319,000	-		25.00 /LF	319,000	53.84 /LF	687,000
						33.00.01.40 Buried Pipe, Traffic Control	12,760.00 LF				319,000			25.00 /LF	319,000	53.84 /LF	687,000
						33.00.01.0009 Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.84 /LF	687,000
						33.89 Pipeline - Traffic Control	**12,760.00 LF**				319,000			**25.00 /LF**	319,000	**53.84 /LF**	687,000
						33.0 Utilities	*1.00* LS				319,000			319,000.00 /LS	319,000	687,000.22 /LS	687,000
						08.0 Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.84 /LF	687,000
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			**Site Electrical**											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	2.00 EA		-	-	30,000	-		15,000.00 /EA	30,000	33,804.09 /EA	67,608
						26.00.99.00 Electrical, Other	2.00 EA				30,000			15,000.00 /EA	30,000	33,804.09 /EA	67,608
						26.00.99.0005 Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,804.09 /EA	67,608
						26.10 Site Electrical	*1.00* LS				30,000			**30,000.00 /LS**	30,000	**67,608.18 /LS**	67,608
						26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,608.18 /LS	67,608
						09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,804.09 /EA	67,608
	10.0					Purified Water Bypass											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.07.0010		Purified Water Bypass											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Utility vaults, precast concrete, 5' x 10' x 6' high, i.d	1.00 EA	28	1,763	2,425	-	259	-	4,446.96 /EA	4,447	9,771.61 /EA	9,772
						Utility vaults, precast concrete, 8' x 14' x 7' high, i.d	1.00 ea	56	3,525	4,225	-	518	-	8,268.92 /ea	8,269	18,151.88 /ea	18,152
						20" CS Ell, 90	2.00 ea	12	1,001	1,615	-	565	-	1,590.22 /ea	3,180	3,503.72 /ea	7,007
						20" CS tee	2.00 ea	12	1,001	2,520	-	565	-	2,042.72 /ea	4,085	4,511.02 /ea	9,022
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	100.00 LF		-	5,862	-	-	-	58.62 /LF	5,862	130.49 /LF	13,049
						20" Bolt & Gasket Kits, CS, 150#	15.00 ea	72	5,745	1,200	-	-	-	463.02 /ea	6,945	1,002.96 /ea	15,044
						Install butterfly valve, Flgd, DIP, 20"	4.00 ea	42	3,389	-	-	1,913	-	1,325.56 /ea	5,302	2,889.41 /ea	11,558
						Butterfly valve, iron body, Flgd, NO., 150#, 20"	1.00 ea		-	2,436	-	-	-	2,436.00 /ea	2,436	5,422.78 /ea	5,423
						Butterfly valve, iron body, Flgd, MTR OPER, 150#, 20"	3.00 ea		-	19,140	-	-	-	6,380.00 /ea	19,140	14,202.56 /ea	42,608
						Valve accessory, extension stem	5.00 lf	1	40	25	-	-	-	12.98 /lf	65	28.32 /lf	142
						Valve accessory, stem couplings	1.00 set	0	26	20	-	-	-	46.33 /set	46	101.21 /set	101
						CI Valve Box & Cover, w/ Concrete Collar included	1.00 ea	3	242	150	-	137	-	528.73 /ea	529	1,159.46 /ea	1,159
						20" DI, flanged coupling adapter	7.00 ea	65	5,223	11,307	-	-	-	2,361.41 /ea	16,530	5,202.66 /ea	36,419
						33.00.07.20 Buried Pipe, PVC, 20"	100.00 LF	292	21,955	50,925		3,957		768.37 /LF	76,837	1,694.56 /LF	169,456
						33.00.07.0010 Purified Water Bypass	1.00 EA	292	21,955	50,925		3,957		76,837.15 /EA	76,837	169,455.86 /EA	169,456
						33.03 Buried Process Pipe, Carbon Steel	**100.00 LF**	292	21,955	50,925		3,957		**768.37 /LF**	76,837	**1,694.56 /LF**	169,456
						33.0 Utilities	*1.00* LS	292	21,955	50,925		3,957		76,837.15 /LS	76,837	169,455.86 /LS	169,456
						10.0 Purified Water Bypass	1.00 EA	292	21,955	50,925		3,957		76,837.15 /EA	76,837	169,455.86 /EA	169,456
						01.0 Las Virgenes Purified No. 1-2 Green Line	***1.00*** **LS**	31,275	2,225,076	2,633,137	920,057	1,218,676	255,855	**7,252,801.61 /LS**	7,252,802	**15,948,584.75 /LS**	15,948,585

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 1-2 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev#1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,225,076		31,275.077 hrs		174.379	13.95%	
Material	2,633,137				206.359	16.51%	
Subcontract	920,057				72.105	5.77%	
Equipment	1,218,676		21,081.438 hrs		95.508	7.64%	
Other	255,855				20.051	1.60%	
Subtotal Raw Costs	**7,252,801**	**7,252,801**			**568.401**	**45.48%**	**45.48%**
Material Sales & Use Tax - %	190,902			7.250 %	14.961	1.20%	
Construction Equip Tax - %	88,354			7.250 %	6.924	0.55%	
Total Taxes	**279,256**	**7,532,057**			**590.287**	**1.75%**	**47.23%**
Location Adj. Factor	825,640			11.800 %	64.705	5.18%	
Productivity Adjustment							
Subtotal Adj. Factors	**825,640**	**8,357,697**			**654.992**	**5.18%**	**52.40%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	0.588	0.05%	
Site/Civil I,OH&P	192,110			25.000 %	15.056	1.20%	
Buried Piping I,OH&P	968,154			15.000 %	75.874	6.07%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,167,764**	**9,525,461**			**746.509**	**7.32%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**9,525,461**			**746.509**		**59.73%**
Total Cost To Prime Contractor		**9,525,461**			**746.509**		**59.73%**
General Conditions	952,546			10.000 %	74.651	5.97%	
Mobilization/Demobilization	381,018			4.000 %	29.860	2.39%	
Subtotal Indirect Costs	**1,333,564**	**10,859,025**			**851.021**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,085,903			10.000 %	85.102	6.81%	
Prime Contractor Profit	542,951			5.000 %	42.551	3.40%	
Bonds & Insurance	270,987			2.170 %	21.237	1.70%	
Subtotal OH&P	**1,899,841**	**12,758,866**			**999.911**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**12,758,866**			**999.911**		**80.00%**
Design Contingency	3,189,717			25.000 %	249.978	20.00%	
Subtotal Contingency	**3,189,717**	**15,948,583**			**1,249.889**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**15,948,583**			**1,249.889**		**100.00%**
Total Prime Contractor Costs		**15,948,583**			**1,249.889**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**15,948,583**			**1,249.889**		**100.00%**
Total Contractor Costs w/ OFCI		**15,948,583**			**1,249.889**		**100.00%**
Total Construction Cost		**15,948,583**			**1,249.889**		**100.00%**
Total		***15,948,583***			***1,249.889***		

REACH 2

No. 2-1 Pink Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Purified No. 2-1 Pink Line 8-Estimator: John DeWolf
Job Size: 3,500 Lf | Project Number: W9Y31200 | Rev/Date: Rev #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Purified No. 2-1 Pink Line***			
	01.0	**20" 3/16" CS Waterline**	**3,500.00 LF**	**1,339.77 /LF**	**4,689,187**
	02.0	**8" Blow Off Assembly**	**75.00 LF**	**781.82 /LF**	**58,637**
	03.0	**2" CARV Assembly**	**50.00 LF**	**295.74 /LF**	**14,787**
	04.0	**20" Butterfly Valves**	**4.00 EA**	**11,719.60 /EA**	**46,878**
	05.0	**Asphalt Trench Repair**	**377.00 LF**	**138.70 /LF**	**52,291**
	08.0	**Traffic Control Allowance**	**377.00 LF**	**53.74 /LF**	**20,261**
	09.0	**Traffic Loop Replacement Allowance**	**1.00 EA**	**33,746.34 /EA**	**33,746**
	01.0 Las Virgenes Purified No. 2-1 Pink Line		***1.00 LS***	***4,915,788.08 /LS***	***4,915,788***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,802,556		11,196.848 hrs		515.016	36.67%	
Material	1,411,225				403.207	28.71%	
Subcontract	251,424				71.836	5.11%	
Equipment	1,361,165		10,080.319 hrs		388.904	27.69%	
Other	89,418				25.548	1.82%	
Total Prime Contractor Costs	**4,915,788**	**4,915,788**			**1,404.511**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**4,915,788**			**1,404.511**		**100.00%**
Total		***4,915,788***			***1,404.511***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Purified No. 2-1 Pink Line**											
	01.0					20" 3/16" CS Waterline											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.00.05.1001		20" 3/16" CS Waterline											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***50.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	7.00 day	**112**	**6,532**	-	-	-	-	933.15 /day	**6,532**	2,006.05 /day	**14,042**
						Trench Box, 8' x 24' x 10'	3.20 mo		-	-	-	**7,360**	-	2,300.00 /mo	**7,360**	5,111.18 /mo	**16,356**
						Dedicated Fire / Safety Monitor	280.00 hr	**280**	**16,330**	-	-	-	-	58.32 /hr	**16,330**	125.38 /hr	**35,106**
						50 tn Rough Terrain (per day)	74.00 day	**592**	**46,841**	-	-	**116,950**	-	2,213.38 /day	**163,790**	4,872.82 /day	**360,588**
						Add for hydrotesting pipeline (labor & Equipment per day)	3,500.00 lf	**42**	**3,403**	-	-	**304**	-	1.06 /lf	**3,708**	2.28 /lf	**7,992**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	3,760.05 CY	**1,776**	**128,208**	-	-	**111,771**	-	63.82 /CY	**239,979**	139.36 /CY	**524,001**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	1,195.99 cy	**2,072**	**135,990**	-	-	**93,078**	-	191.53 /cy	**229,068**	417.38 /cy	**499,188**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	2,408.16 cy	**1,184**	**89,249**	-	-	**106,329**	-	81.21 /cy	**195,578**	177.79 /cy	**428,155**
						Pipe zone material	1,195.99 cy		-	**33,488**	-	-	-	28.00 /cy	**33,488**	62.22 /cy	**74,418**
						Pipe bedding material	285.22 cy		-	**7,986**	-	-	-	28.00 /cy	**7,986**	62.22 /cy	**17,747**
						Haul spoils, offsite, 10 - 20 miles	3,297.95 cy		-	-	**49,469**	-	-	15.00 /cy	**49,469**	32.25 /cy	**106,347**
						Dump fees, trench spoils	2,934.00 cy		-	-	-	-	**44,010**	15.00 /cy	**44,010**	30.48 /cy	**89,418**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	3,500.00 LF	**3,552**	**286,648**	**376,688**	-	**161,772**	-	235.74 /LF	**825,107**	517.95 /LF	**1,812,817**
						20" CS Ell, 90	3.00 ea	**19**	**1,501**	**2,423**	-	**847**	-	1,590.21 /ea	**4,771**	3,497.60 /ea	**10,493**
						20" CS Ell, 45	4.00 ea	**25**	**2,001**	**1,620**	-	**1,129**	-	1,187.71 /ea	**4,751**	2,603.12 /ea	**10,412**
						20" CS Ell, 22.5	4.00 ea	**25**	**2,001**	**1,620**	-	**1,129**	-	1,187.71 /ea	**4,751**	2,603.13 /ea	**10,413**
						20" CS Ell, 11.25	7.00 ea	**43**	**3,502**	**2,835**	-	**1,977**	-	1,187.71 /ea	**8,314**	2,603.13 /ea	**18,222**
						20" CS butt weld, 3/16" wall	204.00 ea		-	-	**37,128**	-	-	182.00 /ea	**37,128**	391.26 /ea	**79,816**
						CLSM, pipe encasement	2,408.16 cy		-	**144,490**	-	-	-	60.00 /cy	**144,490**	133.34 /cy	**321,093**
						Tape wrap joint, 20" pipe	204.00 ea	**367**	**29,633**	**10,200**	-	-	-	195.26 /ea	**39,833**	423.39 /ea	**86,371**
						Grout joint, I.D., 20" pipe	204.00 ea	**408**	**33,061**	**2,448**	-	-	-	174.07 /ea	**35,509**	375.07 /ea	**76,514**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	-	**2,186**	-	3,779.86 /ea	**7,560**	8,259.38 /ea	**16,519**
						Cathodic protection, joint jumpers	204.00 ea	**204**	**16,531**	**5,100**	-	-	-	106.03 /ea	**21,631**	229.76 /ea	**46,871**
						Cathodic protection, anode, 30 lbs	4.00 ea	**16**	**1,297**	**600**	-	-	-	474.13 /ea	**1,897**	1,030.15 /ea	**4,121**
						Cathodic protection, test station	4.00 ea	**64**	**5,186**	**1,760**	-	-	-	1,736.53 /ea	**6,946**	3,765.01 /ea	**15,060**
						Pipe Marking, ID Tape	3,500.00 lf	**35**	**2,836**	**455**	-	-	-	0.94 /lf	**3,291**	2.03 /lf	**7,108**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	3,500.00 LF	**10,864**	**814,625**	**593,211**	**86,597**	**604,832**	**44,010**	612.36 /LF	**2,143,276**	1,339.77 /LF	**4,689,187**
						33.00.05.1001 20" 3/16" CS Waterline	3,500.00 LF	**10,864**	**814,625**	**593,211**	**86,597**	**604,832**	**44,010**	612.36 /LF	**2,143,276**	1,339.77 /LF	**4,689,187**
						33.03 Buried Process Pipe, Carbon Steel	**3,500.00 LF**	**10,864**	**814,625**	**593,211**	**86,597**	**604,832**	**44,010**	**612.36 /LF**	**2,143,276**	**1,339.77 /LF**	**4,689,187**
						33.0 Utilities	*1.00* LS	**10,864**	**814,625**	**593,211**	**86,597**	**604,832**	**44,010**	2,143,276.09 /LS	**2,143,276**	4,689,187.32 /LS	**4,689,187**
						01.0 20" 3/16" CS Waterline	3,500.00 LF	**10,864**	**814,625**	**593,211**	**86,597**	**604,832**	**44,010**	612.36 /LF	**2,143,276**	1,339.77 /LF	**4,689,187**
	02.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						20" CS tee	3.00 ea	**19**	**1,501**	**3,780**	-	**847**	-	2,042.71 /ea	**6,128**	4,503.16 /ea	**13,509**
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	**36**	**2,905**	**3,916**	-	**1,640**	-	112.81 /LF	**8,461**	247.88 /LF	**18,591**
						8" DI, MJ, Ell, 90	3.00 ea	**9**	**726**	**1,031**	-	**410**	-	722.48 /ea	**2,167**	1,588.00 /ea	**4,764**
						8" DI, MJ, Ell, 45	3.00 ea	**9**	**726**	**881**	-	**410**	-	672.43 /ea	**2,017**	1,476.76 /ea	**4,430**
						8" DI, RJ, cap or plug	3.00 ea	**5**	**363**	**468**	-	**205**	-	345.52 /ea	**1,037**	759.05 /ea	**2,277**
						Install gate valve, Flgd, DIP, 8"	3.00 ea	**10**	**799**	-	-	**451**	-	416.61 /ea	**1,250**	906.50 /ea	**2,719**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		-	**1,857**	-	-	-	619.00 /EA	**1,857**	1,375.58 /EA	**4,127**
						Valve accessory, extension stem	45.00 lf	**5**	**359**	**225**	-	-	-	12.98 /lf	**584**	28.27 /lf	**1,272**
						Valve accessory, stem couplings	3.00 set	**1**	**79**	**60**	-	-	-	46.33 /set	**139**	101.05 /set	**303**
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	**9**	**726**	**450**	-	**410**	-	528.73 /ea	**1,586**	1,157.42 /ea	**3,472**
						Meter Box	3.00 ea	**12**	**700**	**750**	-	-	-	483.29 /ea	**1,450**	1,057.08 /ea	**3,171**
						33.20.01.08 Buried Valves, Gate Valves, 8"	3.00 EA	**113**	**8,885**	**13,419**		**4,372**		8,891.98 /EA	**26,676**	19,545.53 /EA	**58,637**
						33.20.01.0004 8" Blow Off Assembly	3.00 EA	**113**	**8,885**	**13,419**		**4,372**		8,891.98 /EA	**26,676**	19,545.53 /EA	**58,637**
						33.03 Buried Process Pipe, Carbon Steel	**75.00 LF**	**113**	**8,885**	**13,419**		**4,372**		**355.68 /LF**	**26,676**	**781.82 /LF**	**58,637**
						33.0 Utilities	*1.00* LS	**113**	**8,885**	**13,419**		**4,372**		26,675.93 /LS	**26,676**	58,636.59 /LS	**58,637**
						02.0 8" Blow Off Assembly	75.00 LF	**113**	**8,885**	**13,419**		**4,372**		355.68 /LF	**26,676**	781.82 /LF	**58,637**
	03.0					2" CARV Assembly											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	2.00 EA		-	-	**3,000**	-		1,500.00 /EA	**3,000**	3,224.64 /EA	**6,449**
						2" Corporation stop, thrd	2.00 ea	**2**	**188**		-	**91**	-	139.46 /ea	**279**	303.09 /ea	**606**
						Ball valve, bronze, screwed, 2"	2.00 ea	**1**	**64**	**128**	-	-	-	95.92 /ea	**192**	210.85 /ea	**422**
						2" copper pipe, K-soft	50.00 LF	**4**	**279**	**529**	-	-	-	16.17 /LF	**808**	35.52 /LF	**1,776**
						2" copper, ELL, 90	4.00 ea	**3**	**207**	**51**	-	-	-	64.71 /ea	**259**	140.04 /ea	**560**
						Install Air & Vacuum relief valve, 2"	2.00 ea	**5**	**383**	-	-	-	-	191.51 /ea	**383**	411.70 /ea	**823**
						FURNISH Air & Vacuum relief valve, iron body, 2"	2.00 ea		-	**750**	-	-	-	375.00 /ea	**750**	833.35 /ea	**1,667**
						Double Strap Saddle, 20" x 2"	2.00 ea	**8**	**638**	**500**	-	-	-	569.19 /ea	**1,138**	1,241.74 /ea	**2,483**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	2.00 EA	**22**	**1,760**	**1,958**	**3,000**	**91**		3,404.68 /EA	**6,809**	7,393.53 /EA	**14,787**
						33.20.08.0005 2" CARV Assembly	2.00 EA	**22**	**1,760**	**1,958**	**3,000**	**91**		3,404.68 /EA	**6,809**	7,393.53 /EA	**14,787**
						33.03 Buried Process Pipe, Carbon Steel	**50.00 LF**	**22**	**1,760**	**1,958**	**3,000**	**91**		**136.19 /LF**	**6,809**	**295.74 /LF**	**14,787**
						33.0 Utilities	*1.00* LS	**22**	**1,760**	**1,958**	**3,000**	**91**		6,809.36 /LS	**6,809**	14,787.05 /LS	**14,787**
						03.0 2" CARV Assembly	50.00 LF	**22**	**1,760**	**1,958**	**3,000**	**91**		136.19 /LF	**6,809**	295.74 /LF	**14,787**
	04.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.03.20	**Buried Valves, Butterfly Valves, 20"**											
						Install butterfly valve, MJ, 20"	4.00 ea	26	2,130	-	-	1,202	-	833.21 /ea	3,333	1,812.99 /ea	7,252
						Butterfly valve, iron body, MJ , NO, 250#, 20"	4.00 EA		-	15,312	-	-	-	3,828.00 /EA	15,312	8,506.80 /EA	34,027
						Valve accessory, extension stem	20.00 lf	2	160	100	-	-	-	12.98 /lf	260	28.27 /lf	565
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	101.05 /set	404
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	1,157.43 /ea	4,630
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	**4.00 EA**	42	3,364	16,092		1,749		**5,301.17 /EA**	21,205	**11,719.60 /EA**	46,878
						33.20.03.0003 20" Butterfly Valves	**4.00 EA**	42	3,364	16,092		1,749		**5,301.17 /EA**	21,205	**11,719.60 /EA**	46,878
						33.03 Buried Process Pipe, Carbon Steel	***1.00*** **LF**	42	3,364	16,092		1,749		**21,204.69 /LF**	21,205	**46,878.39 /LF**	46,878
						33.0 Utilities	***1.00*** **LS**	42	3,364	16,092		1,749		**21,204.69 /LS**	21,205	**46,878.39 /LS**	46,878
						04.0 20" Butterfly Valves	**4.00 EA**	42	3,364	16,092		1,749		**5,301.17 /EA**	21,205	**11,719.60 /EA**	46,878
	05.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	754.00 lf	12		-	1,508	-	-	2.00 /lf	1,508	4.50 /lf	3,393
						Asphalt Milling, 6" Depth	251.00 Sy	3		-	628	-	-	2.50 /Sy	628	5.62 /Sy	1,412
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	42.00 cy	4	294	-	-	415	-	16.88 /cy	709	38.69 /cy	1,625
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	42.00 cy		-	525	-	-	-	12.50 /cy	525	29.03 /cy	1,219
						02.01.01.01 General Site Demolition, Asphalt Pavement	**251.00 Sy**	18	294	525	2,136	415		**13.42 /Sy**	3,369	**30.47 /Sy**	7,648
						02.01.01.0007 Demo Asphalt	**251.00 Sy**	18	294	525	2,136	415		**13.42 /Sy**	3,369	**30.47 /Sy**	7,648
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, under 1000 S.Y.	251.33 SY	6	340	224	-	-	-	2.24 /SY	564	5.11 /SY	1,284
						Fog seal, sealcoating, prepare and clean surface for sealcoating	251.33 sy	1	43	-	-	10	-	0.21 /sy	53	0.47 /sy	119
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	251.33 sy	2	136	2,878	-	147	-	12.58 /sy	3,161	29.17 /sy	7,331
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	251.33 sy	128	8,543	6,032	-	792	-	61.14 /sy	15,367	139.53 /sy	35,067
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	377.00 LF	1	65	256	-	43	-	0.97 /LF	364	2.23 /LF	841
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**251.33 SY**	137	9,126	9,390		992		**77.62 /SY**	19,509	**177.62 /SY**	44,643
						32.40.02.0008 Trench Paving	**251.33 SY**	137	9,126	9,390		992		**77.62 /SY**	19,509	**177.62 /SY**	44,643
						32.12 Paving	**251.33 SY**	156	9,421	9,915	2,136	1,407		**91.03 /SY**	22,878	**208.05 /SY**	52,291
						32.0 Exterior Improvements	**251.33 SY**	156	9,421	9,915	2,136	1,407		**91.03 /SY**	22,878	**208.05 /SY**	52,291
						05.0 Asphalt Trench Repair	**377.00 LF**	156	9,421	9,915	2,136	1,407		**60.68 /LF**	22,878	**138.70 /LF**	52,291
	08.0					**Traffic Control Allowance**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	377.00 LF		-	-	9,425	-		25.00 /LF	9,425	53.74 /LF	20,261
						33.00.01.40 Buried Pipe, Traffic Control	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.74 /LF**	20,261
						33.00.01.0009 Traffic Control Allowance	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.74 /LF**	20,261
						33.89 Pipeline - Traffic Control	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.74 /LF**	20,261
						33.0 Utilities	***1.00*** **LS**				9,425			**9,425.00 /LS**	9,425	**20,261.47 /LS**	20,261
						08.0 Traffic Control Allowance	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.74 /LF**	20,261
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	1.00 EA		-	-	15,000	-		15,000.00 /EA	15,000	33,746.34 /EA	33,746
						26.00.99.00 Electrical, Other	**1.00 EA**				15,000			**15,000.00 /EA**	15,000	**33,746.34 /EA**	33,746
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**1.00 EA**				15,000			**15,000.00 /EA**	15,000	**33,746.34 /EA**	33,746
						26.10 Site Electrical	***1.00*** **LS**				15,000			**15,000.00 /LS**	15,000	**33,746.34 /LS**	33,746
						26.0 Electrical Work	***1.00*** **LS**				15,000			**15,000.00 /LS**	15,000	**33,746.34 /LS**	33,746
						09.0 Traffic Loop Replacement Allowance	**1.00 EA**				15,000			**15,000.00 /EA**	15,000	**33,746.34 /EA**	33,746
						01.0 Las Virgenes Purified No. 2-1 Pink Line	***1.00*** **LS**	11,197	838,055	634,595	116,158	612,451	44,010	**2,245,269.14 /LS**	2,245,269	**4,915,788.08 /LS**	4,915,788

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	838.055		11,196.848 hrs		239.444	17.05%	
Material	634,595				181.313	12.91%	
Subcontract	116,158				33.188	2.36%	
Equipment	612,451		10,080.319 hrs		174.986	12.46%	
Other	44,010				12.574	0.90%	
Subtotal Raw Costs	**2,245,269**	**2,245,269**			**641.505**	**45.67%**	**45.67%**
Material Sales & Use Tax - %	46,008			7.250 %	13.145	0.94%	
Construction Equip Tax - %	44,403			7.250 %	12.686	0.90%	
Total Taxes	**90,411**	**2,335,680**			**667.337**	**1.84%**	**47.51%**
Location Adj. Factor	259,749			11.800 %	74.214	5.28%	
Productivity Adjustment							
Subtotal Adj. Factors	**259,749**	**2,595,429**			**741.551**	**5.28%**	**52.80%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.071	0.08%	
Site/Civil I,OH&P	5,720			25.000 %	1.634	0.12%	
Buried Piping I,OH&P	331,109			15.000 %	94.602	6.74%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**340,579**	**2,936,008**			**838.859**	**6.93%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,936,008**			**838.859**		**59.73%**
Total Cost To Prime Contractor		**2,936,008**			**838.859**		**59.73%**
General Conditions	293,601			10.000 %	83.886	5.97%	
Mobilization/Demobilization	117,440			4.000 %	33.554	2.39%	
Subtotal Indirect Costs	**411,041**	**3,347,049**			**956.300**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	334,705			10.000 %	95.630	6.81%	
Prime Contractor Profit	167,352			5.000 %	47.815	3.40%	
Bonds & Insurance	83,526			2.170 %	23.864	1.70%	
Subtotal OH&P	**585,583**	**3,932,632**			**1,123.609**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,932,632**			**1,123.609**		**80.00%**
Design Contingency	983,158			25.000 %	280.902	20.00%	
Subtotal Contingency	**983,158**	**4,915,790**			**1,404.511**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**4,915,790**			**1,404.511**		**100.00%**
Total Prime Contractor Costs		**4,915,790**			**1,404.511**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**4,915,790**			**1,404.511**		**100.00%**
Total Contractor Costs w/ OFCI		**4,915,790**			**1,404.511**		**100.00%**
Total Construction Cost		**4,915,790**			**1,404.511**		**100.00%**
Total		***4,915,790***			***1,404.511***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Purified No. 2-1 Pink Line**											
	01.0				20" 3/16" CS Waterline											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Waterline	3,500.00 LF	10,864	814,625	593,211	86,597	604,832	44,010	612.36 /LF	2,143,276	1,339.77 /LF	4,689,187
					33.03 Buried Process Pipe, Carbon Steel	3,500.00 LF	10,864	814,625	593,211	86,597	604,832	44,010	612.36 /LF	2,143,276	1,339.77 /LF	4,689,187
					33.0 Utilities	*1.00* LS	10,864	814,625	593,211	86,597	604,832	44,010	2,143,276.09 /LS	2,143,276	4,689,187.32 /LS	4,689,187
					01.0 20" 3/16" CS Waterline	3,500.00 LF	10,864	814,625	593,211	86,597	604,832	44,010	612.36 /LF	2,143,276	1,339.77 /LF	4,689,187
	02.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	113	8,885	13,419		4,372		8,891.98 /EA	26,676	19,545.53 /EA	58,637
					33.03 Buried Process Pipe, Carbon Steel	75.00 LF	113	8,885	13,419		4,372		355.68 /LF	26,676	781.82 /LF	58,637
					33.0 Utilities	*1.00* LS	113	8,885	13,419		4,372		26,675.93 /LS	26,676	58,636.59 /LS	58,637
					02.0 8" Blow Off Assembly	75.00 LF	113	8,885	13,419		4,372		355.68 /LF	26,676	781.82 /LF	58,637
	03.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,393.53 /EA	14,787
					33.03 Buried Process Pipe, Carbon Steel	50.00 LF	22	1,760	1,958	3,000	91		136.19 /LF	6,809	295.74 /LF	14,787
					33.0 Utilities	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,787.05 /LS	14,787
					03.0 2" CARV Assembly	50.00 LF	22	1,760	1,958	3,000	91		136.19 /LF	6,809	295.74 /LF	14,787
	04.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,719.60 /EA	46,878
					33.03 Buried Process Pipe, Carbon Steel	*1.00* LF	42	3,364	16,092		1,749		21,204.69 /LF	21,205	46,878.39 /LF	46,878
					33.0 Utilities	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,878.39 /LS	46,878
					04.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,719.60 /EA	46,878
	05.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.47 /Sy	7,648
				32.40.02.0008	Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.62 /SY	44,643
					32.12 Paving	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	208.05 /SY	52,291
					32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	208.05 /SY	52,291
					05.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.70 /LF	52,291
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.74 /LF	20,261
					33.89 Pipeline - Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.74 /LF	20,261
					33.0 Utilities	*1.00* LS				9,425			9,425.00 /LS	9,425	20,261.47 /LS	20,261
					08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.74 /LF	20,261
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,746.34 /EA	33,746
					26.10 Site Electrical	*1.00* LS				15,000			15,000.00 /LS	15,000	33,746.34 /LS	33,746
					26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,746.34 /LS	33,746
					09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,746.34 /EA	33,746
					01.0 Las Virgenes Purified No. 2-1 Pink Line	*1.00* LS	11,197	838,055	634,595	116,158	612,451	44,010	**2,245,269.14 /LS**	2,245,269	**4,915,788.08 /LS**	4,915,788

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	838,055		11,196.848 hrs		239.444	17.05%	
Material	634,595				181.313	12.91%	
Subcontract	116,158				33.188	2.36%	
Equipment	612,451		10,080.319 hrs		174.986	12.46%	
Other	44,010				12.574	0.90%	
Subtotal Raw Costs	**2,245,269**	**2,245,269**			**641.505**	**45.67%**	**45.67%**
Material Sales & Use Tax - %	46,008			7.250 %	13.145	0.94%	
Construction Equip Tax - %	44,403			7.250 %	12.686	0.90%	
Total Taxes	**90,411**	**2,335,680**			**667.337**	**1.84%**	**47.51%**
Location Adj. Factor	259,749			11.800 %	74.214	5.28%	
Productivity Adjustment							
Subtotal Adj. Factors	**259,749**	**2,595,429**			**741.551**	**5.28%**	**52.80%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.071	0.08%	
Site/Civil I,OH&P	5,720			25.000 %	1.634	0.12%	
Buried Piping I,OH&P	331,109			15.000 %	94.602	6.74%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**340,579**	**2,936,008**			**838.859**	**6.93%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,936,008**			**838.859**		**59.73%**
Total Cost To Prime Contractor		**2,936,008**			**838.859**		**59.73%**
General Conditions	293,601			10.000 %	83.886	5.97%	
Mobilization/Demobilization	117,440			4.000 %	33.554	2.39%	
Subtotal Indirect Costs	**411,041**	**3,347,049**			**956.300**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	334,705			10.000 %	95.630	6.81%	
Prime Contractor Profit	167,352			5.000 %	47.815	3.40%	
Bonds & Insurance	83,526			2.170 %	23.864	1.70%	
Subtotal OH&P	**585,583**	**3,932,632**			**1,123.609**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,932,632**			**1,123.609**		**80.00%**
Design Contingency	983,158			25.000 %	280.902	20.00%	
Subtotal Contingency	**983,158**	**4,915,790**			**1,404.511**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**4,915,790**			**1,404.511**		**100.00%**
Total Prime Contractor Costs		**4,915,790**			**1,404.511**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**4,915,790**			**1,404.511**		**100.00%**
Total Contractor Costs w/ OFCI		**4,915,790**			**1,404.511**		**100.00%**
Total Construction Cost		**4,915,790**			**1,404.511**		**100.00%**
Total		***4,915,790***			***1,404.511***		

REACH 2

No. 2-2 Dark Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Purified No. 2-2 Dark Blue L | Estimator: John DeWolf
Job Size: 3,400 Lf | Project Number: W9Y31200 | Rev/Date: Rev #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Purified No. 2-2 Dark Blue Line***			
	01.0	**20" 3/16" CS Waterline**	**2,150.00 LF**	**1,400.72 /LF**	**3,011,540**
	02.0	**20" HDPE HDD Allowance**	**1,250.00 LF**	**1,331.93 /LF**	**1,664,909**
	03.0	**8" Blow Off Assembly**	**75.00 LF**	**779.96 /LF**	**58,497**
	04.0	**2" CARV Assembly**	**2.00 EA**	**7,375.76 /EA**	**14,752**
	05.0	**20" Butterfly Valves**	**4.00 EA**	**11,691.92 /EA**	**46,768**
	06.0	**Asphalt Trench Repair**	**377.00 LF**	**138.39 /LF**	**52,172**
	08.0	**Traffic Control Allowance**	**377.00 LF**	**53.61 /LF**	**20,212**
	09.0	**Traffic Loop Replacement Allowance**	**1.00 EA**	**33,668.05 /EA**	**33,668**
		01.0 Las Virgenes Purified No. 2-2 Dark Blue Line	***1.00 LS***	***4,902,516.57 /LS***	***4,902,517***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,110,225		7,891.341 hrs		326.537	22.65%	
Material	1,424,094				418.851	29.05%	
Subcontract	1,461,647				429.896	29.81%	
Equipment	817,363		6,308.308 hrs		240.401	16.67%	
Other	89,188				26.232	1.82%	
Total Prime Contractor Costs	**4,902,517**	**4,902,517**			**1,441.917**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**4,902,517**			**1,441.917**		**100.00%**
Total		***4,902,517***			***1,441.917***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-2 Dark Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Purified No. 2-2 Dark Blue Line**											
	01.0					20" 3/16" CS Waterline											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.00.05.1001		20" 3/16" CS Waterline											
					33.00.05.20	Buried Pipe, Carbon Steel, 20"											
						Pipeline Existing Conditions	***50.00 lf***			**-**	**-**	**-**	**-**	***/lf***		***/lf***	
						Traffic Control, Labor per Day	7.00 day	**112**	**6,532**	**-**	**-**	**-**	**-**	933.15 /day	**6,532**	2,001.18 /day	**14,008**
						Trench Box, 8' x 24' x 10'	3.20 mo		**-**	**-**	**-**	**7,360**	**-**	2,300.00 /mo	**7,360**	5,099.18 /mo	**16,317**
						Dedicated Fire / Safety Monitor	88.00 hr	**88**	**5,132**	**-**	**-**	**-**	**-**	58.32 /hr	**5,132**	125.07 /hr	**11,007**
						50 tn Rough Terrain (per day)	43.00 day	**344**	**27,218**	**-**	**-**	**67,957**	**-**	2,213.38 /day	**95,176**	4,861.26 /day	**209,034**
						Add for hydrotesting pipeline (labor & Equipment per day)	3,500.00 lf	**42**	**3,403**	**-**	**-**	**304**	**-**	1.06 /lf	**3,708**	2.28 /lf	**7,973**
						Excav, pipe trench, w/ trench box, for 4" - 24" pipe	2,309.75 CY	**1,032**	**74,500**	**-**	**-**	**64,948**	**-**	60.37 /CY	**139,448**	131.51 /CY	**303,760**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	734.68 cy	**1,204**	**79,021**	**-**	**-**	**54,086**	**-**	181.18 /cy	**133,107**	393.88 /cy	**289,375**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	1,479.29 cy	**688**	**51,861**	**-**	**-**	**61,786**	**-**	76.82 /cy	**113,646**	167.78 /cy	**248,198**
						Pipe zone material	734.68 cy		**-**	**20,571**	**-**	**-**	**-**	28.00 /cy	**20,571**	62.08 /cy	**45,607**
						Pipe bedding material	175.21 cy		**-**	**4,906**	**-**	**-**	**-**	28.00 /cy	**4,906**	62.08 /cy	**10,877**
						Imported backfill material	1,479.29 cy		**-**	**17,751**	**-**	**-**	**-**	12.00 /cy	**17,751**	26.60 /cy	**39,356**
						Dump fees, trench spoils	2,934.00 cy		**-**	**-**	**-**	**-**	**44,010**	15.00 /cy	**44,010**	30.40 /cy	**89,188**
						20" CS pipe assembly, shop fab, excav/bkfill NOT incl., 3/16" wall	2,150.00 LF	**2,064**	**166,565**	**231,394**	**-**	**94,002**	**-**	228.82 /LF	**491,961**	501.68 /LF	**1,078,620**
						20" CS Ell, 90	5.00 ea	**31**	**2,502**	**4,038**	**-**	**1,412**	**-**	1,590.21 /ea	**7,951**	3,489.28 /ea	**17,446**
						20" CS Ell, 45	2.00 ea	**12**	**1,001**	**810**	**-**	**565**	**-**	1,187.72 /ea	**2,375**	2,596.93 /ea	**5,194**
						20" CS Ell, 22.5	4.00 ea	**25**	**2,001**	**1,620**	**-**	**1,129**	**-**	1,187.71 /ea	**4,751**	2,596.93 /ea	**10,388**
						20" CS Ell, 11.25	7.00 ea	**43**	**3,502**	**2,835**	**-**	**1,977**	**-**	1,187.71 /ea	**8,314**	2,596.93 /ea	**18,179**
						20" CS butt weld, 3/16" wall	144.00 ea		**-**	**-**	**26,208**	**-**	**-**	182.00 /ea	**26,208**	390.31 /ea	**56,204**
						CLSM, pipe encasement	2,726.63 cy		**-**	**163,598**	**-**	**-**	**-**	60.00 /cy	**163,598**	133.02 /cy	**362,702**
						Tape wrap joint, 20" pipe	144.00 ea	**259**	**20,917**	**7,200**	**-**	**-**	**-**	195.26 /ea	**28,117**	422.37 /ea	**60,821**
						Grout joint, I.D., 20" pipe	144.00 ea	**288**	**23,338**	**1,728**	**-**	**-**	**-**	174.07 /ea	**25,066**	374.16 /ea	**53,879**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	**-**	**2,186**	**-**	3,779.86 /ea	**7,560**	8,239.65 /ea	**16,479**
						Cathodic protection, joint jumpers	144.00 ea	**144**	**11,669**	**3,600**	**-**	**-**	**-**	106.03 /ea	**15,269**	229.20 /ea	**33,005**
						Cathodic protection, anode, 30 lbs	2.00 ea	**8**	**648**	**300**	**-**	**-**	**-**	474.13 /ea	**948**	1,027.67 /ea	**2,055**
						Cathodic protection, test station	2.00 ea	**32**	**2,593**	**880**	**-**	**-**	**-**	1,736.53 /ea	**3,473**	3,755.95 /ea	**7,512**
						Pipe Marking, ID Tape	2,150.00 lf	**22**	**1,742**	**280**	**-**	**-**	**-**	0.94 /lf	**2,022**	2.03 /lf	**4,356**
						33.00.05.20 Buried Pipe, Carbon Steel, 20"	**2,150.00 LF**	**6,486**	**488,020**	**463,010**	**26,208**	**357,712**	**44,010**	**641.38 /LF**	**1,378,960**	**1,400.72 /LF**	**3,011,540**
						33.00.05.1001 20" 3/16" CS Waterline	**2,150.00 LF**	**6,486**	**488,020**	**463,010**	**26,208**	**357,712**	**44,010**	**641.38 /LF**	**1,378,960**	**1,400.72 /LF**	**3,011,540**
						33.03 Buried Process Pipe, Carbon Steel	**2,150.00 LF**	**6,486**	**488,020**	**463,010**	**26,208**	**357,712**	**44,010**	**641.38 /LF**	**1,378,960**	**1,400.72 /LF**	**3,011,540**
						33.0 Utilities	***1.00*** **LS**	**6,486**	**488,020**	**463,010**	**26,208**	**357,712**	**44,010**	**1,378,960.02 /LS**	**1,378,960**	**3,011,539.59 /LS**	**3,011,540**
						01.0 20" 3/16" CS Waterline	**2,150.00 LF**	**6,486**	**488,020**	**463,010**	**26,208**	**357,712**	**44,010**	**641.38 /LF**	**1,378,960**	**1,400.72 /LF**	**3,011,540**
	02.0					20" HDPE HDD Allowance											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.00.09.0010		20" HDPE HDD											
					33.00.09.20	Buried Pipe, HDPE, 20"											
						Directional Drilling, Excavate Receiving Pit and Connect to Mainline Pipe	2.00 ea	**48**	**3,874**	**-**	**-**	**2,186**	**-**	3,029.86 /ea	**6,060**	6,576.89 /ea	**13,154**
						Directional Drilling, Backfill Receiving Pit	2.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	1,514.93 /ea	**3,030**	3,288.43 /ea	**6,577**
						Directional Drilling, subcontract, 20" diameter	1,250.00 LF	**1,000**		**-**	**625,000**	**-**	**-**	500.00 /LF	**625,000**	1,072.27 /LF	**1,340,335**
						Directional Drilling, HDPE pipe, 20" diameter	1,250.00 lf		**-**	**137,500**	**-**	**-**	**-**	110.00 /lf	**137,500**	243.87 /lf	**304,843**
						33.00.09.20 Buried Pipe, HDPE, 20"	**1,250.00 LF**	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**617.27 /LF**	**771,590**	**1,331.93 /LF**	**1,664,909**
						33.00.09.0010 20" HDPE HDD	**1,250.00 LF**	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**617.27 /LF**	**771,590**	**1,331.93 /LF**	**1,664,909**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**771,589.56 /LS**	**771,590**	**1,664,908.63 /LS**	**1,664,909**
						33.0 Utilities	***1.00*** **LS**	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**771,589.56 /LS**	**771,590**	**1,664,908.63 /LS**	**1,664,909**
						02.0 20" HDPE HDD Allowance	**1,250.00 LF**	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**617.27 /LF**	**771,590**	**1,331.93 /LF**	**1,664,909**
	03.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						20" CS tee	3.00 ea	**19**	**1,501**	**3,780**	**-**	**847**	**-**	2,042.71 /ea	**6,128**	4,492.49 /ea	**13,477**
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	**36**	**2,905**	**3,916**	**-**	**1,640**	**-**	112.81 /LF	**8,461**	247.29 /LF	**18,547**
						8" DI, MJ, Ell, 90	3.00 ea	**9**	**726**	**1,031**	**-**	**410**	**-**	722.48 /ea	**2,167**	1,584.22 /ea	**4,753**
						8" DI, MJ, Ell, 45	3.00 ea	**9**	**726**	**881**	**-**	**410**	**-**	672.43 /ea	**2,017**	1,473.26 /ea	**4,420**
						8" DI, RJ, cap or plug	3.00 ea	**5**	**363**	**468**	**-**	**205**	**-**	345.52 /ea	**1,037**	757.24 /ea	**2,272**
						Install gate valve, Flgd, DIP, 8"	3.00 ea	**10**	**799**	**-**	**-**	**451**	**-**	416.61 /ea	**1,250**	904.33 /ea	**2,713**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		**-**	**1,857**	**-**	**-**	**-**	619.00 /EA	**1,857**	1,372.34 /EA	**4,117**
						Valve accessory, extension stem	45.00 lf	**5**	**359**	**225**	**-**	**-**	**-**	12.98 /lf	**584**	28.20 /lf	**1,269**
						Valve accessory, stem couplings	3.00 set	**1**	**79**	**60**	**-**	**-**	**-**	46.33 /set	**139**	100.81 /set	**302**
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	**9**	**726**	**450**	**-**	**410**	**-**	528.73 /ea	**1,586**	1,154.66 /ea	**3,464**
						Meter Box	3.00 ea	**12**	**700**	**750**	**-**	**-**	**-**	483.29 /ea	**1,450**	1,054.56 /ea	**3,164**
						33.20.01.08 Buried Valves, Gate Valves, 8"	**3.00 EA**	**113**	**8,885**	**13,419**		**4,372**		**8,891.98 /EA**	**26,676**	**19,499.11 /EA**	**58,497**
						33.20.01.0004 8" Blow Off Assembly	**3.00 EA**	**113**	**8,885**	**13,419**		**4,372**		**8,891.98 /EA**	**26,676**	**19,499.11 /EA**	**58,497**
						33.03 Buried Process Pipe, Carbon Steel	**75.00 LF**	**113**	**8,885**	**13,419**		**4,372**		**355.68 /LF**	**26,676**	**779.96 /LF**	**58,497**
						33.0 Utilities	***1.00*** **LS**	**113**	**8,885**	**13,419**		**4,372**		**26,675.93 /LS**	**26,676**	**58,497.34 /LS**	**58,497**
						03.0 8" Blow Off Assembly	**75.00 LF**	**113**	**8,885**	**13,419**		**4,372**		**355.68 /LF**	**26,676**	**779.96 /LF**	**58,497**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.03			Buried Process Pipe, Carbon Steel											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	2.00 EA		**-**	**-**	**3,000**	**-**		1,500.00 /EA	**3,000**	3,216.81 /EA	**6,434**
						2" Corporation stop, thrd	2.00 ea	**2**	**188**		**-**	**91**	**-**	139.46 /ea	**279**	302.36 /ea	**605**
						Ball valve, bronze, screwed, 2"	2.00 ea	**1**	**64**	**128**	**-**	**-**	**-**	95.92 /ea	**192**	210.35 /ea	**421**
						2" copper pipe, K-soft	50.00 LF	**4**	**279**	**529**	**-**	**-**	**-**	16.17 /LF	**808**	35.44 /LF	**1,772**
						2" copper, ELL, 90	4.00 ea	**3**	**207**	**51**	**-**	**-**	**-**	64.71 /ea	**259**	139.70 /ea	**559**
						Install Air & Vacuum relief valve, 2"	2.00 ea	**5**	**383**	**-**	**-**	**-**	**-**	191.51 /ea	**383**	410.71 /ea	**821**
						FURNISH Air & Vacuum relief valve, iron body, 2"	2.00 ea		**-**	**750**	**-**	**-**	**-**	375.00 /ea	**750**	831.39 /ea	**1,663**
						Double Strap Saddle, 20" x 2"	2.00 ea	**8**	**638**	**500**	**-**	**-**	**-**	569.19 /ea	**1,138**	1,238.77 /ea	**2,478**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**2.00 EA**	**22**	**1,760**	**1,958**	**3,000**	**91**		**3,404.68 /EA**	**6,809**	**7,375.76 /EA**	**14,752**

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-2 Dark Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.20.08.0005 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,375.76 /EA	14,752
						33.03 Buried Process Pipe, Carbon Steel	**50.00 LF**	22	1,760	1,958	3,000	91		**136.19 /LF**	6,809	**295.03 /LF**	14,752
						33.0 Utilities	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,751.51 /LS	14,752
						04.0 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,375.76 /EA	14,752
	05.0					20" Butterfly Valves											
		33.0				Utilities											
			33.03			**Buried Process Pipe, Carbon Steel**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	4.00 ea	26	2,130	-	-	1,202	-	833.21 /ea	3,333	1,808.64 /ea	7,235
						Butterfly valve, iron body, MJ , NO, 250#, 20"	4.00 EA		-	15,312	-	-	-	3,828.00 /EA	15,312	8,486.82 /EA	33,947
						Valve accessory, extension stem	20.00 lf	2	160	100	-	-	-	12.98 /lf	260	28.20 /lf	564
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	100.81 /set	403
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	1,154.67 /ea	4,619
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,691.92 /EA	46,768
						33.20.03.0003 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,691.92 /EA	46,768
						33.03 Buried Process Pipe, Carbon Steel	**0.00**	42	3,364	16,092		1,749		**/LF**	21,205	**/LF**	46,768
						33.0 Utilities	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,767.69 /LS	46,768
						05.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,691.92 /EA	46,768
	06.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			**Paving**											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	754.00 lf	12		-	1,508	-	-	2.00 /lf	1,508	4.49 /lf	3,385
						Asphalt Milling, 6" Depth	251.00 Sy	3		-	628	-	-	2.50 /Sy	628	5.61 /Sy	1,408
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	42.00 cy	4	294	-	-	415	-	16.88 /cy	709	38.60 /cy	1,621
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	42.00 cy		-	525	-	-	-	12.50 /cy	525	28.96 /cy	1,216
						02.01.01.01 General Site Demolition, Asphalt Pavement	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.40 /Sy	7,631
						02.01.01.0007 Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.40 /Sy	7,631
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, under 1000 S.Y.	251.33 SY	6	340	224	-	-	-	2.24 /SY	564	5.10 /SY	1,281
						Fog seal, sealcoating, prepare and clean surface for sealcoating	251.33 sy	1	43	-	-	10	-	0.21 /sy	53	0.47 /sy	119
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	251.33 sy	2	136	2,878	-	147	-	12.58 /sy	3,161	29.10 /sy	7,314
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	251.33 sy	128	8,543	6,032	-	792	-	61.14 /sy	15,367	139.21 /sy	34,987
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	377.00 LF	1	65	256	-	43	-	0.97 /LF	364	2.23 /LF	839
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.22 /SY	44,541
						32.40.02.0008 Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.22 /SY	44,541
						32.12 Paving	**251.33 SY**	156	9,421	9,915	2,136	1,407		**91.03 /SY**	22,878	**207.58 /SY**	52,172
						32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.58 /SY	52,172
						06.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.39 /LF	52,172
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	377.00 LF		-	-	9,425	-		25.00 /LF	9,425	53.61 /LF	20,212
						33.00.01.40 Buried Pipe, Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.61 /LF	20,212
						33.00.01.0009 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.61 /LF	20,212
						33.89 Pipeline - Traffic Control	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.61 /LF**	20,212
						33.0 Utilities	*1.00* LS				9,425			9,425.00 /LS	9,425	20,212.26 /LS	20,212
						08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.61 /LF	20,212
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			**Site Electrical**											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	1.00 EA		-	-	15,000	-		15,000.00 /EA	15,000	33,668.05 /EA	33,668
						26.00.99.00 Electrical, Other	1.00 EA				15,000			15,000.00 /EA	15,000	33,668.05 /EA	33,668
						26.00.99.0005 Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,668.05 /EA	33,668
						26.10 Site Electrical	*1.00* LS				15,000			**15,000.00 /LS**	15,000	**33,668.05 /LS**	33,668
						26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,668.05 /LS	33,668
						09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,668.05 /EA	33,668
						01.0 Las Virgenes Purified No. 2-2 Dark Blue Line	*1.00* LS	7,891	517,260	641,894	680,769	368,610	44,010	**2,252,542.63 /LS**	2,252,543	**4,902,516.57 /LS**	4,902,517

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-2 Dark Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	517.260		7,891.341 hrs		152.135	10.55%	
Material	641.894				188.792	13.09%	
Subcontract	680,769				200.226	13.89%	
Equipment	368,610		6,308.308 hrs		108.415	7.52%	
Other	44,010				12.944	0.90%	
Subtotal Raw Costs	**2,252,543**	**2,252,543**			**662.513**	**45.95%**	**45.95%**
Material Sales & Use Tax - %	46,537			7.250 %	13.687	0.95%	
Construction Equip Tax - %	26,724			7.250 %	7.860	0.55%	
Total Taxes	**73,261**	**2,325,804**			**684.060**	**1.49%**	**47.44%**
Location Adj. Factor	260,607			11.800 %	76.649	5.32%	
Productivity Adjustment							
Subtotal Adj. Factors	**260,607**	**2,586,411**			**760.709**	**5.32%**	**52.76%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.103	0.08%	
Site/Civil I,OH&P	5,720			25.000 %	1.682	0.12%	
Buried Piping I,OH&P	332,200			15.000 %	97.706	6.78%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**341,670**	**2,928,081**			**861.200**	**6.97%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,928,081**			**861.200**		**59.73%**
Total Cost To Prime Contractor		**2,928,081**			**861.200**		**59.73%**
General Conditions	292,808			10.000 %	86.120	5.97%	
Mobilization/Demobilization	117,123			4.000 %	34.448	2.39%	
Subtotal Indirect Costs	**409,931**	**3,338,012**			**981.768**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	333,801			10.000 %	98.177	6.81%	
Prime Contractor Profit	166,901			5.000 %	49.088	3.40%	
Bonds & Insurance	83,300			2.170 %	24.500	1.70%	
Subtotal OH&P	**584,002**	**3,922,014**			**1,153.534**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,922,014**			**1,153.534**		**80.00%**
Design Contingency	980,503			25.000 %	288.383	20.00%	
Subtotal Contingency	**980,503**	**4,902,517**			**1,441.917**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**4,902,517**			**1,441.917**		**100.00%**
Total Prime Contractor Costs		**4,902,517**			**1,441.917**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**4,902,517**			**1,441.917**		**100.00%**
Total Contractor Costs w/ OFCI		**4,902,517**			**1,441.917**		**100.00%**
Total Construction Cost		**4,902,517**			**1,441.917**		**100.00%**
Total		***4,902,517***			***1,441.917***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Purified No. 2-2 Dark Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Purified No. 2-2 Dark Blue Line**											
	01.0				20" 3/16" CS Waterline											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.00.05.1001	20" 3/16" CS Waterline	2,150.00 LF	6,486	488,020	463,010	26,208	357,712	44,010	641.38 /LF	1,378,960	1,400.72 /LF	3,011,540
					33.03 Buried Process Pipe, Carbon Steel	2,150.00 LF	6,486	488,020	463,010	26,208	357,712	44,010	641.38 /LF	1,378,960	1,400.72 /LF	3,011,540
					33.0 Utilities	*1.00* LS	6,486	488,020	463,010	26,208	357,712	44,010	1,378,960.02 /LS	1,378,960	3,011,539.59 /LS	3,011,540
					01.0 20" 3/16" CS Waterline	2,150.00 LF	6,486	488,020	463,010	26,208	357,712	44,010	641.38 /LF	1,378,960	1,400.72 /LF	3,011,540
	02.0				20" HDPE HDD Allowance											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.09.0010	20" HDPE HDD	1,250.00 LF	1,072	5,810	137,500	625,000	3,279		617.27 /LF	771,590	1,331.93 /LF	1,664,909
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	1,072	5,810	137,500	625,000	3,279		771,589.56 /LS	771,590	1,664,908.63 /LS	1,664,909
					33.0 Utilities	*1.00* LS	1,072	5,810	137,500	625,000	3,279		771,589.56 /LS	771,590	1,664,908.63 /LS	1,664,909
					02.0 20" HDPE HDD Allowance	1,250.00 LF	1,072	5,810	137,500	625,000	3,279		617.27 /LF	771,590	1,331.93 /LF	1,664,909
	03.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	113	8,885	13,419		4,372		8,891.98 /EA	26,676	19,499.11 /EA	58,497
					33.03 Buried Process Pipe, Carbon Steel	75.00 LF	113	8,885	13,419		4,372		355.68 /LF	26,676	779.96 /LF	58,497
					33.0 Utilities	*1.00* LS	113	8,885	13,419		4,372		26,675.93 /LS	26,676	58,497.34 /LS	58,497
					03.0 8" Blow Off Assembly	75.00 LF	113	8,885	13,419		4,372		355.68 /LF	26,676	779.96 /LF	58,497
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.08.0005	2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,375.76 /EA	14,752
					33.03 Buried Process Pipe, Carbon Steel	50.00 LF	22	1,760	1,958	3,000	91		136.19 /LF	6,809	295.03 /LF	14,752
					33.0 Utilities	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,751.51 /LS	14,752
					04.0 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,375.76 /EA	14,752
	05.0				20" Butterfly Valves											
		33.0			Utilities											
			33.03		Buried Process Pipe, Carbon Steel											
				33.20.03.0003	20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,691.92 /EA	46,768
					33.03 Buried Process Pipe, Carbon Steel	0.00	42	3,364	16,092		1,749		/LF	21,205	/LF	46,768
					33.0 Utilities	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,767.69 /LS	46,768
					05.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,691.92 /EA	46,768
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.40 /Sy	7,631
				32.40.02.0008	Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.22 /SY	44,541
					32.12 Paving	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.58 /SY	52,172
					32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.58 /SY	52,172
					06.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.39 /LF	52,172
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.61 /LF	20,212
					33.89 Pipeline - Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.61 /LF	20,212
					33.0 Utilities	*1.00* LS				9,425			9,425.00 /LS	9,425	20,212.26 /LS	20,212
					08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.61 /LF	20,212
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,668.05 /EA	33,668
					26.10 Site Electrical	*1.00* LS				15,000			15,000.00 /LS	15,000	33,668.05 /LS	33,668
					26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,668.05 /LS	33,668
					09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,668.05 /EA	33,668
					01.0 Las Virgenes Purified No. 2-2 Dark Blue Line	*1.00* LS	7,891	517,260	641,894	680,769	368,610	44,010	**2,252,542.63 /LS**	2,252,543	**4,902,516.57 /LS**	4,902,517

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

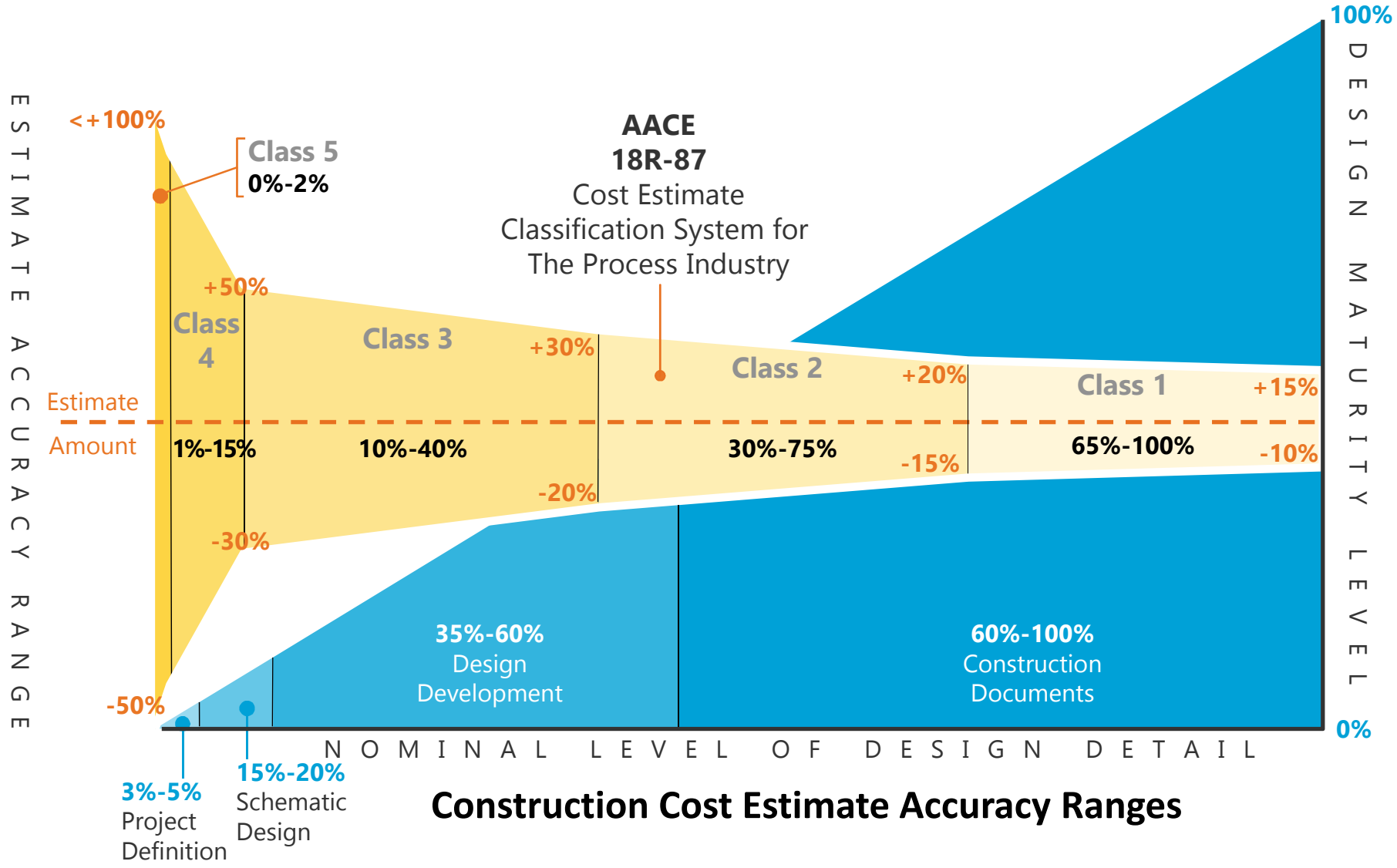
Project Name: W9Y31200 Las Virgenes Purified No. 2-2 Dark Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	517,260		7,891.341 hrs		152.135	10.55%	
Material	641,894				188.792	13.09%	
Subcontract	680,769				200.226	13.89%	
Equipment	368,610		6,308.308 hrs		108.415	7.52%	
Other	44,010				12.944	0.90%	
Subtotal Raw Costs	**2,252,543**	**2,252,543**			**662.513**	**45.95%**	**45.95%**
Material Sales & Use Tax - %	46,537			7.250 %	13.687	0.95%	
Construction Equip Tax - %	26,724			7.250 %	7.860	0.55%	
Total Taxes	**73,261**	**2,325,804**			**684.060**	**1.49%**	**47.44%**
Location Adj. Factor	260,607			11.800 %	76.649	5.32%	
Productivity Adjustment							
Subtotal Adj. Factors	**260,607**	**2,586,411**			**760.709**	**5.32%**	**52.76%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.103	0.08%	
Site/Civil I,OH&P	5,720			25.000 %	1.682	0.12%	
Buried Piping I,OH&P	332,200			15.000 %	97.706	6.78%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**341,670**	**2,928,081**			**861.200**	**6.97%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,928,081**			**861.200**		**59.73%**
Total Cost To Prime Contractor		**2,928,081**			**861.200**		**59.73%**
General Conditions	292,808			10.000 %	86.120	5.97%	
Mobilization/Demobilization	117,123			4.000 %	34.448	2.39%	
Subtotal Indirect Costs	**409,931**	**3,338,012**			**981.768**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	333,801			10.000 %	98.177	6.81%	
Prime Contractor Profit	166,901			5.000 %	49.088	3.40%	
Bonds & Insurance	83,300			2.170 %	24.500	1.70%	
Subtotal OH&P	**584,002**	**3,922,014**			**1,153.534**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,922,014**			**1,153.534**		**80.00%**
Design Contingency	980,503			25.000 %	288.383	20.00%	
Subtotal Contingency	**980,503**	**4,902,517**			**1,441.917**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**4,902,517**			**1,441.917**		**100.00%**
Total Prime Contractor Costs		**4,902,517**			**1,441.917**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**4,902,517**			**1,441.917**		**100.00%**
Total Contractor Costs w/ OFCI		**4,902,517**			**1,441.917**		**100.00%**
Total Construction Cost		**4,902,517**			**1,441.917**		**100.00%**
Total		***4,902,517***			***1,441.917***		

AACE Information



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	**0% to 2%**	**1% to 15%**	**10% to 40%**	**30% to 70%**	**50% to 100%**
END USAGE Typical Purpose of Estimate	**Concept Screening**	**Study or Feasibility**	**Budget Authorization, or Control**	**Control or Bid / Tender**	**Check Estimate or Bid / Tender**
METHODOLOGY Typical estimating method	**Capacity Factored, Parametric Models, Judgment, or Analogy**	**Equipment Factored or Parametric Models**	**Semi-Detailed Unit Costs with Assembly Level Line Items**	**Detailed Unit Cost with Forced Detailed Take-Off**	**Detailed Unit Cost with Detailed Take-Off**
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	**L: -20% to -50%** / **H: +30% to +100%**	**L: -15% to -30%** / **H: +20% to +50%**	**L: -10% to -20%** / **H: +10% to +30%**	**L: -5% to -15%** / **H: +5% to +20%**	**L: -3% to -10%** / **H: +3% to +15%**
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	**1**	**2 to 4**	**3 to 10**	**4 to 20**	**5 to 100**
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	**Class 5**	**Class 4**	**Class 3**	**Class 2**	**Class 1**
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete

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Las Virgenes-Triunfo Purified Water Line

Agoura Hills and Westlake Village CA.

Class 5

Prepared:
August 26, 2022

Jacobs

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Project Cost Estimate 1

Jacobs

Basis of Estimate

Jacobs

Basis of Estimate

1. Project Information

Client/Owner:	Las Virgenes-Triunfo
Project Manager:	Jennifer Phillips
Design Manager:	TBD
Architect:	TBD
Project Description:	Purified Water Pipeline
Location:	Agoura Hills and Westlake Village Ca.
Estimate Date:	August 26. 2022
Design Level:	Conceptual
Estimate Classification	Class 5
Estimate Number:	W9Y31200
Contracting Method:	Design, Bid, Build
Project Size:	See Each Estimate for the size and scope.
Construction Budget:	See Section 4. Overall Cost
Construction Start:	TBD
Construction Duration:	TBD

2. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer's opinion of probable construction cost at the 10% design development.

3. General Project Description

This project is for the construction of Source Water Pipelines as detailed in estimates below in the cities of Agoura Hills and Westlake Village CA.

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4. Overall Costs

REACH 1

Light Blue Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$5,884,000	**$8,405,000**	$12,608,000

Green Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$6,849,000	**$9,784,000**	$14,676,000

REACH 2

Pink Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$2,391,000	**$3,416,000**	$5,124,000

Dark Blue Alignment

Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$2,767,000	**$3,953,000**	$5,930,000

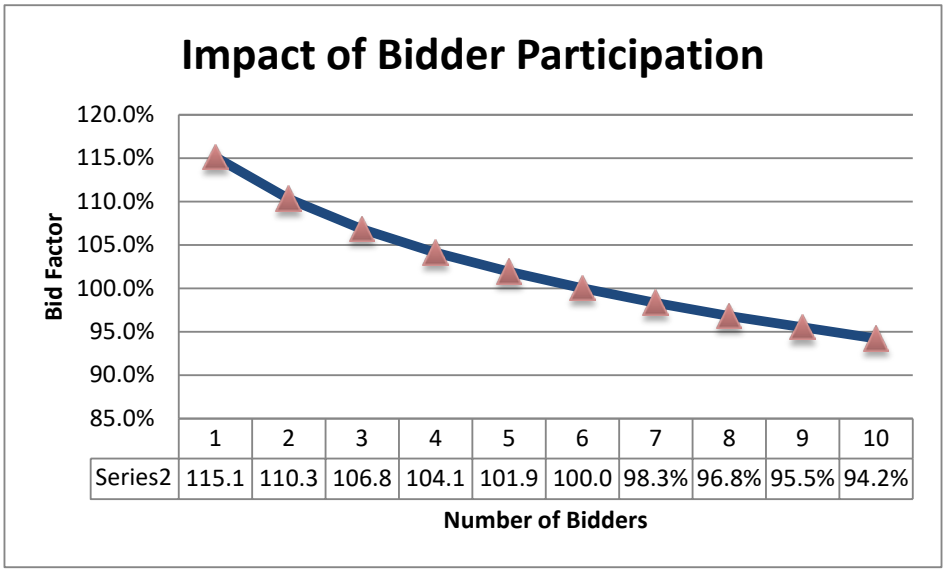
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5. General Qualifications

A. We recommend the Owner and/or designated representatives review the estimate in detail for items that may not be consistent with the program intent.

B. The final costs of the project will depend on actual labor and material costs, competitive market conditions, actual project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein.

C. This estimate is based upon a competitive bid contracting method with five to seven responsible bidders (see chart below for modifications due to number of responsible bidders). Any single source specification selection will have an increased impact on the overall cost.



No. Bidders	Bid Factor
1	115.1%
2	110.3%
3	106.8%
4	104.1%
5	101.9%
6	100.0%
7	98.3%
8	96.8%
9	95.5%
10	94.2%

Data Source: PACES 2007, Mark-ups Screen, Prime and Subcontractor Profit Calculation Factors

D. The estimate does not include impacts due to contracting methods other than “open” competitive procurement. Pricing is not valid for negotiated contracts.

E. Pricing is not valid for HUB Zone and “set-aside” contract award.

6. Estimate Basis

A. Basis

- Other: Word documenting the scope of work with Google Earth KMZ files showing the approximate alignment of the pipeline.

B. Format

- This estimate is presented in CSI Masterformat 2004.
- The following Work Breakdown Structure (WBS) has been utilized to further segregate cost:
  - Area
  - Bid Item
  - Work Package
  - Trade Package
  - Work Activity
  - Unit Price

C. Labor Rates

Labor rates are based on local prevailing wages and are fully burdened to include both direct and indirect subcontract mark-ups. Labor Rates include base, fringes, payroll taxes and insurance, small tools, consumables, field supervision and field overhead as well as subcontractor overhead and profit.

The estimate has been adjusted for local area labor rates, based upon 2022 RS Means National Average labor rates for the state of California. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index for Los Angeles CA. Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

D. Material Pricing

Materials pricing is based upon the national average as determined by RS Means or other data sources. Quotes on certain items may have been obtained and included in this estimate. Many quotes given for engineering estimates are budgetary and may not reflect actual contractor pricing.

E. Subcontracted Costs

It is assumed that General Contractors will subcontract a portion of the work. Items listed in the cost estimate as subcontractor includes all anticipated markups that a general contractor would receive.

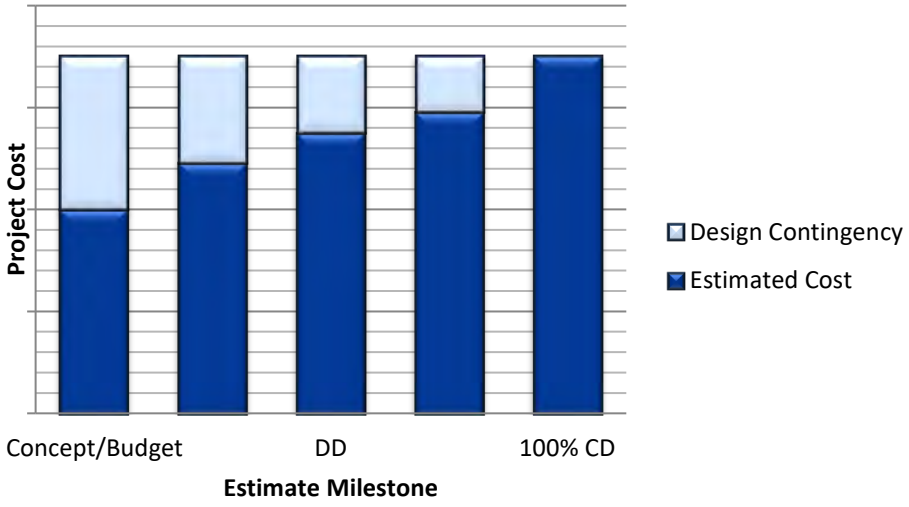
F. Construction Equipment Cost

Equipment items listed in this cost estimate are for the construction equipment necessary for the installation of the work. Equipment rates in this estimate are assumed to be 100% of 2022 Blue Book value. This is to account for contractor owned equipment

or discounted rental equipment. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index Los Angeles CA.

G. Design Contingency

Design Contingency is considered to be owned by the project. At each milestone estimate, contingency (based on the level of design detail available) is applied against the total estimated construction cost, including General Conditions (when applicable). This risk-based contingency is intended to cover the cost associated with the further refinement of the design and details that are not completed on the plans. The design contingency is a function of the level of design at the time of the cost estimate development. As the design details increase at each milestone estimate, the contingency decreases until, at 100% design completion, the contingency is generally 0%. The following graph is a theoretical representation of this process.



Design Contingency is not intended to cover owner changes, nor does it address unforeseeable events such as labor strikes, natural disasters or extraordinary economic events.

A Design Contingency of 25% is included.

H. Market Adjustment Factor or Contingency

A market adjustment factor or contingency has been added to the estimate, to account for lack of potential bidders in a geographical area, based upon the amount of current workload by the general contractors or subcontractors.

A Market Adjustment Factor is not included.

I. Construction Contingency

Construction Contingency is a typical consideration on any Guaranteed Maximum Price (GMP) contract. It is often owned by the project but controlled by the owner. Meaning, the owner has approval rights as to whether this contingency fund is utilized. Its purpose is to cover purchasing gaps and omissions in the GMP bidding process and to cover unforeseen costs due to weather or scheduling conflicts. Typically, as part of a GMP, the unspent portion of the construction contingency is returned to the owner when the project is closed out.

A Construction Contingency is not included.

J. Owner's Contingency

Owner's Contingency is a recommended amount to cover the costs associated with unforeseen conditions during the construction phase such as unknown site conditions, schedule delays and trade coordination issues that may lead to change orders. This contingency is not meant for scope enhancements or for additions to the project. The suggested percentage for Owner's Contingency is based on Industry standards for the type and location of the project.

Owner's Contingency is not included in this estimate.

K. Escalation

The pricing presented herein is based on current market costs. An escalation rate is applied at the summary level of the estimate for costs associated with the following:

- Yearly merit raises for open shop contractors.
- Yearly renegotiation of union agreements.
- Material price increases (typically assessed quarterly).

Escalation is not intended to cover increases due to fluctuations in market conditions such as over saturation of projects during the anticipated bidding phase or temporary reductions in availability of manpower for selected labor pools.

Escalation is not included.

7. Taxes

An 7.25% sales tax was added to all material costs within the estimate including process equipment.

Jacobs

8. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- Jacobs Historical Data
- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

9. Constructability Or Phase Comments

A Constructability Study was not conducted by estimating.

10. Project Allowances

01 - Allowances

Allowances are an allotted sum of money included for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost. Allowances include project direct costs - including labor, material, equipment and any subcontractor costs.

1. Allowances are detailed in the attached “Detail Estimate for each alternate.

11. Major Assumptions

01 – General Requirements

1. Material that is to be excavated can be done with a standard excavator.
2. All backfill will be new imported material.
3. A Dump site for excavated spoils will be available within 20 miles of the project.
4. Traffic will be allowed to be detoured around the work site.
5. All pipeline alignment will be in asphalt and avoid concrete and landscaping.

12. General Exclusions:

- Professional fees, inspections and/or third-party testing
- Owner furnished items
- Hazardous waste removal and disposal
- Unforeseen sub-surface or existing conditions
- State/Local license, fees and/or permits
- Owner’s contingency
- Any Blasting

13. Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The impacts of the COVID-19 pandemic on the construction industry are not known at this time and will likely have some impact on the costs presented herein. This situation should be monitored and costs adjusted as the impacts become realized and published by the leading industry sources.

While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends.

REACH 1

Light Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Purified Light Blue 8-10-22 | Estimator: John DeWolf
Job Size: 12,710 Lf | Project Number: W9Y31200 | Rev/Date: 8-10-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Purified Light Blue Line***			
	01.0	**20" PVC C900 Waterline**	**12,710.00 LF**	**395.41 /LF**	**5,025,665**
	02.0	**Bridge Crossing Allowance**	**200.00 LF**	**1,268.19 /LF**	**253,637**
	03.0	**Bore at Channel Crossing**	**50.00 LF**	**1,968.34 /LF**	**98,417**
	04.0	**8" Blow Off Assembly**	**5.00 EA**	**24,244.25 /EA**	**121,221**
	05.0	**2" CARV Assembly**	**4.00 EA**	**7,415.04 /EA**	**29,660**
	06.0	**20" Butterfly Valves**	**13.00 EA**	**11,753.13 /EA**	**152,791**
	07.0	**Asphalt Trenc Repair**	**12,710.00 LF**	**138.06 /LF**	**1,754,686**
	08.0	**Traffic Control Allowance**	**12,710.00 LF**	**53.90 /LF**	**685,095**
	09.0	**Traffic Loop Replacement Allowance**	**3.00 EA**	**33,841.23 /EA**	**101,524**
	10.0	**Purified Water Bypass**	**1.00 EA**	**182,028.72 /EA**	**182,029**
	01.0 Las Vergenes Purified Light Blue Line		***1.00 LS***	***8,404,725.59 /LS***	***8,404,726***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,222,763		15,001.930 hrs		174.883	26.45%	
Material	3,041,122				239.270	36.18%	
Subcontract	1,691,118				133.054	20.12%	
Equipment	1,017,966		9,219.418 hrs		80.092	12.11%	
Other	431,757				33.970	5.14%	
Total Prime Contractor Costs	**8,404,726**	**8,404,726**			**661.269**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**8,404,726**			**661.269**		**100.00%**
Total		***8,404,726***			***661.269***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Light Blue 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Purified Light Blue Line**											
	01.0					20" PVC C900 Waterline											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0001		20" PVC C900 Waterline											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	**/lf**		**/lf**	
						Traffic Control, Labor per Day	64.00 day	**1,024**	**59,722**	-	-	-	-	933.15 /day	**59,722**	2,011.95 /day	**128,765**
						Trench Box, 8' x 24' x 10'	3.00 mo		-	-	-	**6,900**	-	2,300.00 /mo	**6,900**	5,125.74 /mo	**15,377**
						Dedicated Fire / Safety Monitor	256.00 hr	**256**	**14,930**	-	-	-	-	58.32 /hr	**14,930**	125.75 /hr	**32,191**
						Add for hydrotesting pipeline (labor & Equipment per day)	12,710.00 lf	**153**	**12,359**	-	-	**1,105**	-	1.06 /lf	**13,464**	2.29 /lf	**29,109**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	13,654.37 CY	**1,024**	**70,371**	-	-	**48,333**	-	8.69 /CY	**118,704**	19.00 /CY	**259,440**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	4,343.15 cy	**1,792**	**117,612**	-	-	**80,500**	-	45.61 /cy	**198,112**	99.69 /cy	**432,982**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	8,745.05 cy	**1,024**	**77,188**	-	-	**91,960**	-	19.34 /cy	**169,147**	42.47 /cy	**371,363**
						Pipe zone material	4,343.15 cy		-	**121,608**	-	-	-	28.00 /cy	**121,608**	62.40 /cy	**271,014**
						Pipe bedding material	1,035.78 cy		-	**29,002**	-	-	-	28.00 /cy	**29,002**	62.40 /cy	**64,633**
						Imported backfill material	8,745.05 cy		-	**104,941**	-	-	-	12.00 /cy	**104,941**	26.74 /cy	**233,869**
						Haul spoils, offsite, 10 - 20 miles	14,123.00 cy		-	-	**211,845**	-	-	15.00 /cy	**211,845**	32.34 /cy	**456,755**
						Dump fees, trench spoils	14,123.00 cy		-	-	-	-	**211,845**	15.00 /cy	**211,845**	30.57 /cy	**431,757**
						20" DI, MJ, Ell, 90	7.00 ea	**50**	**4,067**	**16,136**	-	**2,295**	-	3,214.16 /ea	**22,499**	7,120.89 /ea	**49,846**
						20" DI, MJ, Ell, 45	8.00 ea	**58**	**4,648**	**13,017**	-	**2,623**	-	2,536.06 /ea	**20,288**	5,609.68 /ea	**44,877**
						20" DI, MJ, Ell, 11 1/4	12.00 ea	**86**	**6,972**	**22,848**	-	**3,935**	-	2,812.96 /ea	**33,755**	6,226.78 /ea	**74,721**
						FURNISH PVC water distribution pipe, C-905, class 165, DR 25, 20"	12,710.00 LF		-	**543,734**	-	-	-	42.78 /LF	**543,734**	95.34 /LF	**1,211,755**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	12,710.00 lf	**3,072**	**247,911**	-	-	**139,910**	-	30.51 /lf	**387,821**	66.59 /lf	**846,317**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	-	**2,186**	-	3,779.86 /ea	**7,560**	8,283.31 /ea	**16,567**
						Pipe Marking, ID Tape	12,710.00 lf	**127**	**10,299**	**1,652**	-	-	-	0.94 /lf	**11,952**	2.04 /lf	**25,888**
						Pipe Marking, Copper Wire	12,710.00 lf	**127**	**10,299**	**2,796**	-	-	-	1.03 /lf	**13,095**	2.24 /lf	**28,438**
						33.00.07.20 Buried Pipe, PVC, 20"	**12,710.00 LF**	**8,841**	**640,254**	**857,234**	**211,845**	**379,747**	**211,845**	**181.03 /LF**	**2,300,925**	**395.41 /LF**	**5,025,665**
						33.00.07.0001 20" PVC C900 Waterline	**12,710.00 LF**	**8,841**	**640,254**	**857,234**	**211,845**	**379,747**	**211,845**	**181.03 /LF**	**2,300,925**	**395.41 /LF**	**5,025,665**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**8,841**	**640,254**	**857,234**	**211,845**	**379,747**	**211,845**	**2,300,924.60 /LS**	**2,300,925**	**5,025,665.21 /LS**	**5,025,665**
						33.0 Utilities	***1.00*** **LS**	**8,841**	**640,254**	**857,234**	**211,845**	**379,747**	**211,845**	**2,300,924.60 /LS**	**2,300,925**	**5,025,665.21 /LS**	**5,025,665**
						01.0 20" PVC C900 Waterline	**12,710.00 LF**	**8,841**	**640,254**	**857,234**	**211,845**	**379,747**	**211,845**	**181.03 /LF**	**2,300,925**	**395.41 /LF**	**5,025,665**
	02.0					Bridge Crossing Allowance											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0002		Bridge Crossing Allowance											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Division 33 Allowance Support Pipe Inside Bridge	200.00 lf		-	-	**100,000**	-		500.00 /lf	**100,000**	1,078.04 /lf	**215,608**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	200.00 LF		-	**11,724**	-	-	-	58.62 /LF	**11,724**	130.64 /LF	**26,128**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	200.00 lf	**43**	**3,486**	-	-	**1,968**	-	27.27 /lf	**5,454**	59.51 /lf	**11,901**
						33.00.07.20 Buried Pipe, PVC, 20"	**200.00 LF**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**585.89 /LF**	**117,178**	**1,268.19 /LF**	**253,637**
						33.00.07.0002 Bridge Crossing Allowance	**200.00 LF**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**585.89 /LF**	**117,178**	**1,268.19 /LF**	**253,637**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**117,177.74 /LS**	**117,178**	**253,637.43 /LS**	**253,637**
						33.0 Utilities	***1.00*** **LS**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**117,177.74 /LS**	**117,178**	**253,637.43 /LS**	**253,637**
						02.0 Bridge Crossing Allowance	**200.00 LF**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**585.89 /LF**	**117,178**	**1,268.19 /LF**	**253,637**
	03.0					Bore at Channel Crossing											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,223.71 /ea	**13,224**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,611.86 /ea	**6,612**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,611.84 /ea	**6,612**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,305.93 /ea	**3,306**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	**200**		-	**26,300**	-	-	526.00 /LF	**26,300**	1,134.10 /LF	**56,705**
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	**400**	-	-	-	100.00 /ea	**400**	222.86 /ea	**891**
						Horizontal boring, 36" diameter end seals	2.00 ea		-	**700**	-	-	-	350.00 /ea	**700**	780.00 /ea	**1,560**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	50.00 lf		-	**2,931**	-	-	-	58.62 /lf	**2,931**	130.64 /lf	**6,532**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	50.00 lf	**11**	**872**	-	-	**492**	-	27.27 /lf	**1,363**	59.51 /lf	**2,975**
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	**50.00 LF**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**906.58 /LF**	**45,329**	**1,968.34 /LF**	**98,417**
						33.60.02.0002 36" Bore with 20" Carrier	**50.00 LF**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**906.58 /LF**	**45,329**	**1,968.34 /LF**	**98,417**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**45,328.77 /LS**	**45,329**	**98,417.05 /LS**	**98,417**
						33.0 Utilities	***1.00*** **LS**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**45,328.77 /LS**	**45,329**	**98,417.05 /LS**	**98,417**
						03.0 Bore at Channel Crossing	**50.00 LF**	**319**	**9,587**	**4,031**	**26,300**	**5,411**		**906.58 /LF**	**45,329**	**1,968.34 /LF**	**98,417**
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	125.00 LF	**60**	**4,842**	**6,526**	-	**2,733**	-	112.81 /LF	**14,101**	248.59 /LF	**31,074**
						8" DI, MJ, Ell, 90	5.00 ea	**15**	**1,211**	**1,719**	-	**683**	-	722.48 /ea	**3,612**	1,592.56 /ea	**7,963**
						8" DI, MJ, Ell, 45	5.00 ea	**15**	**1,211**	**1,469**	-	**683**	-	672.43 /ea	**3,362**	1,481.02 /ea	**7,405**
						8" DI, RJ, cap or plug	5.00 ea	**8**	**605**	**781**	-	**342**	-	345.52 /ea	**1,728**	761.24 /ea	**3,806**
						20" DI, MJ, red. tee, 20" x 8"	5.00 ea	**50**	**3,995**	**14,429**	-	**2,254**	-	4,135.59 /ea	**20,678**	9,158.56 /ea	**45,793**
						Install gate valve, Flgd, DIP, 8"	5.00 ea	**17**	**1,332**	-	-	**751**	-	416.61 /ea	**2,083**	909.14 /ea	**4,546**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	5.00 EA		-	**3,095**	-	-	-	619.00 /EA	**3,095**	1,379.49 /EA	**6,897**
						Valve accessory, extension stem	75.00 lf	**8**	**598**	**375**	-	-	-	12.98 /lf	**973**	28.35 /lf	**2,126**
						Valve accessory, stem couplings	5.00 set	**2**	**132**	**100**	-	-	-	46.33 /set	**232**	101.34 /set	**507**
						CI Valve Box & Cover, w/ Concrete Collar included	5.00 ea	**15**	**1,211**	**750**	-	**683**	-	528.73 /ea	**2,644**	1,160.77 /ea	**5,804**
						Meter Box	5.00 ea	**20**	**1,166**	**1,250**	-	-	-	483.29 /ea	**2,416**	1,060.13 /ea	**5,301**

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Light Blue 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.20.01.08 Buried Valves, Gate Valves, 8"	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,244.25 /EA	121,221
						33.20.01.0004 8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,244.25 /EA	121,221
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,221.25 /LS	121,221
						33.0 Utilities	1.00 LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,221.25 /LS	121,221
						04.0 8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,244.25 /EA	121,221
	05.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	4.00 EA		-	-	6,000	-		1,500.00 /EA	6,000	3,234.12 /EA	12,936
						2" Corporation stop, thrd	4.00 ea	5	376		-	182	-	139.45 /ea	558	303.97 /ea	1,216
						Ball valve, bronze, screwed, 2"	4.00 ea	2	128	256	-	-	-	95.92 /ea	384	211.45 /ea	846
						2" copper pipe, K-soft	100.00 LF	7	559	1,058	-	-	-	16.17 /LF	1,617	35.63 /LF	3,563
						2" copper, ELL, 90	8.00 ea	5	415	103	-	-	-	64.71 /ea	518	140.45 /ea	1,124
						Install Air & Vacuum relief valve, 2"	4.00 ea	10	766	-	-	-	-	191.51 /ea	766	412.91 /ea	1,652
						FURNISH Air & Vacuum relief valve, iron body, 2"	4.00 ea		-	1,500	-	-	-	375.00 /ea	1,500	835.72 /ea	3,343
						Double Strap Saddle, 20" x 2"	4.00 ea	16	1,277	1,000	-	-	-	569.19 /ea	2,277	1,245.33 /ea	4,981
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,415.04 /EA	29,660
						33.20.08.0005 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,415.04 /EA	29,660
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,660.16 /LS	29,660
						33.0 Utilities	1.00 LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,660.16 /LS	29,660
						05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,415.04 /EA	29,660
	06.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	13.00 ea	86	6,924	-	-	3,908	-	833.21 /ea	10,832	1,818.26 /ea	23,637
						Butterfly valve, iron body, MJ , NO, 250#, 20"	13.00 EA		-	49,764	-	-	-	3,828.00 /EA	49,764	8,531.01 /EA	110,903
						Valve accessory, extension stem	65.00 lf	7	519	325	-	-	-	12.98 /lf	844	28.35 /lf	1,843
						Valve accessory, stem couplings	13.00 set	4	342	260	-	-	-	46.33 /set	602	101.35 /set	1,318
						CI Valve Box & Cover, w/ Concrete Collar included	13.00 ea	39	3,147	1,950	-	1,776	-	528.73 /ea	6,874	1,160.77 /ea	15,090
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,753.13 /EA	152,791
						33.20.03.0003 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,753.13 /EA	152,791
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,790.69 /LS	152,791
						33.0 Utilities	1.00 LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,790.69 /LS	152,791
						06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,753.13 /EA	152,791
	07.0					Asphalt Trenc Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	25,420.00 lf	391		-	50,840	-	-	2.00 /lf	50,840	4.51 /lf	114,699
						Asphalt Milling, 6" Depth	8,474.00 Sy	85		-	21,185	-	-	2.50 /Sy	21,185	5.64 /Sy	47,795
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,412.00 cy	145	9,895	-	-	13,936	-	16.88 /cy	23,831	38.79 /cy	54,774
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,412.00 cy		-	17,650	-	-	-	12.50 /cy	17,650	29.11 /cy	41,099
						02.01.01.01 General Site Demolition, Asphalt Pavement	8,474.00 Sy	621	9,895	17,650	72,025	13,936		13.39 /Sy	113,506	30.49 /Sy	258,368
						02.01.01.0007 Demo Asphalt	8,474.00 Sy	621	9,895	17,650	72,025	13,936		13.39 /Sy	113,506	30.49 /Sy	258,368
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	8,473.33 SY	45	3,242	7,541	-	2,422	-	1.56 /SY	13,205	3.60 /SY	30,514
						Fog seal, sealcoating, prepare and clean surface for sealcoating	8,473.33 sy	24	1,439	-	-	337	-	0.21 /sy	1,776	0.48 /sy	4,031
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	8,473.33 sy	65	4,591	97,020	-	4,959	-	12.58 /sy	106,570	29.25 /sy	247,823
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	8,473.33 sy	4,314	288,013	203,360	-	26,714	-	61.14 /sy	518,087	139.91 /sy	1,185,526
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	12,710.00 LF	36	2,183	8,643	-	1,449	-	0.97 /LF	12,275	2.24 /LF	28,424
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	8,473.33 SY	4,484	299,468	316,564		35,880		76.94 /SY	651,912	176.59 /SY	1,496,319
						32.40.02.0008 Trench Paving	8,473.33 SY	4,484	299,468	316,564		35,880		76.94 /SY	651,912	176.59 /SY	1,496,319
						32.12 Paving	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.08 /SY	1,754,686
						32.0 Exterior Improvements	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.08 /SY	1,754,686
						07.0 Asphalt Trenc Repair	12,710.00 LF	5,105	309,363	334,214	72,025	49,816		60.22 /LF	765,417	138.06 /LF	1,754,686
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	12,710.00 LF		-	-	317,750	-		25.00 /LF	317,750	53.90 /LF	685,095
						33.00.01.40 Buried Pipe, Traffic Control	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
						33.00.01.0009 Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
						33.89 Pipeline - Traffic Control	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
						33.0 Utilities	1.00 LS				317,750			317,750.00 /LS	317,750	685,095.01 /LS	685,095
						08.0 Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	3.00 EA		-	-	45,000	-		15,000.00 /EA	45,000	33,841.23 /EA	101,524

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Light Blue 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						26.00.99.00 Electrical, Other	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,841.23 /EA**	**101,524**
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,841.23 /EA**	**101,524**
						26.10 Site Electrical	***1.00* LS**				**45,000**			**45,000.00 /LS**	**45,000**	**101,523.69 /LS**	**101,524**
						26.0 Electrical Work	***1.00* LS**				**45,000**			**45,000.00 /LS**	**45,000**	**101,523.69 /LS**	**101,524**
						09.0 Traffic Loop Replacement Allowance	**3.00 EA**				**45,000**			**15,000.00 /EA**	**45,000**	**33,841.23 /EA**	**101,524**
	10.0					**Purified Water Bypass**											
		33.0				**Utilities**											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0010		**Purified Water Bypass**											
					33.00.07.20	**Buried Pipe, PVC, 20"**											
						Utility vaults, precast concrete, 5' x 10' x 6' high, i.d	1.00 EA	**28**	**1,763**	**2,425**	**-**	**259**	**-**	4,446.96 /EA	**4,447**	9,782.62 /EA	**9,783**
						Utility vaults, precast concrete, 8' x 14' x 7' high, i.d	1.00 ea	**56**	**3,525**	**4,225**	**-**	**518**	**-**	8,268.92 /ea	**8,269**	18,172.37 /ea	**18,172**
						20" DI, RJ, Ell, 90	1.00 ea	**7**	**581**	**2,584**	**-**	**328**	**-**	3,492.96 /ea	**3,493**	7,742.23 /ea	**7,742**
						20" DI, RJ, tee	1.00 ea	**10**	**799**	**3,233**	**-**	**451**	**-**	4,483.22 /ea	**4,483**	9,933.28 /ea	**9,933**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	100.00 LF		**-**	**5,862**	**-**	**-**	**-**	58.62 /LF	**5,862**	130.64 /LF	**13,064**
						20" Bolt & Gasket Kits, CS, 150#	15.00 ea	**72**	**5,745**	**1,200**	**-**	**-**	**-**	463.02 /ea	**6,945**	1,004.11 /ea	**15,062**
						Install butterfly valve, Flgd, DIP, 20"	4.00 ea	**42**	**3,389**	**-**	**-**	**1,913**	**-**	1,325.56 /ea	**5,302**	2,892.69 /ea	**11,571**
						Butterfly valve, iron body, Flgd, NO., 150#, 20"	1.00 ea		**-**	**2,436**	**-**	**-**	**-**	2,436.00 /ea	**2,436**	5,428.84 /ea	**5,429**
						Butterfly valve, iron body, Flgd, MTR OPER, 150#, 20"	3.00 ea		**-**	**19,140**	**-**	**-**	**-**	6,380.00 /ea	**19,140**	14,218.35 /ea	**42,655**
						Valve accessory, extension stem	5.00 lf	**1**	**40**	**25**	**-**	**-**	**-**	12.98 /lf	**65**	28.35 /lf	**142**
						Valve accessory, stem couplings	1.00 set	**0**	**26**	**20**	**-**	**-**	**-**	46.33 /set	**46**	101.33 /set	**101**
						CI Valve Box & Cover, w/ Concrete Collar included	1.00 ea	**3**	**242**	**150**	**-**	**137**	**-**	528.73 /ea	**529**	1,160.75 /ea	**1,161**
						20" DI, FL, Ell, 90	1.00 ea	**10**	**800**	**1,244**	**-**	**-**	**-**	2,044.65 /ea	**2,045**	4,498.67 /ea	**4,499**
						20" DI, FL, tee, 20" x 20"	1.00 ea	**13**	**1,001**	**1,839**	**-**	**-**	**-**	2,839.67 /ea	**2,840**	6,255.90 /ea	**6,256**
						20" DI, flanged coupling adapter	7.00 ea	**65**	**5,223**	**11,307**	**-**	**-**	**-**	2,361.41 /ea	**16,530**	5,208.51 /ea	**36,460**
						33.00.07.20 Buried Pipe, PVC, 20"	**100.00 LF**	**307**	**23,135**	**55,691**		**3,606**		**824.32 /LF**	**82,432**	**1,820.29 /LF**	**182,029**
						33.00.07.0010 Purified Water Bypass	**1.00 EA**	**307**	**23,135**	**55,691**		**3,606**		**82,431.79 /EA**	**82,432**	**182,028.72 /EA**	**182,029**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00* LS**	**307**	**23,135**	**55,691**		**3,606**		**82,431.79 /LS**	**82,432**	**182,028.72 /LS**	**182,029**
						33.0 Utilities	***1.00* LS**	**307**	**23,135**	**55,691**		**3,606**		**82,431.79 /LS**	**82,432**	**182,028.72 /LS**	**182,029**
						10.0 Purified Water Bypass	**1.00 EA**	**307**	**23,135**	**55,691**		**3,606**		**82,431.79 /EA**	**82,432**	**182,028.72 /EA**	**182,029**
						01.0 Las Vergenes Purified Light Blue Line	***1.00* LS**	**15,002**	**1,016,578**	**1,349,603**	**778,920**	**454,542**	**211,845**	**3,811,488.43 /LS**	**3,811,488**	**8,404,725.59 /LS**	**8,404,726**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,016,578		15,001.930 hrs		79.983	12.10%	
Material	1,349,603				106.184	16.06%	
Subcontract	778,920				61.284	9.27%	
Equipment	454,542		9,219.418 hrs		35.763	5.41%	
Other	211,845				16.668	2.52%	
Subtotal Raw Costs	**3,811,488**	**3,811,488**			**299.881**	**45.35%**	**45.35%**
Material Sales & Use Tax - %	97,846			7.250 %	7.698	1.16%	
Construction Equip Tax - %	32,954			7.250 %	2.593	0.39%	
Total Taxes	**130,800**	**3,942,288**			**310.172**	**1.56%**	**46.91%**
Location Adj. Factor	424,758			11.800 %	33.419	5.05%	
Productivity Adjustment							
Subtotal Adj. Factors	**424,758**	**4,367,046**			**343.591**	**5.05%**	**51.96%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.885	0.13%	
Site/Civil I,OH&P	191,354			25.000 %	15.055	2.28%	
Buried Piping I,OH&P	450,161			15.000 %	35.418	5.36%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**652,765**	**5,019,811**			**394.950**	**7.77%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**5,019,811**			**394.950**		**59.73%**
Total Cost To Prime Contractor		**5,019,811**			**394.950**		**59.73%**
General Conditions	501,981			10.000 %	39.495	5.97%	
Mobilization/Demobilization	200,792			4.000 %	15.798	2.39%	
Subtotal Indirect Costs	**702,773**	**5,722,584**			**450.243**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	572,259			10.000 %	45.024	6.81%	
Prime Contractor Profit	286,129			5.000 %	22.512	3.40%	
Bonds & Insurance	142,807			2.170 %	11.236	1.70%	
Subtotal OH&P	**1,001,195**	**6,723,779**			**529.015**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**6,723,779**			**529.015**		**80.00%**
Design Contingency	1,680,945			25.000 %	132.254	20.00%	
Subtotal Contingency	**1,680,945**	**8,404,724**			**661.269**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**8,404,724**			**661.269**		**100.00%**
Total Prime Contractor Costs		**8,404,724**			**661.269**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**8,404,724**			**661.269**		**100.00%**
Total Contractor Costs w/ OFCI		**8,404,724**			**661.269**		**100.00%**
Total Construction Cost		**8,404,724**			**661.269**		**100.00%**
Total		***8,404,724***			***661.269***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Light Blue 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Purified Light Blue Line**											
	01.0				20" PVC C900 Waterline											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0001	20" PVC C900 Waterline	12,710.00 LF	8,841	640,254	857,234	211,845	379,747	211,845	181.03 /LF	2,300,925	395.41 /LF	5,025,665
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	8,841	640,254	857,234	211,845	379,747	211,845	2,300,924.60 /LS	2,300,925	5,025,665.21 /LS	5,025,665
					33.0 Utilities	*1.00* LS	8,841	640,254	857,234	211,845	379,747	211,845	2,300,924.60 /LS	2,300,925	5,025,665.21 /LS	5,025,665
					01.0 20" PVC C900 Waterline	12,710.00 LF	8,841	640,254	857,234	211,845	379,747	211,845	181.03 /LF	2,300,925	395.41 /LF	5,025,665
	02.0				Bridge Crossing Allowance											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0002	Bridge Crossing Allowance	200.00 LF	43	3,486	11,724	100,000	1,968		585.89 /LF	117,178	1,268.19 /LF	253,637
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	43	3,486	11,724	100,000	1,968		117,177.74 /LS	117,178	253,637.43 /LS	253,637
					33.0 Utilities	*1.00* LS	43	3,486	11,724	100,000	1,968		117,177.74 /LS	117,178	253,637.43 /LS	253,637
					02.0 Bridge Crossing Allowance	200.00 LF	43	3,486	11,724	100,000	1,968		585.89 /LF	117,178	1,268.19 /LF	253,637
	03.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,968.34 /LF	98,417
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,417.05 /LS	98,417
					33.0 Utilities	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,417.05 /LS	98,417
					03.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,968.34 /LF	98,417
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,244.25 /EA	121,221
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,221.25 /LS	121,221
					33.0 Utilities	*1.00* LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,221.25 /LS	121,221
					04.0 8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,244.25 /EA	121,221
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,415.04 /EA	29,660
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,660.16 /LS	29,660
					33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,660.16 /LS	29,660
					05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,415.04 /EA	29,660
	06.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,753.13 /EA	152,791
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,790.69 /LS	152,791
					33.0 Utilities	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,790.69 /LS	152,791
					06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,753.13 /EA	152,791
	07.0				Asphalt Trenc Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	8,474.00 Sy	621	9,895	17,650	72,025	13,936		13.39 /Sy	113,506	30.49 /Sy	258,368
				32.40.02.0008	Trench Paving	8,473.33 SY	4,484	299,468	316,564		35,880		76.94 /SY	651,912	176.59 /SY	1,496,319
					32.12 Paving	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.08 /SY	1,754,686
					32.0 Exterior Improvements	8,473.33 SY	5,105	309,363	334,214	72,025	49,816		90.33 /SY	765,417	207.08 /SY	1,754,686
					07.0 Asphalt Trenc Repair	12,710.00 LF	5,105	309,363	334,214	72,025	49,816		60.22 /LF	765,417	138.06 /LF	1,754,686
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
					33.89 Pipeline - Traffic Control	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
					33.0 Utilities	*1.00* LS				317,750			317,750.00 /LS	317,750	685,095.01 /LS	685,095
					08.0 Traffic Control Allowance	12,710.00 LF				317,750			25.00 /LF	317,750	53.90 /LF	685,095
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	3.00 EA				45,000			15,000.00 /EA	45,000	33,841.23 /EA	101,524
					26.10 Site Electrical	*1.00* LS				45,000			45,000.00 /LS	45,000	101,523.69 /LS	101,524
					26.0 Electrical Work	*1.00* LS				45,000			45,000.00 /LS	45,000	101,523.69 /LS	101,524
					09.0 Traffic Loop Replacement Allowance	3.00 EA				45,000			15,000.00 /EA	45,000	33,841.23 /EA	101,524
	10.0				Purified Water Bypass											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0010	Purified Water Bypass	1.00 EA	307	23,135	55,691		3,606		82,431.79 /EA	82,432	182,028.72 /EA	182,029
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	307	23,135	55,691		3,606		82,431.79 /LS	82,432	182,028.72 /LS	182,029
					33.0 Utilities	*1.00* LS	307	23,135	55,691		3,606		82,431.79 /LS	82,432	182,028.72 /LS	182,029
					10.0 Purified Water Bypass	1.00 EA	307	23,135	55,691		3,606		82,431.79 /EA	82,432	182,028.72 /EA	182,029
					01.0 Las Vergenes Purified Light Blue Line	*1.00* LS	15,002	1,016,578	1,349,603	778,920	454,542	211,845	**3,811,488.43 /LS**	3,811,488	**8,404,725.59 /LS**	8,404,726

BID FORM SUMMARY

Project type: Water
Job Size: 12,710 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Light Blue 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,016,578		15,001.930 hrs		79.983	12.10%	
Material	1,349,603				106.184	16.06%	
Subcontract	778,920				61.284	9.27%	
Equipment	454,542		9,219.418 hrs		35.763	5.41%	
Other	211,845				16.668	2.52%	
Subtotal Raw Costs	**3,811,488**	**3,811,488**			**299.881**	**45.35%**	**45.35%**
Material Sales & Use Tax - %	97,846			7.250 %	7.698	1.16%	
Construction Equip Tax - %	32,954			7.250 %	2.593	0.39%	
Total Taxes	**130,800**	**3,942,288**			**310.172**	**1.56%**	**46.91%**
Location Adj. Factor	424,758			11.800 %	33.419	5.05%	
Productivity Adjustment							
Subtotal Adj. Factors	**424,758**	**4,367,046**			**343.591**	**5.05%**	**51.96%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	11,250			25.000 %	0.885	0.13%	
Site/Civil I,OH&P	191,354			25.000 %	15.055	2.28%	
Buried Piping I,OH&P	450,161			15.000 %	35.418	5.36%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**652,765**	**5,019,811**			**394.950**	**7.77%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**5,019,811**			**394.950**		**59.73%**
Total Cost To Prime Contractor		**5,019,811**			**394.950**		**59.73%**
General Conditions	501,981			10.000 %	39.495	5.97%	
Mobilization/Demobilization	200,792			4.000 %	15.798	2.39%	
Subtotal Indirect Costs	**702,773**	**5,722,584**			**450.243**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	572,259			10.000 %	45.024	6.81%	
Prime Contractor Profit	286,129			5.000 %	22.512	3.40%	
Bonds & Insurance	142,807			2.170 %	11.236	1.70%	
Subtotal OH&P	**1,001,195**	**6,723,779**			**529.015**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**6,723,779**			**529.015**		**80.00%**
Design Contingency	1,680,945			25.000 %	132.254	20.00%	
Subtotal Contingency	**1,680,945**	**8,404,724**			**661.269**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**8,404,724**			**661.269**		**100.00%**
Total Prime Contractor Costs		**8,404,724**			**661.269**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**8,404,724**			**661.269**		**100.00%**
Total Contractor Costs w/ OFCI		**8,404,724**			**661.269**		**100.00%**
Total Construction Cost		**8,404,724**			**661.269**		**100.00%**
Total		***8,404,724***			***661.269***		

REACH 1

Green Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22 | Estimator: John DeWolf
Job Size: 12,760 Lf | Project Number: W9Y31200 | Rev/Date: 8-10-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Purified Green Line***			
	01.0	**20" PVC C900 Waterline**	**12,760.00 LF**	**504.22 /LF**	**6,433,858**
	02.0	**Bridge Crossing Allowance**	**200.00 LF**	**1,266.31 /LF**	**253,262**
	03.0	**Bore at Channel Crossing**	**50.00 LF**	**1,965.44 /LF**	**98,272**
	04.0	**8" Blow Off Assembly**	**5.00 EA**	**24,209.09 /EA**	**121,045**
	05.0	**2" CARV Assembly**	**4.00 EA**	**7,404.14 /EA**	**29,617**
	06.0	**20" Butterfly Valves**	**13.00 EA**	**11,736.16 /EA**	**152,570**
	07.0	**Asphalt Trench Repair**	**12,760.00 LF**	**137.87 /LF**	**1,759,158**
	08.0	**Traffic Control Allowance**	**12,760.00 LF**	**53.82 /LF**	**686,769**
	09.0	**Traffic Loop Replacement Allowance**	**2.00 EA**	**33,793.21 /EA**	**67,586**
	10.0	**Purified Water Bypass**	**1.00 EA**	**181,764.83 /EA**	**181,765**
	01.0 Las Vergenes Purified Green Line		***1.00 LS***	***9,783,902.79 /LS***	***9,783,903***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,979,727		19,923.866 hrs		233.521	30.46%	
Material	3,064,410				240.158	31.32%	
Subcontract	1,717,511				134.601	17.55%	
Equipment	1,501,620		13,529.138 hrs		117.682	15.35%	
Other	520,634				40.802	5.32%	
Total Prime Contractor Costs	**9,783,902**	**9,783,902**			**766.763**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**9,783,902**			**766.763**		**100.00%**
Total		***9,783,902***			***766.763***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Purified Green Line**											
	01.0					20" PVC C900 Waterline											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0001		20" PVC C900 Waterline In The Street											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	51.00 day	**816**	**47,591**	-	-	-	-	933.15 /day	**47,591**	2,008.96 /day	**102,457**
						Trench Box, 8' x 24' x 10'	3.00 mo		-	-	-	**6,900**	-	2,300.00 /mo	**6,900**	5,118.38 /mo	**15,355**
						Dedicated Fire / Safety Monitor	204.00 hr	**204**	**11,898**	-	-	-	-	58.32 /hr	**11,898**	125.56 /hr	**25,614**
						Add for hydrotesting pipeline (labor & Equipment per day)	12,710.00 lf	**153**	**12,359**	-	-	**1,105**	-	1.06 /lf	**13,464**	2.29 /lf	**29,066**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	10,871.93 CY	**816**	**56,078**	-	-	**38,516**	-	8.70 /CY	**94,594**	18.99 /CY	**206,441**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	3,458.12 cy	**1,428**	**93,723**	-	-	**64,149**	-	45.65 /cy	**157,872**	99.63 /cy	**344,531**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	6,963.00 cy	**816**	**61,509**	-	-	**73,280**	-	19.36 /cy	**134,789**	42.44 /cy	**295,498**
						Pipe zone material	3,458.12 cy		-	**96,827**	-	-	-	28.00 /cy	**96,827**	62.31 /cy	**215,478**
						Pipe bedding material	824.72 cy		-	**23,092**	-	-	-	28.00 /cy	**23,092**	62.31 /cy	**51,389**
						Imported backfill material	6,963.00 cy		-	**83,556**	-	-	-	12.00 /cy	**83,556**	26.70 /cy	**185,944**
						Haul spoils, offsite, 10 - 20 miles	13,026.91 cy		-	-	**195,404**	-	-	15.00 /cy	**195,404**	32.29 /cy	**420,681**
						Dump fees, trench spoils	14,123.00 cy		-	-	-	-	**211,845**	15.00 /cy	**211,845**	30.52 /cy	**431,079**
						20" DI, MJ, Ell, 90	7.00 ea	**50**	**4,067**	**16,136**	-	**2,295**	-	3,214.16 /ea	**22,499**	7,110.60 /ea	**49,774**
						20" DI, MJ, Ell, 45	8.00 ea	**58**	**4,648**	**13,017**	-	**2,623**	-	2,536.06 /ea	**20,288**	5,601.56 /ea	**44,813**
						20" DI, MJ, Ell, 11 1/4	12.00 ea	**86**	**6,972**	**22,848**	-	**3,935**	-	2,812.96 /ea	**33,755**	6,217.78 /ea	**74,613**
						FURNISH PVC water distribution pipe, C-905, class 165, DR 25, 20"	10,120.00 LF		-	**432,934**	-	-	-	42.78 /LF	**432,934**	95.20 /LF	**963,442**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	10,120.00 lf	**2,448**	**197,553**	-	-	**111,490**	-	30.54 /lf	**309,043**	66.54 /lf	**673,417**
						Add for tie-in to existing (Adjust productivity)	2.00 ea	**48**	**3,874**	**1,500**	-	**2,186**	-	3,779.86 /ea	**7,560**	8,271.19 /ea	**16,542**
						Pipe Marking, ID Tape	10,120.00 lf	**101**	**8,201**	**1,316**	-	-	-	0.94 /lf	**9,516**	2.03 /lf	**20,582**
						Pipe Marking, Copper Wire	10,120.00 lf	**101**	**8,201**	**2,226**	-	-	-	1.03 /lf	**10,427**	2.23 /lf	**22,609**
						33.00.07.20 Buried Pipe, PVC, 20"	**10,120.00 LF**	**7,125**	**516,673**	**693,452**	**195,404**	**306,480**	**211,845**	**190.10 /LF**	**1,923,854**	**413.97 /LF**	**4,189,326**
						33.00.07.0001 20" PVC C900 Waterline In The Street	**10,120.00 LF**	**7,125**	**516,673**	**693,452**	**195,404**	**306,480**	**211,845**	**190.10 /LF**	**1,923,854**	**413.97 /LF**	**4,189,326**
				33.00.07.0009		20" PVC C900 Waterline on The Canal Bank											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***50.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	51.00 day	**816**	**47,591**	-	-	-	-	933.15 /day	**47,591**	2,008.96 /day	**102,457**
						Trench Box, 8' x 24' x 10'	1.00 mo		-	-	-	**2,300**	-	2,300.00 /mo	**2,300**	5,118.39 /mo	**5,118**
						Dedicated Fire / Safety Monitor	212.00 hr	**212**	**12,364**	-	-	-	-	58.32 /hr	**12,364**	125.56 /hr	**26,619**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	2,836.16 CY	**816**	**56,077**	-	-	**38,516**	-	33.35 /CY	**94,593**	72.79 /CY	**206,440**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	902.12 cy	**1,428**	**93,724**	-	-	**64,149**	-	175.00 /cy	**157,873**	381.91 /cy	**344,531**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	1,816.44 cy	**816**	**61,509**	-	-	**73,281**	-	74.21 /cy	**134,790**	162.68 /cy	**295,500**
						Pipe zone material	902.12 cy		-	**25,259**	-	-	-	28.00 /cy	**25,259**	62.31 /cy	**56,212**
						Pipe bedding material	215.14 cy		-	**6,024**	-	-	-	28.00 /cy	**6,024**	62.31 /cy	**13,406**
						Imported backfill material	1,816.44 cy		-	**21,797**	-	-	-	12.00 /cy	**21,797**	26.70 /cy	**48,507**
						Haul spoils, offsite, 10 - 20 miles	2,934.00 cy		-	-	**44,010**	-	-	15.00 /cy	**44,010**	32.29 /cy	**94,748**
						Dump fees, trench spoils	2,934.00 cy		-	-	-	-	**44,010**	15.00 /cy	**44,010**	30.52 /cy	**89,555**
						20" DI, MJ, Ell, 90	2.00 ea	**14**	**1,162**	**4,610**	-	**656**	-	3,214.16 /ea	**6,428**	7,110.59 /ea	**14,221**
						20" DI, MJ, Ell, 45	2.00 ea	**14**	**1,162**	**3,254**	-	**656**	-	2,536.06 /ea	**5,072**	5,601.56 /ea	**11,203**
						FURNISH PVC water distribution pipe, C-905, class 165, DR 25, 20"	2,640.00 lf		-	**112,939**	-	-	-	42.78 /lf	**112,939**	95.20 /lf	**251,333**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	2,640.00 LF	**2,448**	**197,552**	-	-	**111,490**	-	117.06 /LF	**309,042**	255.08 /LF	**673,414**
						Pipe Marking, ID Tape	2,640.00 lf	**26**	**2,139**	**343**	-	-	-	0.94 /lf	**2,482**	2.03 /lf	**5,369**
						Pipe Marking, Copper Wire	2,640.00 lf	**26**	**2,139**	**581**	-	-	-	1.03 /lf	**2,720**	2.23 /lf	**5,898**
						33.00.07.20 Buried Pipe, PVC, 20"	**2,640.00 LF**	**6,618**	**475,420**	**174,808**	**44,010**	**291,047**	**44,010**	**389.88 /LF**	**1,029,296**	**850.20 /LF**	**2,244,532**
						33.00.07.0009 20" PVC C900 Waterline on The Canal Bank	**2,640.00 LF**	**6,618**	**475,420**	**174,808**	**44,010**	**291,047**	**44,010**	**389.88 /LF**	**1,029,296**	**850.20 /LF**	**2,244,532**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**13,743**	**992,094**	**868,261**	**239,414**	**597,527**	**255,855**	**2,953,149.93 /LS**	**2,953,150**	**6,433,858.37 /LS**	**6,433,858**
						33.0 Utilities	***1.00*** **LS**	**13,743**	**992,094**	**868,261**	**239,414**	**597,527**	**255,855**	**2,953,149.93 /LS**	**2,953,150**	**6,433,858.37 /LS**	**6,433,858**
						01.0 20" PVC C900 Waterline	**12,760.00 LF**	**13,743**	**992,094**	**868,261**	**239,414**	**597,527**	**255,855**	**231.44 /LF**	**2,953,150**	**504.22 /LF**	**6,433,858**
	02.0					Bridge Crossing Allowance											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0002		Bridge Crossing Allowance											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Division 33 Allowance Support Pipe Inside Bridge	200.00 lf		-	-	**100,000**	-		500.00 /lf	**100,000**	1,076.44 /lf	**215,288**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	200.00 LF		-	**11,724**	-	-	-	58.62 /LF	**11,724**	130.45 /LF	**26,090**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	200.00 lf	**43**	**3,486**	-	-	**1,968**	-	27.27 /lf	**5,454**	59.42 /lf	**11,884**
						33.00.07.20 Buried Pipe, PVC, 20"	**200.00 LF**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**585.89 /LF**	**117,178**	**1,266.31 /LF**	**253,262**
						33.00.07.0002 Bridge Crossing Allowance	**200.00 LF**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**585.89 /LF**	**117,178**	**1,266.31 /LF**	**253,262**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**117,177.74 /LS**	**117,178**	**253,262.33 /LS**	**253,262**
						33.0 Utilities	***1.00*** **LS**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**117,177.74 /LS**	**117,178**	**253,262.33 /LS**	**253,262**
						02.0 Bridge Crossing Allowance	**200.00 LF**	**43**	**3,486**	**11,724**	**100,000**	**1,968**		**585.89 /LF**	**117,178**	**1,266.31 /LF**	**253,262**
	03.0					Bore at Channel Crossing											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.60.02.0002		36" Bore with 20" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 36" x 20"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,204.35 /ea	**13,204**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,602.14 /ea	**6,602**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,602.14 /ea	**6,602**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,301.07 /ea	**3,301**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 36" diameter casing	50.00 LF	**200**		-	**26,300**	-	-	526.00 /LF	**26,300**	1,132.42 /LF	**56,621**
						Horizontal boring, 36" diameter casing spacer	4.00 ea		-	**400**	-	-	-	100.00 /ea	**400**	222.54 /ea	**890**
						Horizontal boring, 36" diameter end seals	2.00 ea		-	**700**	-	-	-	350.00 /ea	**700**	778.89 /ea	**1,558**
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	50.00 lf		-	**2,931**	-	-	-	58.62 /lf	**2,931**	130.45 /lf	**6,523**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	50.00 lf	**11**	**872**	-	-	**492**	-	27.27 /lf	**1,363**	59.42 /lf	**2,971**

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.60.02.36 Pipeline Specials, Jack and Bore, 36" x 20"	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,965.44 /LF	98,272
						33.60.02.0002 36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,965.44 /LF	98,272
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,271.98 /LS	98,272
						33.0 Utilities	1.00 LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,271.98 /LS	98,272
						03.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,965.44 /LF	98,272
	04.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	125.00 LF	60	4,842	6,526	-	2,733	-	112.81 /LF	14,101	248.23 /LF	31,029
						8" DI, MJ, Ell, 90	5.00 ea	15	1,211	1,719	-	683	-	722.48 /ea	3,612	1,590.25 /ea	7,951
						8" DI, MJ, Ell, 45	5.00 ea	15	1,211	1,469	-	683	-	672.43 /ea	3,362	1,478.86 /ea	7,394
						8" DI, RJ, cap or plug	5.00 ea	8	605	781	-	342	-	345.52 /ea	1,728	760.13 /ea	3,801
						20" DI, MJ, red. tee, 20" x 8"	5.00 ea	50	3,995	14,429	-	2,254	-	4,135.59 /ea	20,678	9,145.33 /ea	45,727
						Install gate valve, Flgd, DIP, 8"	5.00 ea	17	1,332	-	-	751	-	416.61 /ea	2,083	907.80 /ea	4,539
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	5.00 EA		-	3,095	-	-	-	619.00 /EA	3,095	1,377.51 /EA	6,888
						Valve accessory, extension stem	75.00 lf	8	598	375	-	-	-	12.98 /lf	973	28.31 /lf	2,123
						Valve accessory, stem couplings	5.00 set	2	132	100	-	-	-	46.33 /set	232	101.20 /set	506
						CI Valve Box & Cover, w/ Concrete Collar included	5.00 ea	15	1,211	750	-	683	-	528.73 /ea	2,644	1,159.08 /ea	5,795
						Meter Box	5.00 ea	20	1,166	1,250	-	-	-	483.29 /ea	2,416	1,058.59 /ea	5,293
						33.20.01.08 Buried Valves, Gate Valves, 8"	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,209.09 /EA	121,045
						33.20.01.0004 8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,209.09 /EA	121,045
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,045.44 /LS	121,045
						33.0 Utilities	1.00 LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,045.44 /LS	121,045
						04.0 8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,209.09 /EA	121,045
	05.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	4.00 EA		-	-	6,000	-		1,500.00 /EA	6,000	3,229.32 /EA	12,917
						2" Corporation stop, thrd	4.00 ea	5	376		-	182	-	139.45 /ea	558	303.52 /ea	1,214
						Ball valve, bronze, screwed, 2"	4.00 ea	2	128	256	-	-	-	95.92 /ea	384	211.14 /ea	845
						2" copper pipe, K-soft	100.00 LF	7	559	1,058	-	-	-	16.17 /LF	1,617	35.57 /LF	3,557
						2" copper, ELL, 90	8.00 ea	5	415	103	-	-	-	64.71 /ea	518	140.24 /ea	1,122
						Install Air & Vacuum relief valve, 2"	4.00 ea	10	766	-	-	-	-	191.51 /ea	766	412.30 /ea	1,649
						FURNISH Air & Vacuum relief valve, iron body, 2"	4.00 ea		-	1,500	-	-	-	375.00 /ea	1,500	834.52 /ea	3,338
						Double Strap Saddle, 20" x 2"	4.00 ea	16	1,277	1,000	-	-	-	569.19 /ea	2,277	1,243.51 /ea	4,974
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,404.14 /EA	29,617
						33.20.08.0005 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,404.14 /EA	29,617
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,616.56 /LS	29,617
						33.0 Utilities	1.00 LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,616.56 /LS	29,617
						05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,404.14 /EA	29,617
	06.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	13.00 ea	86	6,924	-	-	3,908	-	833.21 /ea	10,832	1,815.60 /ea	23,603
						Butterfly valve, iron body, MJ , NO, 250#, 20"	13.00 EA		-	49,764	-	-	-	3,828.00 /EA	49,764	8,518.76 /EA	110,744
						Valve accessory, extension stem	65.00 lf	7	519	325	-	-	-	12.98 /lf	844	28.31 /lf	1,840
						Valve accessory, stem couplings	13.00 set	4	342	260	-	-	-	46.33 /set	602	101.20 /set	1,316
						CI Valve Box & Cover, w/ Concrete Collar included	13.00 ea	39	3,147	1,950	-	1,776	-	528.73 /ea	6,874	1,159.08 /ea	15,068
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,736.16 /EA	152,570
						33.20.03.0003 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,736.16 /EA	152,570
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,570.07 /LS	152,570
						33.0 Utilities	1.00 LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,570.07 /LS	152,570
						06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,736.16 /EA	152,570
	07.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	25,520.00 lf	393		-	51,040	-	-	2.00 /lf	51,040	4.51 /lf	114,987
						Asphalt Milling, 6" Depth	8,507.00 Sy	85		-	21,268	-	-	2.50 /Sy	21,268	5.63 /Sy	47,913
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,418.00 cy	146	9,937	-	-	13,995	-	16.88 /cy	23,932	38.74 /cy	54,930
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,418.00 cy		-	17,725	-	-	-	12.50 /cy	17,725	29.07 /cy	41,217
						02.01.01.01 General Site Demolition, Asphalt Pavement	8,507.00 Sy	624	9,937	17,725	72,308	13,995		13.40 /Sy	113,964	30.45 /Sy	259,048
						02.01.01.0007 Demo Asphalt	8,507.00 Sy	624	9,937	17,725	72,308	13,995		13.40 /Sy	113,964	30.45 /Sy	259,048
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	8,506.67 SY	45	3,255	7,571	-	2,431	-	1.56 /SY	13,257	3.60 /SY	30,592
						Fog seal, sealcoating, prepare and clean surface for sealcoating	8,506.67 sy	24	1,444	-	-	338	-	0.21 /sy	1,783	0.48 /sy	4,041
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	8,506.67 sy	65	4,609	97,401	-	4,978	-	12.58 /sy	106,989	29.21 /sy	248,456
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	8,506.67 sy	4,331	289,146	204,160	-	26,819	-	61.14 /sy	520,125	139.72 /sy	1,188,525
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	12,760.00 LF	36	2,191	8,677	-	1,455	-	0.97 /LF	12,323	2.23 /LF	28,496
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	8,506.67 SY	4,501	300,646	317,809		36,022		76.94 /SY	654,476	176.35 /SY	1,500,110

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						32.40.02.0008 Trench Paving	8,506.67 SY	4,501	300,646	317,809		36,022		76.94 /SY	654,476	176.35 /SY	1,500,110
						32.12 Paving	8,506.67 SY	5,125	310,583	335,534	72,308	50,016		90.33 /SY	768,441	206.80 /SY	1,759,158
						32.0 Exterior Improvements	8,506.67 SY	5,125	310,583	335,534	72,308	50,016		90.33 /SY	768,441	206.80 /SY	1,759,158
						07.0 Asphalt Trench Repair	12,760.00 LF	5,125	310,583	335,534	72,308	50,016		60.22 /LF	768,441	137.87 /LF	1,759,158
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	12,760.00 LF		-	-	319,000	-		25.00 /LF	319,000	53.82 /LF	686,769
						33.00.01.40 Buried Pipe, Traffic Control	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
						33.00.01.0009 Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
						33.89 Pipeline - Traffic Control	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
						33.0 Utilities	1.00 LS				319,000			319,000.00 /LS	319,000	686,768.98 /LS	686,769
						08.0 Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	2.00 EA		-	-	30,000	-		15,000.00 /EA	30,000	33,793.21 /EA	67,586
						26.00.99.00 Electrical, Other	2.00 EA				30,000			15,000.00 /EA	30,000	33,793.21 /EA	67,586
						26.00.99.0005 Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,793.21 /EA	67,586
						26.10 Site Electrical	1.00 LS				30,000			30,000.00 /LS	30,000	67,586.43 /LS	67,586
						26.0 Electrical Work	1.00 LS				30,000			30,000.00 /LS	30,000	67,586.43 /LS	67,586
						09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,793.21 /EA	67,586
	10.0					Purified Water Bypass											
		33.0				Utilities											
			33.05			Buried Process Pipe, PVC/CPVC											
				33.00.07.0010		Purified Water Bypass											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Utility vaults, precast concrete, 5' x 10' x 6' high, i.d	1.00 EA	28	1,763	2,425	-	259	-	4,446.96 /EA	4,447	9,768.37 /EA	9,768
						Utility vaults, precast concrete, 8' x 14' x 7' high, i.d	1.00 ea	56	3,525	4,225	-	518	-	8,268.92 /ea	8,269	18,145.89 /ea	18,146
						20" DI, RJ, Ell, 90	1.00 ea	7	581	2,584	-	328	-	3,492.96 /ea	3,493	7,731.04 /ea	7,731
						20" DI, RJ, tee	1.00 ea	10	799	3,233	-	451	-	4,483.22 /ea	4,483	9,918.94 /ea	9,919
						FURNISH PVC water distribution pipe, C-905, class 235, DR 18, 20"	100.00 LF		-	5,862	-	-	-	58.62 /LF	5,862	130.45 /LF	13,045
						20" Bolt & Gasket Kits, CS, 150#	15.00 ea	72	5,745	1,200	-	-	-	463.02 /ea	6,945	1,002.63 /ea	15,039
						Install butterfly valve, Flgd, DIP, 20"	4.00 ea	42	3,389	-	-	1,913	-	1,325.56 /ea	5,302	2,888.45 /ea	11,554
						Butterfly valve, iron body, Flgd, NO., 150#, 20"	1.00 ea		-	2,436	-	-	-	2,436.00 /ea	2,436	5,421.03 /ea	5,421
						Butterfly valve, iron body, Flgd, MTR OPER, 150#, 20"	3.00 ea		-	19,140	-	-	-	6,380.00 /ea	19,140	14,197.93 /ea	42,594
						Valve accessory, extension stem	5.00 lf	1	40	25	-	-	-	12.98 /lf	65	28.31 /lf	142
						Valve accessory, stem couplings	1.00 set	0	26	20	-	-	-	46.33 /set	46	101.19 /set	101
						CI Valve Box & Cover, w/ Concrete Collar included	1.00 ea	3	242	150	-	137	-	528.73 /ea	529	1,159.08 /ea	1,159
						20" DI, FL, Ell, 90	1.00 ea	10	800	1,244	-	-	-	2,044.65 /ea	2,045	4,492.11 /ea	4,492
						20" DI, FL, tee, 20" x 20"	1.00 ea	13	1,001	1,839	-	-	-	2,839.67 /ea	2,840	6,246.80 /ea	6,247
						20" DI, flanged coupling adapter	7.00 ea	65	5,223	11,307	-	-	-	2,361.41 /ea	16,530	5,200.95 /ea	36,407
						33.00.07.20 Buried Pipe, PVC, 20"	100.00 LF	307	23,135	55,691		3,606		824.32 /LF	82,432	1,817.65 /LF	181,765
						33.00.07.0010 Purified Water Bypass	1.00 EA	307	23,135	55,691		3,606		82,431.79 /EA	82,432	181,764.83 /EA	181,765
						33.05 Buried Process Pipe, PVC/CPVC	1.00 LS	307	23,135	55,691		3,606		82,431.79 /LS	82,432	181,764.83 /LS	181,765
						33.0 Utilities	1.00 LS	307	23,135	55,691		3,606		82,431.79 /LS	82,432	181,764.83 /LS	181,765
						10.0 Purified Water Bypass	1.00 EA	307	23,135	55,691		3,606		82,431.79 /EA	82,432	181,764.83 /EA	181,765
						01.0 Las Vergenes Purified Green Line	1.00 LS	19,924	1,369,639	1,361,950	793,021	672,522	255,855	4,452,987.15 /LS	4,452,987	9,783,902.79 /LS	9,783,903

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,369,639		19,923.866 hrs		107.338	14.00%	
Material	1,361,950				106.736	13.92%	
Subcontract	793,021				62.149	8.11%	
Equipment	672,522		13,529.138 hrs		52.706	6.87%	
Other	255,855				20.051	2.62%	
Subtotal Raw Costs	**4,452,987**	**4,452,987**			**348.980**	**45.51%**	**45.51%**
Material Sales & Use Tax - %	98,741			7.250 %	7.738	1.01%	
Construction Equip Tax - %	48,758			7.250 %	3.821	0.50%	
Total Taxes	**147,499**	**4,600,486**			**360.540**	**1.51%**	**47.02%**
Location Adj. Factor	495,262			11.800 %	38.814	5.06%	
Productivity Adjustment							
Subtotal Adj. Factors	**495,262**	**5,095,748**			**399.353**	**5.06%**	**52.08%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	0.588	0.08%	
Site/Civil I,OH&P	192,110			25.000 %	15.056	1.96%	
Buried Piping I,OH&P	548,182			15.000 %	42.961	5.60%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**747,792**	**5,843,540**			**457.958**	**7.64%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**5,843,540**			**457.958**		**59.73%**
Total Cost To Prime Contractor		**5,843,540**			**457.958**		**59.73%**
General Conditions	584,354			10.000 %	45.796	5.97%	
Mobilization/Demobilization	233,742			4.000 %	18.318	2.39%	
Subtotal Indirect Costs	**818,096**	**6,661,636**			**522.072**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	666,164			10.000 %	52.207	6.81%	
Prime Contractor Profit	333,082			5.000 %	26.104	3.40%	
Bonds & Insurance	166,241			2.170 %	13.028	1.70%	
Subtotal OH&P	**1,165,487**	**7,827,123**			**613.411**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**7,827,123**			**613.411**		**80.00%**
Design Contingency	1,956,781			25.000 %	153.353	20.00%	
Subtotal Contingency	**1,956,781**	**9,783,904**			**766.764**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**9,783,904**			**766.764**		**100.00%**
Total Prime Contractor Costs		**9,783,904**			**766.764**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**9,783,904**			**766.764**		**100.00%**
Total Contractor Costs w/ OFCI		**9,783,904**			**766.764**		**100.00%**
Total Construction Cost		**9,783,904**			**766.764**		**100.00%**
Total		***9,783,904***			***766.764***		

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Purified Green Line**											
	01.0				20" PVC C900 Waterline											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0001	20" PVC C900 Waterline In The Street	10,120.00 LF	7,125	516,673	693,452	195,404	306,480	211,845	190.10 /LF	1,923,854	413.97 /LF	4,189,326
				33.00.07.0009	20" PVC C900 Waterline on The Canal Bank	2,640.00 LF	6,618	475,420	174,808	44,010	291,047	44,010	389.88 /LF	1,029,296	850.20 /LF	2,244,532
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	13,743	992,094	868,261	239,414	597,527	255,855	2,953,149.93 /LS	2,953,150	6,433,858.37 /LS	6,433,858
					33.0 Utilities	*1.00* LS	13,743	992,094	868,261	239,414	597,527	255,855	2,953,149.93 /LS	2,953,150	6,433,858.37 /LS	6,433,858
					01.0 20" PVC C900 Waterline	12,760.00 LF	13,743	992,094	868,261	239,414	597,527	255,855	231.44 /LF	2,953,150	504.22 /LF	6,433,858
	02.0				Bridge Crossing Allowance											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0002	Bridge Crossing Allowance	200.00 LF	43	3,486	11,724	100,000	1,968		585.89 /LF	117,178	1,266.31 /LF	253,262
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	43	3,486	11,724	100,000	1,968		117,177.74 /LS	117,178	253,262.33 /LS	253,262
					33.0 Utilities	*1.00* LS	43	3,486	11,724	100,000	1,968		117,177.74 /LS	117,178	253,262.33 /LS	253,262
					02.0 Bridge Crossing Allowance	200.00 LF	43	3,486	11,724	100,000	1,968		585.89 /LF	117,178	1,266.31 /LF	253,262
	03.0				Bore at Channel Crossing											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.60.02.0002	36" Bore with 20" Carrier	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,965.44 /LF	98,272
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,271.98 /LS	98,272
					33.0 Utilities	*1.00* LS	319	9,587	4,031	26,300	5,411		45,328.77 /LS	45,329	98,271.98 /LS	98,272
					03.0 Bore at Channel Crossing	50.00 LF	319	9,587	4,031	26,300	5,411		906.58 /LF	45,329	1,965.44 /LF	98,272
	04.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,209.09 /EA	121,045
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,045.44 /LS	121,045
					33.0 Utilities	*1.00* LS	208	16,302	30,493		8,130		54,924.22 /LS	54,924	121,045.44 /LS	121,045
					04.0 8" Blow Off Assembly	5.00 EA	208	16,302	30,493		8,130		10,984.84 /EA	54,924	24,209.09 /EA	121,045
	05.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,404.14 /EA	29,617
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,616.56 /LS	29,617
					33.0 Utilities	*1.00* LS	44	3,520	3,917	6,000	182		13,618.69 /LS	13,619	29,616.56 /LS	29,617
					05.0 2" CARV Assembly	4.00 EA	44	3,520	3,917	6,000	182		3,404.67 /EA	13,619	7,404.14 /EA	29,617
	06.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,736.16 /EA	152,570
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,570.07 /LS	152,570
					33.0 Utilities	*1.00* LS	136	10,932	52,299		5,684		68,915.25 /LS	68,915	152,570.07 /LS	152,570
					06.0 20" Butterfly Valves	13.00 EA	136	10,932	52,299		5,684		5,301.17 /EA	68,915	11,736.16 /EA	152,570
	07.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	8,507.00 Sy	624	9,937	17,725	72,308	13,995		13.40 /Sy	113,964	30.45 /Sy	259,048
				32.40.02.0008	Trench Paving	8,506.67 SY	4,501	300,646	317,809		36,022		76.94 /SY	654,476	176.35 /SY	1,500,110
					32.12 Paving	8,506.67 SY	5,125	310,583	335,534	72,308	50,016		90.33 /SY	768,441	206.80 /SY	1,759,158
					32.0 Exterior Improvements	8,506.67 SY	5,125	310,583	335,534	72,308	50,016		90.33 /SY	768,441	206.80 /SY	1,759,158
					07.0 Asphalt Trench Repair	12,760.00 LF	5,125	310,583	335,534	72,308	50,016		60.22 /LF	768,441	137.87 /LF	1,759,158
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
					33.89 Pipeline - Traffic Control	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
					33.0 Utilities	*1.00* LS				319,000			319,000.00 /LS	319,000	686,768.98 /LS	686,769
					08.0 Traffic Control Allowance	12,760.00 LF				319,000			25.00 /LF	319,000	53.82 /LF	686,769
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,793.21 /EA	67,586
					26.10 Site Electrical	*1.00* LS				30,000			30,000.00 /LS	30,000	67,586.43 /LS	67,586
					26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,586.43 /LS	67,586
					09.0 Traffic Loop Replacement Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,793.21 /EA	67,586
	10.0				Purified Water Bypass											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0010	Purified Water Bypass	1.00 EA	307	23,135	55,691		3,606		82,431.79 /EA	82,432	181,764.83 /EA	181,765
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	307	23,135	55,691		3,606		82,431.79 /LS	82,432	181,764.83 /LS	181,765
					33.0 Utilities	*1.00* LS	307	23,135	55,691		3,606		82,431.79 /LS	82,432	181,764.83 /LS	181,765
					10.0 Purified Water Bypass	1.00 EA	307	23,135	55,691		3,606		82,431.79 /EA	82,432	181,764.83 /EA	181,765
					01.0 Las Vergenes Purified Green Line	*1.00* LS	19,924	1,369,639	1,361,950	793,021	672,522	255,855	**4,452,987.15 /LS**	4,452,987	**9,783,902.79 /LS**	9,783,903

BID FORM SUMMARY

Project type: Water
Job Size: 12,760 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Green Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,369,639		19,923.866 hrs		107.338	14.00%	
Material	1,361,950				106.736	13.92%	
Subcontract	793,021				62.149	8.11%	
Equipment	672,522		13,529.138 hrs		52.706	6.87%	
Other	255,855				20.051	2.62%	
Subtotal Raw Costs	**4,452,987**	**4,452,987**			**348.980**	**45.51%**	**45.51%**
Material Sales & Use Tax - %	98,741			7.250 %	7.738	1.01%	
Construction Equip Tax - %	48,758			7.250 %	3.821	0.50%	
Total Taxes	**147,499**	**4,600,486**			**360.540**	**1.51%**	**47.02%**
Location Adj. Factor	495,262			11.800 %	38.814	5.06%	
Productivity Adjustment							
Subtotal Adj. Factors	**495,262**	**5,095,748**			**399.353**	**5.06%**	**52.08%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	0.588	0.08%	
Site/Civil I,OH&P	192,110			25.000 %	15.056	1.96%	
Buried Piping I,OH&P	548,182			15.000 %	42.961	5.60%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**747,792**	**5,843,540**			**457.958**	**7.64%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**5,843,540**			**457.958**		**59.73%**
Total Cost To Prime Contractor		**5,843,540**			**457.958**		**59.73%**
General Conditions	584,354			10.000 %	45.796	5.97%	
Mobilization/Demobilization	233,742			4.000 %	18.318	2.39%	
Subtotal Indirect Costs	**818,096**	**6,661,636**			**522.072**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	666,164			10.000 %	52.207	6.81%	
Prime Contractor Profit	333,082			5.000 %	26.104	3.40%	
Bonds & Insurance	166,241			2.170 %	13.028	1.70%	
Subtotal OH&P	**1,165,487**	**7,827,123**			**613.411**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**7,827,123**			**613.411**		**80.00%**
Design Contingency	1,956,781			25.000 %	153.353	20.00%	
Subtotal Contingency	**1,956,781**	**9,783,904**			**766.764**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**9,783,904**			**766.764**		**100.00%**
Total Prime Contractor Costs		**9,783,904**			**766.764**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**9,783,904**			**766.764**		**100.00%**
Total Contractor Costs w/ OFCI		**9,783,904**			**766.764**		**100.00%**
Total Construction Cost		**9,783,904**			**766.764**		**100.00%**
Total		***9,783,904***			***766.764***		

REACH 2

Pink Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Purified Pink Line 8-10-22 | Estimator: John DeWolf
Job Size: 3,500 Lf | Project Number: W9Y31200 | Rev/Date: 8-10-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Purified Pink Line***			
	01.0	**20" PVC C900 Waterline**	**3,500.00 LF**	**907.52 /LF**	**3,176,336**
	02.0	**8" Blow Off Assembly**	**75.00 LF**	**965.55 /LF**	**72,417**
	03.0	**2" CARV Assembly**	**50.00 LF**	**295.30 /LF**	**14,765**
	04.0	**20" Butterfly Valves**	**4.00 EA**	**11,702.27 /EA**	**46,809**
	05.0	**Asphalt Trench Repair**	**377.00 LF**	**138.50 /LF**	**52,216**
	08.0	**Traffic Control Allowance**	**377.00 LF**	**53.66 /LF**	**20,231**
	09.0	**Traffic Loop Replacement Allowance**	**1.00 EA**	**33,697.30 /EA**	**33,697**
	01.0 Las Vergenes Purified Pink Line		***1.00 LS***	***3,416,470.55 /LS***	***3,416,471***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,443,847		9,097.746 hrs		412.528	42.26%	
Material	670,985				191.710	19.64%	
Subcontract	171,350				48.957	5.02%	
Equipment	1,041,014		9,005.418 hrs		297.433	30.47%	
Other	89,274				25.507	2.61%	
Total Prime Contractor Costs	**3,416,470**	**3,416,470**			**976.134**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**3,416,470**			**976.134**		**100.00%**
Total		***3,416,470***			***976.134***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Pink Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Purified Pink Line**											
	01.0					20" PVC C900 Waterline											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0009		20" PVC C900 Waterline on The Hill Side											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***50.00 lf***			-	-	-	-	***/lf***			
						Traffic Control, Labor per Day	7.00 day	112	6,532	-	-	-	-	933.15 /day	6,532	2,003.00 /day	14,021
						Trench Box, 8' x 24' x 10'	3.20 mo		-	-	-	7,360	-	2,300.00 /mo	7,360	5,103.67 /mo	16,332
						Dedicated Fire / Safety Monitor	280.00 hr	280	16,330	-	-	-	-	58.32 /hr	16,330	125.19 /hr	35,052
						Add for hydrotesting pipeline (labor & Equipment per day)	3,500.00 lf	42	3,403	-	-	304	-	1.06 /lf	3,708	2.28 /lf	7,980
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	3,760.05 CY	1,680	121,278	-	-	105,729	-	60.37 /CY	227,008	131.63 /CY	494,934
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	1,195.99 cy	1,960	128,639	-	-	88,047	-	181.18 /cy	216,686	394.23 /cy	471,497
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	2,408.16 cy	1,120	84,425	-	-	100,582	-	76.82 /cy	185,007	167.93 /cy	404,406
						Pipe zone material	1,195.99 cy		-	33,488	-	-	-	28.00 /cy	33,488	62.13 /cy	74,309
						Pipe bedding material	285.22 cy		-	7,986	-	-	-	28.00 /cy	7,986	62.13 /cy	17,721
						Imported backfill material	2,408.16 cy		-	28,898	-	-	-	12.00 /cy	28,898	26.63 /cy	64,124
						Haul spoils, offsite, 10 - 20 miles	3,297.95 cy		-	-	49,469	-	-	15.00 /cy	49,469	32.20 /cy	106,185
						Dump fees, trench spoils	2,934.00 cy		-	-	-	-	44,010	15.00 /cy	44,010	30.43 /cy	89,274
						20" DI, MJ, Ell, 90	3.00 ea	22	1,743	6,916	-	984	-	3,214.16 /ea	9,642	7,090.04 /ea	21,270
						20" DI, MJ, Ell, 45	4.00 ea	29	2,324	6,508	-	1,312	-	2,536.06 /ea	10,144	5,585.35 /ea	22,341
						20" DI, MJ, Ell, 22 1/2	4.00 ea	29	2,324	7,597	-	1,312	-	2,808.21 /ea	11,233	6,189.26 /ea	24,757
						20" DI, MJ, Ell, 11 1/4	7.00 ea	50	4,067	13,328	-	2,295	-	2,812.96 /ea	19,691	6,199.79 /ea	43,399
						FURNISH PVC water distribution pipe, C-905, class 165, DR 25, 20"	3,500.00 lf		-	149,730	-	-	-	42.78 /lf	149,730	94.93 /lf	332,249
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	3,500.00 LF	3,360	271,153	-	-	153,027	-	121.19 /LF	424,179	263.31 /LF	921,590
						Pipe Marking, ID Tape	3,500.00 lf	35	2,836	455	-	-	-	0.94 /lf	3,291	2.03 /lf	7,097
						Pipe Marking, Copper Wire	3,500.00 lf	35	2,836	770	-	-	-	1.03 /lf	3,606	2.23 /lf	7,796
						33.00.07.20 Buried Pipe, PVC, 20"	3,500.00 LF	8,754	647,892	255,676	49,469	460,952	44,010	416.57 /LF	1,457,998	907.52 /LF	3,176,336
						33.00.07.0009 20" PVC C900 Waterline on The Hill Side	3,500.00 LF	8,754	647,892	255,676	49,469	460,952	44,010	416.57 /LF	1,457,998	907.52 /LF	3,176,336
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	8,754	647,892	255,676	49,469	460,952	44,010	**1,457,998.31 /LS**	1,457,998	**3,176,336.10 /LS**	3,176,336
						33.0 Utilities	***1.00*** LS	8,754	647,892	255,676	49,469	460,952	44,010	1,457,998.31 /LS	1,457,998	3,176,336.10 /LS	3,176,336
						01.0 20" PVC C900 Waterline	3,500.00 LF	8,754	647,892	255,676	49,469	460,952	44,010	416.57 /LF	1,457,998	907.52 /LF	3,176,336
	02.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	36	2,905	3,916	-	1,640	-	112.81 /LF	8,461	247.51 /LF	18,563
						8" DI, MJ, Ell, 90	3.00 ea	9	726	1,031	-	410	-	722.48 /ea	2,167	1,585.63 /ea	4,757
						8" DI, MJ, Ell, 45	3.00 ea	9	726	881	-	410	-	672.43 /ea	2,017	1,474.57 /ea	4,424
						8" DI, RJ, cap or plug	3.00 ea	5	363	468	-	205	-	345.52 /ea	1,037	757.91 /ea	2,274
						20" DI, MJ, red. tee, 20" x 8"	3.00 ea	30	2,397	8,657	-	1,353	-	4,135.59 /ea	12,407	9,118.89 /ea	27,357
						Install gate valve, Flgd, DIP, 8"	3.00 ea	10	799	-	-	451	-	416.61 /ea	1,250	905.13 /ea	2,715
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		-	1,857	-	-	-	619.00 /EA	1,857	1,373.56 /EA	4,121
						Valve accessory, extension stem	45.00 lf	5	359	225	-	-	-	12.98 /lf	584	28.22 /lf	1,270
						Valve accessory, stem couplings	3.00 set	1	79	60	-	-	-	46.33 /set	139	100.90 /set	303
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	9	726	450	-	410	-	528.73 /ea	1,586	1,155.70 /ea	3,467
						Meter Box	3.00 ea	12	700	750	-	-	-	483.29 /ea	1,450	1,055.50 /ea	3,166
						33.20.01.08 Buried Valves, Gate Valves, 8"	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,138.86 /EA	72,417
						33.20.01.0004 8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,138.86 /EA	72,417
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	125	9,781	18,296		4,878		**32,954.55 /LS**	32,955	**72,416.58 /LS**	72,417
						33.0 Utilities	***1.00*** LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,416.58 /LS	72,417
						02.0 8" Blow Off Assembly	75.00 LF	125	9,781	18,296		4,878		439.39 /LF	32,955	965.55 /LF	72,417
	03.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	2.00 EA		-	-	3,000	-		1,500.00 /EA	3,000	3,219.73 /EA	6,439
						2" Corporation stop, thrd	2.00 ea	2	188		-	91	-	139.46 /ea	279	302.64 /ea	605
						Ball valve, bronze, screwed, 2"	2.00 ea	1	64	128	-	-	-	95.92 /ea	192	210.54 /ea	421
						2" copper pipe, K-soft	50.00 LF	4	279	529	-	-	-	16.17 /LF	808	35.47 /LF	1,774
						2" copper, ELL, 90	4.00 ea	3	207	51	-	-	-	64.71 /ea	259	139.83 /ea	559
						Install Air & Vacuum relief valve, 2"	2.00 ea	5	383	-	-	-	-	191.51 /ea	383	411.08 /ea	822
						FURNISH Air & Vacuum relief valve, iron body, 2"	2.00 ea		-	750	-	-	-	375.00 /ea	750	832.12 /ea	1,664
						Double Strap Saddle, 20" x 2"	2.00 ea	8	638	500	-	-	-	569.19 /ea	1,138	1,239.88 /ea	2,480
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,382.40 /EA	14,765
						33.20.08.0005 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,382.40 /EA	14,765
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	22	1,760	1,958	3,000	91		**6,809.36 /LS**	6,809	**14,764.79 /LS**	14,765
						33.0 Utilities	***1.00*** LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,764.79 /LS	14,765
						03.0 2" CARV Assembly	50.00 LF	22	1,760	1,958	3,000	91		136.19 /LF	6,809	295.30 /LF	14,765
	04.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	4.00 ea	26	2,130	-	-	1,202	-	833.21 /ea	3,333	1,810.27 /ea	7,241
						Butterfly valve, iron body, MJ , NO, 250#, 20"	4.00 EA		-	15,312	-	-	-	3,828.00 /EA	15,312	8,494.28 /EA	33,977
						Valve accessory, extension stem	20.00 lf	2	160	100	-	-	-	12.98 /lf	260	28.22 /lf	564
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	100.90 /set	404
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	1,155.70 /ea	4,623

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Pink Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,702.27 /EA	46,809
						33.20.03.0003 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,702.27 /EA	46,809
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	42	3,364	16,092		1,749		**21,204.69 /LS**	21,205	**46,809.06 /LS**	46,809
						33.0 Utilities	***1.00*** LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,809.06 /LS	46,809
						04.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,702.27 /EA	46,809
	05.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			**Paving**											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	754.00 lf	12		-	1,508	-	-	2.00 /lf	1,508	4.49 /lf	3,388
						Asphalt Milling, 6" Depth	251.00 Sy	3		-	628	-	-	2.50 /Sy	628	5.62 /Sy	1,410
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	42.00 cy	4	294	-	-	415	-	16.88 /cy	709	38.63 /cy	1,622
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	42.00 cy		-	525	-	-	-	12.50 /cy	525	28.99 /cy	1,217
						02.01.01.01 General Site Demolition, Asphalt Pavement	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.43 /Sy	7,637
						02.01.01.0007 Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.43 /Sy	7,637
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, under 1000 S.Y.	251.33 SY	6	340	224	-	-	-	2.24 /SY	564	5.10 /SY	1,282
						Fog seal, sealcoating, prepare and clean surface for sealcoating	251.33 sy	1	43	-	-	10	-	0.21 /sy	53	0.47 /sy	119
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	251.33 sy	2	136	2,878	-	147	-	12.58 /sy	3,161	29.13 /sy	7,321
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	251.33 sy	128	8,543	6,032	-	792	-	61.14 /sy	15,367	139.33 /sy	35,017
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	377.00 LF	1	65	256	-	43	-	0.97 /LF	364	2.23 /LF	840
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.37 /SY	44,579
						32.40.02.0008 Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.37 /SY	44,579
						32.12 Paving	**251.33 SY**	156	9,421	9,915	2,136	1,407		**91.03 /SY**	22,878	**207.76 /SY**	52,216
						32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.76 /SY	52,216
						05.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.50 /LF	52,216
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	377.00 LF		-	-	9,425	-		25.00 /LF	9,425	53.66 /LF	20,231
						33.00.01.40 Buried Pipe, Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.66 /LF	20,231
						33.00.01.0009 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.66 /LF	20,231
						33.89 Pipeline - Traffic Control	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.66 /LF**	20,231
						33.0 Utilities	***1.00*** LS				9,425			9,425.00 /LS	9,425	20,230.64 /LS	20,231
						08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.66 /LF	20,231
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			**Site Electrical**											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	1.00 EA		-	-	15,000	-		15,000.00 /EA	15,000	33,697.30 /EA	33,697
						26.00.99.00 Electrical, Other	1.00 EA				15,000			15,000.00 /EA	15,000	33,697.30 /EA	33,697
						26.00.99.0005 Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,697.30 /EA	33,697
						26.10 Site Electrical	***1.00*** **LS**				15,000			**15,000.00 /LS**	15,000	**33,697.30 /LS**	33,697
						26.0 Electrical Work	***1.00*** LS				15,000			15,000.00 /LS	15,000	33,697.30 /LS	33,697
						09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,697.30 /EA	33,697
						01.0 Las Vergenes Purified Pink Line	***1.00*** **LS**	9,098	672,217	301,937	79,030	469,076	44,010	**1,566,269.98 /LS**	1,566,270	**3,416,470.55 /LS**	3,416,471

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Pink Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	672,217		9,097.746 hrs		192.062	19.68%	
Material	301,937				86.268	8.84%	
Subcontract	79,030				22.580	2.31%	
Equipment	469,076		9,005.418 hrs		134.022	13.73%	
Other	44,010				12.574	1.29%	
Subtotal Raw Costs	**1,566,270**	**1,566,270**			**447.506**	**45.84%**	**45.84%**
Material Sales & Use Tax - %	21,890			7.250 %	6.254	0.64%	
Construction Equip Tax - %	34,008			7.250 %	9.717	1.00%	
Total Taxes	**55,898**	**1,622,168**			**463.477**	**1.64%**	**47.48%**
Location Adj. Factor	179,627			11.800 %	51.322	5.26%	
Productivity Adjustment							
Subtotal Adj. Factors	**179,627**	**1,801,795**			**514.799**	**5.26%**	**52.74%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.071	0.11%	
Site/Civil I,OH&P	5,720			25.000 %	1.634	0.17%	
Buried Piping I,OH&P	229,259			15.000 %	65.503	6.71%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**238,729**	**2,040,524**			**583.007**	**6.99%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,040,524**			**583.007**		**59.73%**
Total Cost To Prime Contractor		**2,040,524**			**583.007**		**59.73%**
General Conditions	204,052			10.000 %	58.301	5.97%	
Mobilization/Demobilization	81,621			4.000 %	23.320	2.39%	
Subtotal Indirect Costs	**285,673**	**2,326,197**			**664.628**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	232,620			10.000 %	66.463	6.81%	
Prime Contractor Profit	116,310			5.000 %	33.231	3.40%	
Bonds & Insurance	58,050			2.170 %	16.586	1.70%	
Subtotal OH&P	**406,980**	**2,733,177**			**780.908**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**2,733,177**			**780.908**		**80.00%**
Design Contingency	683,294			25.000 %	195.227	20.00%	
Subtotal Contingency	**683,294**	**3,416,471**			**976.135**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**3,416,471**			**976.135**		**100.00%**
Total Prime Contractor Costs		**3,416,471**			**976.135**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**3,416,471**			**976.135**		**100.00%**
Total Contractor Costs w/ OFCI		**3,416,471**			**976.135**		**100.00%**
Total Construction Cost		**3,416,471**			**976.135**		**100.00%**
Total		***3,416,471***			***976.135***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Pink Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Purified Pink Line**											
	01.0				20" PVC C900 Waterline											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0009	20" PVC C900 Waterline on The Hill Side	3,500.00 LF	8,754	647,892	255,676	49,469	460,952	44,010	416.57 /LF	1,457,998	907.52 /LF	3,176,336
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	8,754	647,892	255,676	49,469	460,952	44,010	**1,457,998.31 /LS**	1,457,998	**3,176,336.10 /LS**	**3,176,336**
					33.0 Utilities	***1.00*** LS	8,754	647,892	255,676	49,469	460,952	44,010	1,457,998.31 /LS	1,457,998	3,176,336.10 /LS	3,176,336
					01.0 20" PVC C900 Waterline	3,500.00 LF	8,754	647,892	255,676	49,469	460,952	44,010	416.57 /LF	1,457,998	907.52 /LF	3,176,336
	02.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,138.86 /EA	72,417
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	125	9,781	18,296		4,878		**32,954.55 /LS**	32,955	**72,416.58 /LS**	**72,417**
					33.0 Utilities	***1.00*** LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,416.58 /LS	72,417
					02.0 8" Blow Off Assembly	75.00 LF	125	9,781	18,296		4,878		439.39 /LF	32,955	965.55 /LF	72,417
	03.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,382.40 /EA	14,765
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	22	1,760	1,958	3,000	91		**6,809.36 /LS**	6,809	**14,764.79 /LS**	**14,765**
					33.0 Utilities	***1.00*** LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,764.79 /LS	14,765
					03.0 2" CARV Assembly	50.00 LF	22	1,760	1,958	3,000	91		136.19 /LF	6,809	295.30 /LF	14,765
	04.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,702.27 /EA	46,809
					33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	42	3,364	16,092		1,749		**21,204.69 /LS**	21,205	**46,809.06 /LS**	**46,809**
					33.0 Utilities	***1.00*** LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,809.06 /LS	46,809
					04.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,702.27 /EA	46,809
	05.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.43 /Sy	7,637
				32.40.02.0008	Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	177.37 /SY	44,579
					32.12 Paving	**251.33 SY**	156	9,421	9,915	2,136	1,407		**91.03 /SY**	22,878	**207.76 /SY**	**52,216**
					32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.76 /SY	52,216
					05.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.50 /LF	52,216
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.66 /LF	20,231
					33.89 Pipeline - Traffic Control	**377.00 LF**				9,425			**25.00 /LF**	9,425	**53.66 /LF**	**20,231**
					33.0 Utilities	***1.00*** LS				9,425			9,425.00 /LS	9,425	20,230.64 /LS	20,231
					08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.66 /LF	20,231
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,697.30 /EA	33,697
					26.10 Site Electrical	***1.00*** **LS**				15,000			**15,000.00 /LS**	15,000	**33,697.30 /LS**	**33,697**
					26.0 Electrical Work	***1.00*** LS				15,000			15,000.00 /LS	15,000	33,697.30 /LS	33,697
					09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,697.30 /EA	33,697
					01.0 Las Vergenes Purified Pink Line	***1.00*** **LS**	9,098	672,217	301,937	79,030	469,076	44,010	**1,566,269.98 /LS**	1,566,270	**3,416,470.55 /LS**	3,416,471

BID FORM SUMMARY

Project type: Water
Job Size: 3,500 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Pink Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	672,217		9,097.746 hrs		192.062	19.68%	
Material	301,937				86.268	8.84%	
Subcontract	79,030				22.580	2.31%	
Equipment	469,076		9,005.418 hrs		134.022	13.73%	
Other	44,010				12.574	1.29%	
Subtotal Raw Costs	**1,566,270**	**1,566,270**			**447.506**	**45.84%**	**45.84%**
Material Sales & Use Tax - %	21,890			7.250 %	6.254	0.64%	
Construction Equip Tax - %	34,008			7.250 %	9.717	1.00%	
Total Taxes	**55,898**	**1,622,168**			**463.477**	**1.64%**	**47.48%**
Location Adj. Factor	179,627			11.800 %	51.322	5.26%	
Productivity Adjustment							
Subtotal Adj. Factors	**179,627**	**1,801,795**			**514.799**	**5.26%**	**52.74%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.071	0.11%	
Site/Civil I,OH&P	5,720			25.000 %	1.634	0.17%	
Buried Piping I,OH&P	229,259			15.000 %	65.503	6.71%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**238,729**	**2,040,524**			**583.007**	**6.99%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,040,524**			**583.007**		**59.73%**
Total Cost To Prime Contractor		**2,040,524**			**583.007**		**59.73%**
General Conditions	204,052			10.000 %	58.301	5.97%	
Mobilization/Demobilization	81,621			4.000 %	23.320	2.39%	
Subtotal Indirect Costs	**285,673**	**2,326,197**			**664.628**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	232,620			10.000 %	66.463	6.81%	
Prime Contractor Profit	116,310			5.000 %	33.231	3.40%	
Bonds & Insurance	58,050			2.170 %	16.586	1.70%	
Subtotal OH&P	**406,980**	**2,733,177**			**780.908**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**2,733,177**			**780.908**		**80.00%**
Design Contingency	683,294			25.000 %	195.227	20.00%	
Subtotal Contingency	**683,294**	**3,416,471**			**976.135**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**3,416,471**			**976.135**		**100.00%**
Total Prime Contractor Costs		**3,416,471**			**976.135**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**3,416,471**			**976.135**		**100.00%**
Total Contractor Costs w/ OFCI		**3,416,471**			**976.135**		**100.00%**
Total Construction Cost		**3,416,471**			**976.135**		**100.00%**
Total		***3,416,471***			***976.135***		

REACH 2

Dark Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Purified Dark Blue Line 8-1(| Estimator: John DeWolf
Job Size: 3,400 Lf | Project Number: W9Y31200 | Rev/Date: 8-10-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Vergenes Purified Dark Blue Line***			
	01.0	**20" PVC C900 Waterline**	**2,150.00 LF**	**954.64 /LF**	**2,052,476**
	02.0	**20" HDPE HDD Allowance**	**1,250.00 LF**	**1,329.16 /LF**	**1,661,448**
	03.0	**8" Blow Off Assembly**	**75.00 LF**	**962.73 /LF**	**72,205**
	04.0	**2" CARV Assembly**	**2.00 EA**	**7,360.49 /EA**	**14,721**
	05.0	**20" Butterfly Valves**	**4.00 EA**	**11,668.15 /EA**	**46,673**
	06.0	**Asphalt Trench Repair**	**377.00 LF**	**138.11 /LF**	**52,069**
	08.0	**Traffic Control Allowance**	**377.00 LF**	**53.50 /LF**	**20,170**
	09.0	**Traffic Loop Replacement Allowance**	**1.00 EA**	**33,600.77 /EA**	**33,601**
		01.0 Las Vergenes Purified Dark Blue Line	***1.00 LS***	***3,953,361.31 /LS***	***3,953,361***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	923,505		6,818.741 hrs		271.619	23.36%	
Material	787,386				231.584	19.92%	
Subcontract	1,490,034				438.245	37.69%	
Equipment	663,447		5,945.408 hrs		195.131	16.78%	
Other	88,990				26.174	2.25%	
Total Prime Contractor Costs	**3,953,362**	**3,953,362**			**1,162.754**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**3,953,362**			**1,162.754**		**100.00%**
Total		***3,953,362***			***1,162.754***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Dark Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Vergenes Purified Dark Blue Line**											
	01.0					20" PVC C900 Waterline											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.07.0009		20" PVC C900 Waterline on The Hill Side											
					33.00.07.20	Buried Pipe, PVC, 20"											
						Pipeline Existing Conditions	***50.00 lf***			**-**	**-**	**-**	**-**	***/lf***		***/lf***	
						Traffic Control, Labor per Day	7.00 day	**112**	**6,532**	**-**	**-**	**-**	**-**	933.15 /day	**6,532**	1,996.99 /day	**13,979**
						Trench Box, 8' x 24' x 10'	3.20 mo		**-**	**-**	**-**	**7,360**	**-**	2,300.00 /mo	**7,360**	5,088.88 /mo	**16,284**
						Dedicated Fire / Safety Monitor	88.00 hr	**88**	**5,132**	**-**	**-**	**-**	**-**	58.32 /hr	**5,132**	124.81 /hr	**10,983**
						Add for hydrotesting pipeline (labor & Equipment per day)	3,500.00 lf	**42**	**3,403**	**-**	**-**	**304**	**-**	1.06 /lf	**3,708**	2.27 /lf	**7,956**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	2,309.75 CY	**1,032**	**74,500**	**-**	**-**	**64,948**	**-**	60.37 /CY	**139,448**	131.24 /CY	**303,134**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	734.68 cy	**1,204**	**79,021**	**-**	**-**	**54,086**	**-**	181.18 /cy	**133,107**	393.07 /cy	**288,778**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	1,479.29 cy	**688**	**51,861**	**-**	**-**	**61,786**	**-**	76.82 /cy	**113,646**	167.44 /cy	**247,688**
						Pipe zone material	734.68 cy		**-**	**20,571**	**-**	**-**	**-**	28.00 /cy	**20,571**	61.95 /cy	**45,515**
						Pipe bedding material	175.21 cy		**-**	**4,906**	**-**	**-**	**-**	28.00 /cy	**4,906**	61.95 /cy	**10,855**
						Imported backfill material	1,479.29 cy		**-**	**17,751**	**-**	**-**	**-**	12.00 /cy	**17,751**	26.55 /cy	**39,276**
						Haul spoils, offsite, 10 - 20 miles	2,726.63 cy		**-**	**-**	**40,899**	**-**	**-**	15.00 /cy	**40,899**	32.10 /cy	**87,527**
						Dump fees, trench spoils	2,934.00 cy		**-**	**-**	**-**	**-**	**44,010**	15.00 /cy	**44,010**	30.33 /cy	**88,990**
						20" DI, MJ, Ell, 90	5.00 ea	**36**	**2,905**	**11,526**	**-**	**1,640**	**-**	3,214.16 /ea	**16,071**	7,069.36 /ea	**35,347**
						20" DI, MJ, Ell, 45	2.00 ea	**14**	**1,162**	**3,254**	**-**	**656**	**-**	2,536.06 /ea	**5,072**	5,569.03 /ea	**11,138**
						20" DI, MJ, Ell, 22 1/2	4.00 ea	**29**	**2,324**	**7,597**	**-**	**1,312**	**-**	2,808.21 /ea	**11,233**	6,171.18 /ea	**24,685**
						20" DI, MJ, Ell, 11 1/4	7.00 ea	**50**	**4,067**	**13,328**	**-**	**2,295**	**-**	2,812.96 /ea	**19,691**	6,181.69 /ea	**43,272**
						FURNISH PVC water distribution pipe, C-905, class 165, DR 25, 20"	2,150.00 lf		**-**	**91,977**	**-**	**-**	**-**	42.78 /lf	**91,977**	94.65 /lf	**203,504**
						Install PVC water distribution pipe, excav/bkfill NOT included, 20"	2,150.00 LF	**2,064**	**166,565**	**-**	**-**	**94,002**	**-**	121.19 /LF	**260,567**	262.53 /LF	**564,443**
						Pipe Marking, ID Tape	2,150.00 lf	**22**	**1,742**	**280**	**-**	**-**	**-**	0.94 /lf	**2,022**	2.02 /lf	**4,347**
						Pipe Marking, Copper Wire	2,150.00 lf	**22**	**1,742**	**473**	**-**	**-**	**-**	1.03 /lf	**2,215**	2.22 /lf	**4,775**
						33.00.07.20 Buried Pipe, PVC, 20"	2,150.00 LF	**5,403**	**400,958**	**171,663**	**40,899**	**288,389**	**44,010**	**439.96 /LF**	**945,919**	**954.64 /LF**	**2,052,476**
						33.00.07.0009 20" PVC C900 Waterline on The Hill Side	2,150.00 LF	**5,403**	**400,958**	**171,663**	**40,899**	**288,389**	**44,010**	**439.96 /LF**	**945,919**	**954.64 /LF**	**2,052,476**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**5,403**	**400,958**	**171,663**	**40,899**	**288,389**	**44,010**	**945,918.99 /LS**	**945,919**	**2,052,475.81 /LS**	**2,052,476**
						33.0 Utilities	***1.00*** LS	**5,403**	**400,958**	**171,663**	**40,899**	**288,389**	**44,010**	**945,918.99 /LS**	**945,919**	**2,052,475.81 /LS**	**2,052,476**
						01.0 20" PVC C900 Waterline	2,150.00 LF	**5,403**	**400,958**	**171,663**	**40,899**	**288,389**	**44,010**	**439.96 /LF**	**945,919**	**954.64 /LF**	**2,052,476**
	02.0					20" HDPE HDD Allowance											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.00.09.0010		20" HDPE HDD											
					33.00.09.20	Buried Pipe, HDPE, 20"											
						Directional Drilling, Excavate Receiving Pit and Connect to Mainline Pipe	2.00 ea	**48**	**3,874**	**-**	**-**	**2,186**	**-**	3,029.86 /ea	**6,060**	6,563.30 /ea	**13,127**
						Directional Drilling, Backfill Receiving Pit	2.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	1,514.93 /ea	**3,030**	3,281.64 /ea	**6,563**
						Directional Drilling, subcontract, 20" diameter	1,250.00 LF	**1,000**		**-**	**625,000**	**-**	**-**	500.00 /LF	**625,000**	1,070.03 /LF	**1,337,532**
						Directional Drilling, HDPE pipe, 20" diameter	1,250.00 lf		**-**	**137,500**	**-**	**-**	**-**	110.00 /lf	**137,500**	243.38 /lf	**304,226**
						33.00.09.20 Buried Pipe, HDPE, 20"	1,250.00 LF	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**617.27 /LF**	**771,590**	**1,329.16 /LF**	**1,661,448**
						33.00.09.0010 20" HDPE HDD	1,250.00 LF	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**617.27 /LF**	**771,590**	**1,329.16 /LF**	**1,661,448**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**771,589.56 /LS**	**771,590**	**1,661,447.80 /LS**	**1,661,448**
						33.0 Utilities	***1.00*** LS	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**771,589.56 /LS**	**771,590**	**1,661,447.80 /LS**	**1,661,448**
						02.0 20" HDPE HDD Allowance	1,250.00 LF	**1,072**	**5,810**	**137,500**	**625,000**	**3,279**		**617.27 /LF**	**771,590**	**1,329.16 /LF**	**1,661,448**
	03.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	**36**	**2,905**	**3,916**	**-**	**1,640**	**-**	112.81 /LF	**8,461**	246.78 /LF	**18,509**
						8" DI, MJ, Ell, 90	3.00 ea	**9**	**726**	**1,031**	**-**	**410**	**-**	722.48 /ea	**2,167**	1,580.98 /ea	**4,743**
						8" DI, MJ, Ell, 45	3.00 ea	**9**	**726**	**881**	**-**	**410**	**-**	672.43 /ea	**2,017**	1,470.24 /ea	**4,411**
						8" DI, RJ, cap or plug	3.00 ea	**5**	**363**	**468**	**-**	**205**	**-**	345.52 /ea	**1,037**	755.70 /ea	**2,267**
						20" DI, MJ, red. tee, 20" x 8"	3.00 ea	**30**	**2,397**	**8,657**	**-**	**1,353**	**-**	4,135.59 /ea	**12,407**	9,092.27 /ea	**27,277**
						Install gate valve, Flgd, DIP, 8"	3.00 ea	**10**	**799**	**-**	**-**	**451**	**-**	416.61 /ea	**1,250**	902.46 /ea	**2,707**
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		**-**	**1,857**	**-**	**-**	**-**	619.00 /EA	**1,857**	1,369.57 /EA	**4,109**
						Valve accessory, extension stem	45.00 lf	**5**	**359**	**225**	**-**	**-**	**-**	12.98 /lf	**584**	28.14 /lf	**1,266**
						Valve accessory, stem couplings	3.00 set	**1**	**79**	**60**	**-**	**-**	**-**	46.33 /set	**139**	100.61 /set	**302**
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	**9**	**726**	**450**	**-**	**410**	**-**	528.73 /ea	**1,586**	1,152.29 /ea	**3,457**
						Meter Box	3.00 ea	**12**	**700**	**750**	**-**	**-**	**-**	483.29 /ea	**1,450**	1,052.38 /ea	**3,157**
						33.20.01.08 Buried Valves, Gate Valves, 8"	3.00 EA	**125**	**9,781**	**18,296**		**4,878**		**10,984.85 /EA**	**32,955**	**24,068.17 /EA**	**72,205**
						33.20.01.0004 8" Blow Off Assembly	3.00 EA	**125**	**9,781**	**18,296**		**4,878**		**10,984.85 /EA**	**32,955**	**24,068.17 /EA**	**72,205**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**125**	**9,781**	**18,296**		**4,878**		**32,954.55 /LS**	**32,955**	**72,204.51 /LS**	**72,205**
						33.0 Utilities	***1.00*** LS	**125**	**9,781**	**18,296**		**4,878**		**32,954.55 /LS**	**32,955**	**72,204.51 /LS**	**72,205**
						03.0 8" Blow Off Assembly	75.00 LF	**125**	**9,781**	**18,296**		**4,878**		**439.39 /LF**	**32,955**	**962.73 /LF**	**72,205**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	2.00 EA		**-**	**-**	**3,000**	**-**		1,500.00 /EA	**3,000**	3,210.08 /EA	**6,420**
						2" Corporation stop, thrd	2.00 ea	**2**	**188**		**-**	**91**	**-**	139.46 /ea	**279**	301.74 /ea	**603**
						Ball valve, bronze, screwed, 2"	2.00 ea	**1**	**64**	**128**	**-**	**-**	**-**	95.92 /ea	**192**	209.92 /ea	**420**
						2" copper pipe, K-soft	50.00 LF	**4**	**279**	**529**	**-**	**-**	**-**	16.17 /LF	**808**	35.37 /LF	**1,768**
						2" copper, ELL, 90	4.00 ea	**3**	**207**	**51**	**-**	**-**	**-**	64.71 /ea	**259**	139.41 /ea	**558**
						Install Air & Vacuum relief valve, 2"	2.00 ea	**5**	**383**	**-**	**-**	**-**	**-**	191.51 /ea	**383**	409.84 /ea	**820**
						FURNISH Air & Vacuum relief valve, iron body, 2"	2.00 ea		**-**	**750**	**-**	**-**	**-**	375.00 /ea	**750**	829.71 /ea	**1,659**
						Double Strap Saddle, 20" x 2"	2.00 ea	**8**	**638**	**500**	**-**	**-**	**-**	569.19 /ea	**1,138**	1,236.22 /ea	**2,472**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	2.00 EA	**22**	**1,760**	**1,958**	**3,000**	**91**		**3,404.68 /EA**	**6,809**	**7,360.49 /EA**	**14,721**
						33.20.08.0005 2" CARV Assembly	2.00 EA	**22**	**1,760**	**1,958**	**3,000**	**91**		**3,404.68 /EA**	**6,809**	**7,360.49 /EA**	**14,721**
						33.05 Buried Process Pipe, PVC/CPVC	***1.00*** **LS**	**22**	**1,760**	**1,958**	**3,000**	**91**		**6,809.36 /LS**	**6,809**	**14,720.97 /LS**	**14,721**
						33.0 Utilities	***1.00*** LS	**22**	**1,760**	**1,958**	**3,000**	**91**		**6,809.36 /LS**	**6,809**	**14,720.97 /LS**	**14,721**
						04.0 2" CARV Assembly	2.00 EA	**22**	**1,760**	**1,958**	**3,000**	**91**		**3,404.68 /EA**	**6,809**	**7,360.49 /EA**	**14,721**
	05.0					20" Butterfly Valves											
		33.0				Utilities											
			33.05			**Buried Process Pipe, PVC/CPVC**											

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Dark Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
				33.20.03.0003		20" Butterfly Valves											
					33.20.03.20	Buried Valves, Butterfly Valves, 20"											
						Install butterfly valve, MJ, 20"	4.00 ea	26	2,130	-	-	1,202	-	833.21 /ea	3,333	1,804.90 /ea	7,220
						Butterfly valve, iron body, MJ , NO, 250#, 20"	4.00 EA		-	15,312	-	-	-	3,828.00 /EA	15,312	8,469.65 /EA	33,879
						Valve accessory, extension stem	20.00 lf	2	160	100	-	-	-	12.98 /lf	260	28.14 /lf	563
						Valve accessory, stem couplings	4.00 set	1	105	80	-	-	-	46.33 /set	185	100.60 /set	402
						CI Valve Box & Cover, w/ Concrete Collar included	4.00 ea	12	968	600	-	547	-	528.73 /ea	2,115	1,152.30 /ea	4,609
						33.20.03.20 Buried Valves, Butterfly Valves, 20"	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,668.15 /EA	46,673
						33.20.03.0003 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,668.15 /EA	46,673
						33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,672.60 /LS	46,673
						33.0 Utilities	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,672.60 /LS	46,673
						05.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,668.15 /EA	46,673
	06.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	754.00 lf	12		-	1,508	-	-	2.00 /lf	1,508	4.48 /lf	3,378
						Asphalt Milling, 6" Depth	251.00 Sy	3		-	628	-	-	2.50 /Sy	628	5.60 /Sy	1,406
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	42.00 cy	4	294	-	-	415	-	16.88 /cy	709	38.52 /cy	1,618
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	42.00 cy		-	525	-	-	-	12.50 /cy	525	28.91 /cy	1,214
						02.01.01.01 General Site Demolition, Asphalt Pavement	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.34 /Sy	7,616
						02.01.01.0007 Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.34 /Sy	7,616
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, under 1000 S.Y.	251.33 SY	6	340	224	-	-	-	2.24 /SY	564	5.09 /SY	1,279
						Fog seal, sealcoating, prepare and clean surface for sealcoating	251.33 sy	1	43	-	-	10	-	0.21 /sy	53	0.47 /sy	119
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	251.33 sy	2	136	2,878	-	147	-	12.58 /sy	3,161	29.05 /sy	7,300
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	251.33 sy	128	8,543	6,032	-	792	-	61.14 /sy	15,367	138.93 /sy	34,918
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	377.00 LF	1	65	256	-	43	-	0.97 /LF	364	2.22 /LF	837
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	176.87 /SY	44,453
						32.40.02.0008 Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	176.87 /SY	44,453
						32.12 Paving	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.17 /SY	52,069
						32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.17 /SY	52,069
						06.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.11 /LF	52,069
	08.0					Traffic Control Allowance											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	377.00 LF		-	-	9,425	-		25.00 /LF	9,425	53.50 /LF	20,170
						33.00.01.40 Buried Pipe, Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
						33.00.01.0009 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
						33.89 Pipeline - Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
						33.0 Utilities	*1.00* LS				9,425			9,425.00 /LS	9,425	20,169.99 /LS	20,170
						08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	1.00 EA		-	-	15,000	-		15,000.00 /EA	15,000	33,600.77 /EA	33,601
						26.00.99.00 Electrical, Other	1.00 EA				15,000			15,000.00 /EA	15,000	33,600.77 /EA	33,601
						26.00.99.0005 Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,600.77 /EA	33,601
						26.10 Site Electrical	*1.00* LS				15,000			15,000.00 /LS	15,000	33,600.77 /LS	33,601
						26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,600.77 /LS	33,601
						09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,600.77 /EA	33,601
						01.0 Las Vergenes Purified Dark Blue Line	*1.00* LS	6,819	431,094	355,424	695,460	299,792	44,010	1,825,780.22 /LS	1,825,780	3,953,361.31 /LS	3,953,361

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Dark Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	431,094		6,818.741 hrs		126.792	10.90%	
Material	355,424				104.537	8.99%	
Subcontract	695,460				204.547	17.59%	
Equipment	299,792		5,945.408 hrs		88.174	7.58%	
Other	44,010				12.944	1.11%	
Subtotal Raw Costs	**1,825,780**	**1,825,780**			**536.994**	**46.18%**	**46.18%**
Material Sales & Use Tax - %	25,768			7.250 %	7.579	0.65%	
Construction Equip Tax - %	21,735			7.250 %	6.393	0.55%	
Total Taxes	**47,503**	**1,873,283**			**550.966**	**1.20%**	**47.38%**
Location Adj. Factor	210,249			11.800 %	61.838	5.32%	
Productivity Adjustment							
Subtotal Adj. Factors	**210,249**	**2,083,532**			**612.804**	**5.32%**	**52.70%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.103	0.09%	
Site/Civil I,OH&P	5,720			25.000 %	1.682	0.14%	
Buried Piping I,OH&P	268,185			15.000 %	78.878	6.78%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**277,655**	**2,361,187**			**694.467**	**7.02%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,361,187**			**694.467**		**59.73%**
Total Cost To Prime Contractor		**2,361,187**			**694.467**		**59.73%**
General Conditions	236,119			10.000 %	69.447	5.97%	
Mobilization/Demobilization	94,447			4.000 %	27.779	2.39%	
Subtotal Indirect Costs	**330,566**	**2,691,753**			**791.692**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	269,175			10.000 %	79.169	6.81%	
Prime Contractor Profit	134,588			5.000 %	39.585	3.40%	
Bonds & Insurance	67,173			2.170 %	19.757	1.70%	
Subtotal OH&P	**470,936**	**3,162,689**			**930.203**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,162,689**			**930.203**		**80.00%**
Design Contingency	790,672			25.000 %	232.551	20.00%	
Subtotal Contingency	**790,672**	**3,953,361**			**1,162.753**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**3,953,361**			**1,162.753**		**100.00%**
Total Prime Contractor Costs		**3,953,361**			**1,162.753**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**3,953,361**			**1,162.753**		**100.00%**
Total Contractor Costs w/ OFCI		**3,953,361**			**1,162.753**		**100.00%**
Total Construction Cost		**3,953,361**			**1,162.753**		**100.00%**
Total		***3,953,361***			***1,162.753***		

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Purified Dark Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Vergenes Purified Dark Blue Line**											
	01.0				20" PVC C900 Waterline											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.07.0009	20" PVC C900 Waterline on The Hill Side	2,150.00 LF	5,403	400,958	171,663	40,899	288,389	44,010	439.96 /LF	945,919	954.64 /LF	2,052,476
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	5,403	400,958	171,663	40,899	288,389	44,010	945,918.99 /LS	945,919	2,052,475.81 /LS	2,052,476
					33.0 Utilities	*1.00* LS	5,403	400,958	171,663	40,899	288,389	44,010	945,918.99 /LS	945,919	2,052,475.81 /LS	2,052,476
					01.0 20" PVC C900 Waterline	2,150.00 LF	5,403	400,958	171,663	40,899	288,389	44,010	439.96 /LF	945,919	954.64 /LF	2,052,476
	02.0				20" HDPE HDD Allowance											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.00.09.0010	20" HDPE HDD	1,250.00 LF	1,072	5,810	137,500	625,000	3,279		617.27 /LF	771,590	1,329.16 /LF	1,661,448
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	1,072	5,810	137,500	625,000	3,279		771,589.56 /LS	771,590	1,661,447.80 /LS	1,661,448
					33.0 Utilities	*1.00* LS	1,072	5,810	137,500	625,000	3,279		771,589.56 /LS	771,590	1,661,447.80 /LS	1,661,448
					02.0 20" HDPE HDD Allowance	1,250.00 LF	1,072	5,810	137,500	625,000	3,279		617.27 /LF	771,590	1,329.16 /LF	1,661,448
	03.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	125	9,781	18,296		4,878		10,984.85 /EA	32,955	24,068.17 /EA	72,205
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,204.51 /LS	72,205
					33.0 Utilities	*1.00* LS	125	9,781	18,296		4,878		32,954.55 /LS	32,955	72,204.51 /LS	72,205
					03.0 8" Blow Off Assembly	75.00 LF	125	9,781	18,296		4,878		439.39 /LF	32,955	962.73 /LF	72,205
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.08.0005	2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,360.49 /EA	14,721
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,720.97 /LS	14,721
					33.0 Utilities	*1.00* LS	22	1,760	1,958	3,000	91		6,809.36 /LS	6,809	14,720.97 /LS	14,721
					04.0 2" CARV Assembly	2.00 EA	22	1,760	1,958	3,000	91		3,404.68 /EA	6,809	7,360.49 /EA	14,721
	05.0				20" Butterfly Valves											
		33.0			Utilities											
			33.05		Buried Process Pipe, PVC/CPVC											
				33.20.03.0003	20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,668.15 /EA	46,673
					33.05 Buried Process Pipe, PVC/CPVC	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,672.60 /LS	46,673
					33.0 Utilities	*1.00* LS	42	3,364	16,092		1,749		21,204.69 /LS	21,205	46,672.60 /LS	46,673
					05.0 20" Butterfly Valves	4.00 EA	42	3,364	16,092		1,749		5,301.17 /EA	21,205	11,668.15 /EA	46,673
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	251.00 Sy	18	294	525	2,136	415		13.42 /Sy	3,369	30.34 /Sy	7,616
				32.40.02.0008	Trench Paving	251.33 SY	137	9,126	9,390		992		77.62 /SY	19,509	176.87 /SY	44,453
					32.12 Paving	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.17 /SY	52,069
					32.0 Exterior Improvements	251.33 SY	156	9,421	9,915	2,136	1,407		91.03 /SY	22,878	207.17 /SY	52,069
					06.0 Asphalt Trench Repair	377.00 LF	156	9,421	9,915	2,136	1,407		60.68 /LF	22,878	138.11 /LF	52,069
	08.0				Traffic Control Allowance											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
					33.89 Pipeline - Traffic Control	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
					33.0 Utilities	*1.00* LS				9,425			9,425.00 /LS	9,425	20,169.99 /LS	20,170
					08.0 Traffic Control Allowance	377.00 LF				9,425			25.00 /LF	9,425	53.50 /LF	20,170
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	1.00 EA				15,000			15,000.00 /EA	15,000	33,600.77 /EA	33,601
					26.10 Site Electrical	*1.00* LS				15,000			15,000.00 /LS	15,000	33,600.77 /LS	33,601
					26.0 Electrical Work	*1.00* LS				15,000			15,000.00 /LS	15,000	33,600.77 /LS	33,601
					09.0 Traffic Loop Replacement Allowance	1.00 EA				15,000			15,000.00 /EA	15,000	33,600.77 /EA	33,601
					01.0 Las Vergenes Purified Dark Blue Line	*1.00* LS	6,819	431,094	355,424	695,460	299,792	44,010	1,825,780.22 /LS	1,825,780	3,953,361.31 /LS	3,953,361

BID FORM SUMMARY

Project type: Water
Job Size: 3,400 Lf
Duration:

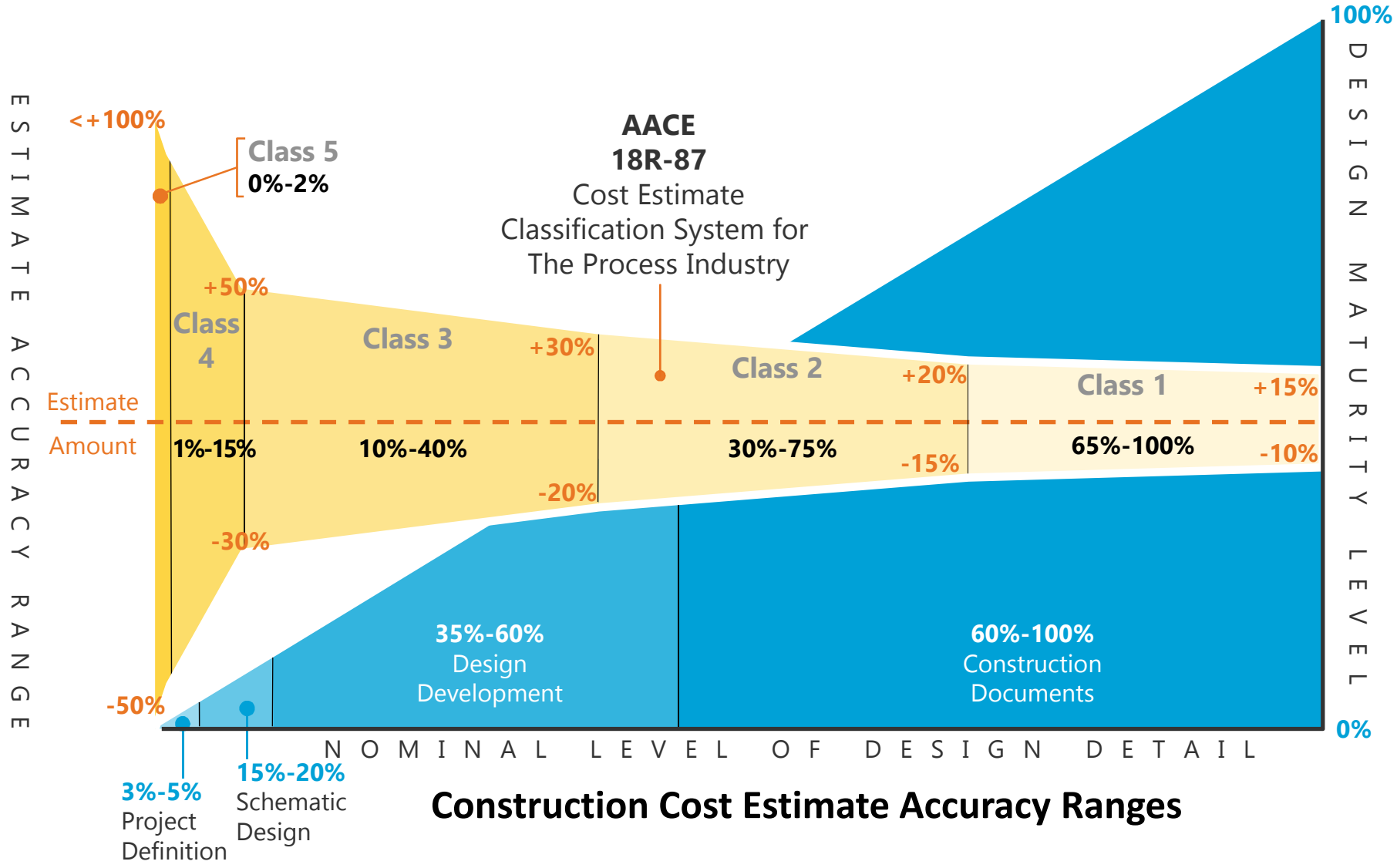
Project Name: W9Y31200 Las Vergenes Purified Dark Blue Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	431,094		6,818.741 hrs		126.792	10.90%	
Material	355,424				104.537	8.99%	
Subcontract	695,460				204.547	17.59%	
Equipment	299,792		5,945.408 hrs		88.174	7.58%	
Other	44,010				12.944	1.11%	
Subtotal Raw Costs	**1,825,780**	**1,825,780**			**536.994**	**46.18%**	**46.18%**
Material Sales & Use Tax - %	25,768			7.250 %	7.579	0.65%	
Construction Equip Tax - %	21,735			7.250 %	6.393	0.55%	
Total Taxes	**47,503**	**1,873,283**			**550.966**	**1.20%**	**47.38%**
Location Adj. Factor	210,249			11.800 %	61.838	5.32%	
Productivity Adjustment							
Subtotal Adj. Factors	**210,249**	**2,083,532**			**612.804**	**5.32%**	**52.70%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	3,750			25.000 %	1.103	0.09%	
Site/Civil I,OH&P	5,720			25.000 %	1.682	0.14%	
Buried Piping I,OH&P	268,185			15.000 %	78.878	6.78%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**277,655**	**2,361,187**			**694.467**	**7.02%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**2,361,187**			**694.467**		**59.73%**
Total Cost To Prime Contractor		**2,361,187**			**694.467**		**59.73%**
General Conditions	236,119			10.000 %	69.447	5.97%	
Mobilization/Demobilization	94,447			4.000 %	27.779	2.39%	
Subtotal Indirect Costs	**330,566**	**2,691,753**			**791.692**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	269,175			10.000 %	79.169	6.81%	
Prime Contractor Profit	134,588			5.000 %	39.585	3.40%	
Bonds & Insurance	67,173			2.170 %	19.757	1.70%	
Subtotal OH&P	**470,936**	**3,162,689**			**930.203**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**3,162,689**			**930.203**		**80.00%**
Design Contingency	790,672			25.000 %	232.551	20.00%	
Subtotal Contingency	**790,672**	**3,953,361**			**1,162.753**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**3,953,361**			**1,162.753**		**100.00%**
Total Prime Contractor Costs		**3,953,361**			**1,162.753**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**3,953,361**			**1,162.753**		**100.00%**
Total Contractor Costs w/ OFCI		**3,953,361**			**1,162.753**		**100.00%**
Total Construction Cost		**3,953,361**			**1,162.753**		**100.00%**
Total		***3,953,361***			***1,162.753***		

AACE Information



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	**0% to 2%**	**1% to 15%**	**10% to 40%**	**30% to 70%**	**50% to 100%**
END USAGE Typical Purpose of Estimate	**Concept Screening**	**Study or Feasibility**	**Budget Authorization, or Control**	**Control or Bid / Tender**	**Check Estimate or Bid / Tender**
METHODOLOGY Typical estimating method	**Capacity Factored, Parametric Models, Judgment, or Analogy**	**Equipment Factored or Parametric Models**	**Semi-Detailed Unit Costs with Assembly Level Line Items**	**Detailed Unit Cost with Forced Detailed Take-Off**	**Detailed Unit Cost with Detailed Take-Off**
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	**L: -20% to -50%** / **H: +30% to +100%**	**L: -15% to -30%** / **H: +20% to +50%**	**L: -10% to -20%** / **H: +10% to +30%**	**L: -5% to -15%** / **H: +5% to +20%**	**L: -3% to -10%** / **H: +3% to +15%**
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	**1**	**2 to 4**	**3 to 10**	**4 to 20**	**5 to 100**
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	**Class 5**	**Class 4**	**Class 3**	**Class 2**	**Class 1**
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete

Jacobs

Las Virgenes-Triunfo Concentrate Line Rev. #1

Ventura and Los Angeles County, CA.

Class 5

Prepared:
November 17, 2022

Jacobs

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Project Cost Estimate 1

Jacobs

Basis of Estimate

Jacobs

Basis of Estimate

1. Project Information

Client/Owner:	Las Virgenes-Triunfo
Project Manager:	Jennifer Phillips
Design Manager:	TBD
Architect:	TBD
Project Description:	Concentrate Line Rev. #1
Location:	Thousand Oaks, Agoura Hills and West Lake Village, Ca.
Estimate Date:	November 17, 2022
Design Level:	Conceptual
Estimate Classification	Class 5
Estimate Number:	W9Y31200
Contracting Method:	Design, Bid, Build
Project Size:	See Each Estimate for the size and scope.
Construction Budget:	See Section 4. Overall Cost
Construction Start:	TBD
Construction Duration:	TBD

2. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer's opinion of probable construction cost at the 10% level of design development.

3. General Project Description

This project is for the construction of concentrate pipelines as detailed in estimates below in the cities of Agoura Hills, Westlake Village and Thousand Oaks CA.

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4. Overall Costs

Reach 1

No. 1-1 Green Alignment

$12,155,000	**$17,364,000**	$26,046,000

No. 1-2 Orange Alignment

Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$13,740,000	**$19,629,000**	$29,444,000

No. 1-3 Light Blue Alignment

Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$11,768,000	**$16,812,000**	$25,218,000

No. 1-4 Red Alignment

Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$11,866,000	**$16,951,000**	$25,427,000

Reach 2

No. 2-1 Pink Alignment

Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$9,148,000	**$13,068,000**	$20,412,000

No. 2-2 Purple Alignment

Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$9,384,000	**$13,406,000**	$20,109,000

No. 2-3 Pink Alignment

Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$10,441,000	**$14,915,000**	$22,373,000

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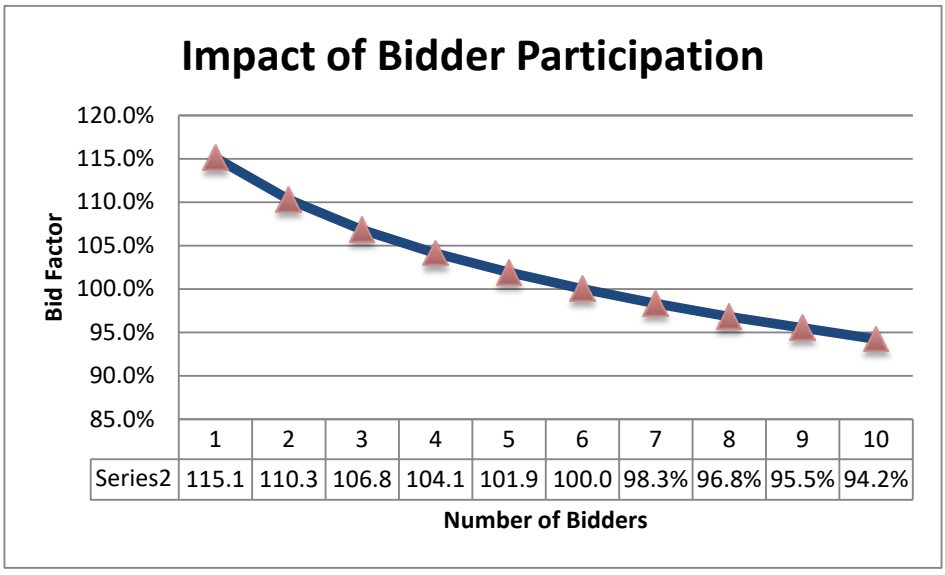
Reach 3		
No. 3-1Yellow Alignment		
Low Range (-30%)	Estimated Costs[a]	High Range (+50%)
$14,987,000	**$21,140,000**	$31,710,000

5. General Qualifications

A. We recommend the Owner and/or designated representatives review the estimate in detail for items that may not be consistent with the program intent.

B. The final costs of the project will depend on actual labor and material costs, competitive market conditions, actual project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein.

C. This estimate is based upon a competitive bid contracting method with five to seven responsible bidders (see chart below for modifications due to number of responsible bidders). Any single source specification selection will have an increased impact on the overall cost.



No. Bidders	Bid Factor
1	115.1%
2	110.3%
3	106.8%
4	104.1%
5	101.9%
6	100.0%
7	98.3%
8	96.8%
9	95.5%
10	94.2%

Data Source: PACES 2007, Mark-ups Screen, Prime and Subcontractor Profit Calculation Factors

D. The estimate does not include impacts due to contracting methods other than “open” competitive procurement. Pricing is not valid for negotiated contracts.

E. Pricing is not valid for HUB Zone and “set-aside” contract award.

6. Estimate Basis

A. Basis

- Other: Word documenting the scope of work with Google Earth KMZ files showing the approximate alignment of the pipeline.

B. Format

- This estimate is presented in CSI Masterformat 2004.
- The following Work Breakdown Structure (WBS) has been utilized to further segregate cost:
  - Area
  - Bid Item
  - Work Package
  - Trade Package
  - Work Activity
  - Unit Price

C. Labor Rates

Labor rates are based on local prevailing wages and are fully burdened to include both direct and indirect subcontract mark-ups. Labor Rates include base, fringes, payroll taxes and insurance, small tools, consumables, field supervision and field overhead as well as subcontractor overhead and profit. ENR CCI at the time of this estimate is 13575.17 for July 2022.

The estimate has been adjusted for local area labor rates, based upon 2022 RS Means National Average labor rates for the state of California. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index for Los Angeles CA. Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

D. Material Pricing

Materials pricing is based upon the national average as determined by RS Means or other data sources. Quotes on certain items may have been obtained and included in this estimate. Many quotes given for engineering estimates are budgetary and may not reflect actual contractor pricing.

E. Subcontracted Costs

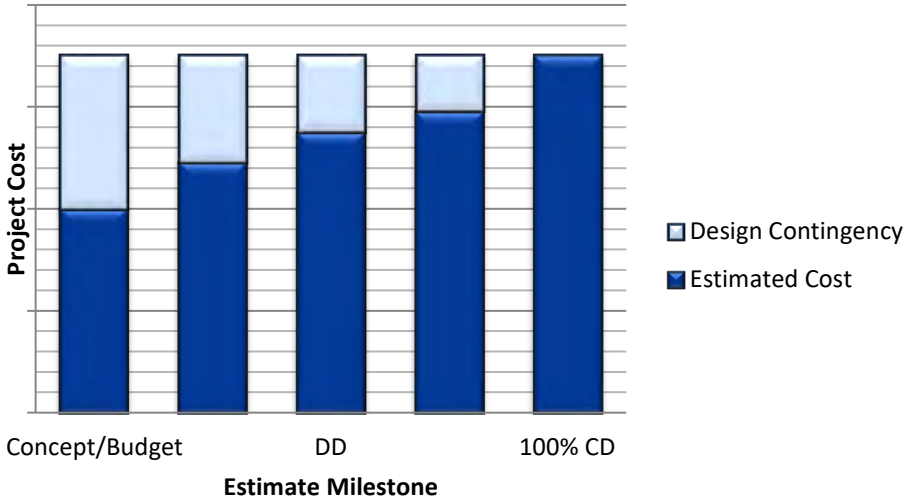
It is assumed that General Contractors will subcontract a portion of the work. Items listed in the cost estimate as subcontractor includes all anticipated markups that a general contractor would receive.

F. Construction Equipment Cost

Equipment items listed in this cost estimate are for the construction equipment necessary for the installation of the work. Equipment rates in this estimate are assumed to be 100% of 2022 Blue Book value. This is to account for contractor owned equipment or discounted rental equipment. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index Los Angeles CA.

G. Design Contingency

Design Contingency is considered to be owned by the project. At each milestone estimate, contingency (based on the level of design detail available) is applied against the total estimated construction cost, including General Conditions (when applicable). This risk-based contingency is intended to cover the cost associated with the further refinement of the design and details that are not completed on the plans. The design contingency is a function of the level of design at the time of the cost estimate development. As the design details increase at each milestone estimate, the contingency decreases until, at 100% design completion, the contingency is generally 0%. The following graph is a theoretical representation of this process.



Design Contingency is not intended to cover owner changes, nor does it address unforeseeable events such as labor strikes, natural disasters or extraordinary economic events.

A Design Contingency of 25% is included.

H. Market Adjustment Factor or Contingency

A market adjustment factor or contingency has been added to the estimate, to account for lack of potential bidders in a geographical area, based upon the amount of current workload by the general contractors or subcontractors.

A Market Adjustment Factor is not included.

I. Construction Contingency

Construction Contingency is a typical consideration on any Guaranteed Maximum Price (GMP) contract. It is often owned by the project but controlled by the owner. Meaning, the owner has approval rights as to whether this contingency fund is utilized. Its purpose is to cover purchasing gaps and omissions in the GMP bidding process and to cover unforeseen costs due to weather or scheduling conflicts. Typically, as part of a GMP, the unspent portion of the construction contingency is returned to the owner when the project is closed out.

A Construction Contingency is not included.

J. Owner's Contingency

Owner's Contingency is a recommended amount to cover the costs associated with unforeseen conditions during the construction phase such as unknown site conditions, schedule delays and trade coordination issues that may lead to change orders. This contingency is not meant for scope enhancements or for additions to the project. The suggested percentage for Owner's Contingency is based on Industry standards for the type and location of the project.

Owner's Contingency is not included in this estimate.

K. Escalation

The pricing presented herein is based on current market costs. An escalation rate is applied at the summary level of the estimate for costs associated with the following:

- Yearly merit raises for open shop contractors.
- Yearly renegotiation of union agreements.
- Material price increases (typically assessed quarterly).

Escalation is not intended to cover increases due to fluctuations in market conditions such as over saturation of projects during the anticipated bidding phase or temporary reductions in availability of manpower for selected labor pools.

Escalation is not included.

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7. Taxes

An 7.25% sales tax was added to all material costs within the estimate including process equipment.

8. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- Jacobs Historical Data
- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

9. Constructability Or Phase Comments

A Constructability Study was not conducted by estimating.

10. Project Allowances

01 - Allowances

Allowances are an allotted sum of money included for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost. Allowances include project direct costs - including labor, material, equipment and any subcontractor costs.

1. Allowances are detailed in the attached “Detail Estimate for each alternate.

11. Major Assumptions

01 – General Requirements

1. Material that is to be excavated can be done with a standard excavator.
2. All backfill will be new imported material.
3. A Dump site for excavated spoils will be available within 20 miles of the project.
4. Traffic will be allowed to be detoured around the work site.
5. All pipeline alignment will be in asphalt and avoid concrete and landscaping.

12. General Exclusions:

- Professional fees, inspections and/or third-party testing
- Owner furnished items
- Hazardous waste removal and disposal
- Blasting and rock excavation.
- Unforeseen sub-surface or existing conditions
- State/Local license, fees and/or permits
- Owner's contingency

13. Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The impacts of the COVID-19 pandemic on the construction industry are not known at this time and will likely have some impact on the costs presented herein. This situation should be monitored and costs adjusted as the impacts become realized and published by the leading industry sources.

While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends.

Reach 1

No. 1-1 Green Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 1-1 Green l | Estimator: John DeWolf
Job Size: 22,820 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 1-1 Green Line***			
	01.0	**10" HDPE Concentrate Line**	**22,820.00 LF**	**452.77 /LF**	**10,332,216**
	02.0	**Crossing Highway 101 and 23 24" Casing with 10" Carrier**	**660.00 LF**	**1,747.47 /LF**	**1,153,329**
	03.0	**Bore at Flood Channel 24" Casing with 10" Carrier**	**50.00 LF**	**1,500.65 /LF**	**75,032**
	04.0	**2" CARV Assembly**	**7.00 EA**	**6,881.91 /EA**	**48,173**
	05.0	**8" Blow Off Assembly**	**7.00 EA**	**18,125.89 /EA**	**126,881**
	06.0	**Asphalt Trench Repair**	**22,820.00 LF**	**108.37 /LF**	**2,473,052**
	07.0	**Access Way and Cleaning Structure Vaults**	**17.00 EA**	**85,937.24 /EA**	**1,460,933**
	08.0	**Traffic Control**	**22,820.00 LF**	**53.60 /LF**	**1,223,237**
	09.0	**Traffic Loop Replacement Allowance**	**14.00 EA**	**33,662.25 /EA**	**471,271**
	01.0 Las Virgenes Concentrate No. 1-1 Green Line		***1.00 LS***	***17,364,126.53 /LS***	***17,364,127***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	4,169,117		28,346.130 hrs		182.696	24.01%	
Material	7,539,605				330.395	43.42%	
Subcontract	2,853,082				125.025	16.43%	
Equipment	2,229,338		18,509.207 hrs		97.692	12.84%	
Other	572,985				25.109	3.30%	
Total Prime Contractor Costs	**17,364,127**	**17,364,127**			**760.917**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**17,364,127**			**760.917**		**100.00%**
Total		***17,364,127***			***760.917***		

BID FORM SUMMARY

Project type: Water
Job Size: 22,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-1 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 1-1 Green Line**											
	01.0					10" HDPE Concentrate Line											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			**-**	**-**	**-**	**-**	***/lf***		***/lf***	
						Traffic Control, Labor per Day	114.00 day	**1,824**	**106,379**	**-**	**-**	**-**	**-**	933.15 /day	**106,379**	2,000.82 /day	**228,093**
						Trench Box, 8' x 24' x 10'	5.50 mo		**-**	**-**	**-**	**12,650**	**-**	2,300.00 /mo	**12,650**	5,098.30 /mo	**28,041**
						Dedicated Fire / Safety Monitor	456.00 hr	**456**	**26,595**	**-**	**-**	**-**	**-**	58.32 /hr	**26,595**	125.05 /hr	**57,023**
						25 tn Rough Terrain (per day)	114.00 day	**912**	**72,160**	**-**	**-**	**134,702**	**-**	1,814.58 /day	**206,863**	3,976.41 /day	**453,310**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,646.88 CY	**1,824**	**125,349**	**-**	**-**	**86,093**	**-**	12.70 /CY	**211,443**	27.61 /CY	**459,607**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	4,803.79 cy	**3,192**	**209,498**	**-**	**-**	**143,391**	**-**	73.46 /cy	**352,889**	159.67 /cy	**767,043**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	11,818.10 cy	**1,824**	**137,491**	**-**	**-**	**163,803**	**-**	25.49 /cy	**301,294**	55.67 /cy	**657,896**
						Pipe zone material	4,803.79 cy		**-**	**134,506**	**-**	**-**	**-**	28.00 /cy	**134,506**	62.07 /cy	**298,153**
						Pipe bedding material	1,454.70 cy		**-**	**40,732**	**-**	**-**	**-**	28.00 /cy	**40,732**	62.07 /cy	**90,288**
						Haul spoils, offsite, 10 - 20 miles	18,076.00 cy		**-**	**-**	**271,140**	**-**	**-**	15.00 /cy	**271,140**	32.16 /cy	**581,365**
						Dump fees, trench spoils	18,076.00 cy		**-**	**-**	**-**	**-**	**271,140**	15.00 /cy	**271,140**	30.39 /cy	**549,370**
						10" HDPE pipe, excav/backfill not included	22,820.00 LF	**5,472**	**441,590**	**1,235,931**	**-**	**249,214**	**-**	84.43 /LF	**1,926,735**	185.75 /LF	**4,238,882**
						10" HDPE Ell, 90	2.00 ea	**6**	**517**	**381**	**-**	**292**	**-**	595.29 /ea	**1,191**	1,300.79 /ea	**2,602**
						10" HDPE Ell, 45	20.00 ea	**61**	**4,955**	**1,867**	**-**	**2,796**	**-**	480.90 /ea	**9,618**	1,048.02 /ea	**20,960**
						Field weld fusion joints, Subcontracted (S), 10"	1,190.00 ea		**-**	**-**	**107,636**	**-**	**-**	90.45 /ea	**107,636**	193.94 /ea	**230,787**
						CLSM, pipe encasement	11,818.10 cy		**-**	**709,086**	**-**	**-**	**-**	60.00 /cy	**709,086**	133.00 /cy	**1,571,795**
						Pipe Marking, Detection Tape	22,820.00 lf	**228**	**18,492**	**2,967**	**-**	**-**	**-**	0.94 /lf	**21,458**	2.03 /lf	**46,225**
						Pipe Marking, Copper Wire	22,820.00 lf	**228**	**18,492**	**5,020**	**-**	**-**	**-**	1.03 /lf	**23,512**	2.23 /lf	**50,777**
						33.00.09.10 Buried Pipe, HDPE, 10"	**22,820.00 LF**	**16,028**	**1,161,518**	**2,130,490**	**378,776**	**792,943**	**271,140**	**207.49 /LF**	**4,734,866**	**452.77 /LF**	**10,332,216**
						33.00.09.0001 10" HDPE	**22,820.00 LF**	**16,028**	**1,161,518**	**2,130,490**	**378,776**	**792,943**	**271,140**	**207.49 /LF**	**4,734,866**	**452.77 /LF**	**10,332,216**
						33.07 Buried Process Pipe, HDPE	**22,820.00 LF**	**16,028**	**1,161,518**	**2,130,490**	**378,776**	**792,943**	**271,140**	**207.49 /LF**	**4,734,866**	**452.77 /LF**	**10,332,216**
						33.0 Utilities	***1.00 LS***	**16,028**	**1,161,518**	**2,130,490**	**378,776**	**792,943**	**271,140**	**4,734,866.13 /LS**	**4,734,866**	**10,332,215.87 /LS**	**10,332,216**
						01.0 10" HDPE Concentrate Line	**22,820.00 LF**	**16,028**	**1,161,518**	**2,130,490**	**378,776**	**792,943**	**271,140**	**207.49 /LF**	**4,734,866**	**452.77 /LF**	**10,332,216**
	02.0					Crossing Highway 101 and 23 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0002		Crossing at Highway 101 and 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	13.00 day	**208**	**12,131**	**-**	**-**	**-**	**-**	933.15 /day	**12,131**	2,000.82 /day	**26,011**
						Trench Box, 8' x 24' x 10'	0.60 mo		**-**	**-**	**-**	**1,380**	**-**	2,300.00 /mo	**1,380**	5,098.30 /mo	**3,059**
						Dedicated Fire / Safety Monitor	52.00 hr	**52**	**3,033**	**-**	**-**	**-**	**-**	58.32 /hr	**3,033**	125.05 /hr	**6,503**
						Horizontal boring, 24" diameter casing spacer	25.00 ea		**-**	**1,250**	**-**	**-**	**-**	50.00 /ea	**1,250**	110.83 /ea	**2,771**
						Horizontal boring, 24" diameter end seals	2.00 ea		**-**	**500**	**-**	**-**	**-**	250.00 /ea	**500**	554.17 /ea	**1,108**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	770.80 CY	**208**	**14,295**	**-**	**-**	**9,818**	**-**	31.28 /CY	**24,113**	68.00 /CY	**52,413**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	262.51 cy	**364**	**23,890**	**-**	**-**	**16,352**	**-**	153.30 /cy	**40,242**	333.21 /cy	**87,470**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	456.38 cy	**208**	**15,679**	**-**	**-**	**18,679**	**-**	75.28 /cy	**34,358**	164.39 /cy	**75,023**
						Pipe zone material	262.51 cy		**-**	**7,350**	**-**	**-**	**-**	28.00 /cy	**7,350**	62.07 /cy	**16,293**
						Pipe bedding material	58.47 cy		**-**	**1,637**	**-**	**-**	**-**	28.00 /cy	**1,637**	62.07 /cy	**3,629**
						Haul spoils, offsite, 10 - 20 miles	777.00 cy		**-**	**-**	**11,655**	**-**	**-**	15.00 /cy	**11,655**	32.16 /cy	**24,990**
						Dump fees, trench spoils	777.00 cy		**-**	**-**	**-**	**-**	**11,655**	15.00 /cy	**11,655**	30.39 /cy	**23,615**
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	660.00 LF	**624**	**50,356**	**225,410**	**-**	**28,419**	**-**	460.89 /LF	**304,185**	1,016.09 /LF	**670,620**
						10" HDPE pipe, excav/backfill not included	660.00 lf	**73**	**5,859**	**35,746**	**-**	**3,306**	**-**	68.05 /lf	**44,911**	150.19 /lf	**99,127**
						CLSM, pipe encasement	456.38 cy		**-**	**27,383**	**-**	**-**	**-**	60.00 /cy	**27,383**	133.00 /cy	**60,698**
						33.00.09.10 Buried Pipe, HDPE, 10"	**660.00 LF**	**1,737**	**125,242**	**299,276**	**11,655**	**77,954**	**11,655**	**796.64 /LF**	**525,782**	**1,747.47 /LF**	**1,153,329**
						33.60.02.0002 Crossing at Highway 101 and 23, 24" Casing with 10" Carrier	**660.00 LF**	**1,737**	**125,242**	**299,276**	**11,655**	**77,954**	**11,655**	**796.64 /LF**	**525,782**	**1,747.47 /LF**	**1,153,329**
						33.07 Buried Process Pipe, HDPE	**660.00 LF**	**1,737**	**125,242**	**299,276**	**11,655**	**77,954**	**11,655**	**796.64 /LF**	**525,782**	**1,747.47 /LF**	**1,153,329**
						33.0 Utilities	***1.00 LS***	**1,737**	**125,242**	**299,276**	**11,655**	**77,954**	**11,655**	**525,782.10 /LS**	**525,782**	**1,153,329.39 /LS**	**1,153,329**
						02.0 Crossing Highway 101 and 23 24" Casing with 10" Carrier	**660.00 LF**	**1,737**	**125,242**	**299,276**	**11,655**	**77,954**	**11,655**	**796.64 /LF**	**525,782**	**1,747.47 /LF**	**1,153,329**
	03.0					Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0003		Bore at Flood Channel 24" Casing with 10" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 24" x 10"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	**-**	**-**	**2,186**	**-**	6,059.71 /ea	**6,060**	13,151.40 /ea	**13,151**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	3,029.85 /ea	**3,030**	6,575.70 /ea	**6,576**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	3,029.85 /ea	**3,030**	6,575.71 /ea	**6,576**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	**-**	**-**	**547**	**-**	1,514.92 /ea	**1,515**	3,287.83 /ea	**3,288**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 24" diameter casing	50.00 lf	**160**		**-**	**19,250**	**-**	**-**	385.00 /lf	**19,250**	825.50 /lf	**41,275**
						Horizontal boring, 24" diameter casing spacer	3.00 ea		**-**	**150**	**-**	**-**	**-**	50.00 /ea	**150**	110.83 /ea	**332**
						Horizontal boring, 24" diameter end seals	2.00 ea		**-**	**500**	**-**	**-**	**-**	250.00 /ea	**500**	554.17 /ea	**1,108**
						10" HDPE pipe, excav/backfill not included	50.00 LF	**6**	**444**	**550**	**-**	**250**	**-**	24.89 /LF	**1,244**	54.52 /LF	**2,726**
						33.60.02.36 Pipeline Specials, Jack and Bore, 24" x 10"	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.65 /LF**	**75,032**
						33.60.02.0003 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.65 /LF**	**75,032**
						33.07 Buried Process Pipe, HDPE	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.65 /LF**	**75,032**
						33.0 Utilities	***1.00 LS***	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**34,778.67 /LS**	**34,779**	**75,032.42 /LS**	**75,032**
						03.0 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.65 /LF**	**75,032**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	7.00 EA		**-**	**-**	**10,500**	**-**		1,500.00 /EA	**10,500**	3,216.23 /EA	**22,514**
						2" Corporation stop, thrd	7.00 ea	**8**	**658**		**-**	**318**	**-**	139.45 /ea	**976**	302.30 /ea	**2,116**

BID FORM SUMMARY

Project type: Water
Job Size: 22,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-1 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Ball valve, bronze, screwed, 2"	7.00 ea	3	223	448	-	-	-	95.92 /ea	671	210.30 /ea	1,472
						2" copper pipe, K-soft	175.00 LF	12	978	1,852	-	-	-	16.17 /LF	2,829	35.43 /LF	6,201
						2" copper, ELL, 90	14.00 ea	9	726	180	-	-	-	64.71 /ea	906	139.67 /ea	1,955
						Install Air & Vacuum relief valve, 2"	7.00 ea	17	1,341	-	-	-	-	191.51 /ea	1,341	410.63 /ea	2,874
						FURNISH Air & Vacuum relief valve, iron body, 2"	7.00 ea		-	2,625	-	-	-	375.00 /ea	2,625	831.24 /ea	5,819
						Double Strap Saddle, 10" x 2"	7.00 ea	21	1,676	735	-	-	-	344.39 /ea	2,411	746.03 /ea	5,222
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**7.00 EA**	70	5,602	5,840	10,500	318		**3,179.88 /EA**	22,259	**6,881.91 /EA**	**48,173**
						33.20.08.0005 2" CARV Assembly	**7.00 EA**	70	5,602	5,840	10,500	318		**3,179.88 /EA**	22,259	**6,881.91 /EA**	**48,173**
						33.07 Buried Process Pipe, HDPE	**175.00 LF**	70	5,602	5,840	10,500	318		**127.20 /LF**	22,259	**275.28 /LF**	**48,173**
						33.0 Utilities	***1.00* LS**	70	5,602	5,840	10,500	318		**22,259.14 /LS**	22,259	**48,173.37 /LS**	**48,173**
						04.0 2" CARV Assembly	**7.00 EA**	70	5,602	5,840	10,500	318		**3,179.88 /EA**	22,259	**6,881.91 /EA**	**48,173**
	05.0					**8" Blow Off Assembly**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.01.0004		**8" Blow Off Assembly**											
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						8" pipe, DI, MJ, excav/bkfill included	175.00 LF	84	6,779	9,137	-	3,826	-	112.81 /LF	19,741	247.25 /LF	43,268
						8" DI, MJ, Ell, 90	7.00 ea	21	1,695	2,406	-	956	-	722.48 /ea	5,057	1,583.94 /ea	11,088
						8" DI, MJ, Ell, 45	7.00 ea	21	1,695	2,056	-	956	-	672.43 /ea	4,707	1,472.99 /ea	10,311
						8" DI, RJ, cap or plug	7.00 ea	11	847	1,093	-	478	-	345.52 /ea	2,419	757.12 /ea	5,300
						10" HDPE tee	7.00 ea	31	2,517	1,380	-	1,420	-	759.60 /ea	5,317	1,657.69 /ea	11,604
						10" HDPE reducer	7.00 ea	20	1,644	1,369	-	928	-	562.93 /ea	3,941	1,230.79 /ea	8,616
						10" HDPE flange	7.00 ea	17	1,353		-	319	-	238.82 /ea	1,672	515.37 /ea	3,608
						Install gate valve, Flgd, DIP, 8"	7.00 ea	23	1,864	-	-	1,052	-	416.61 /ea	2,916	904.16 /ea	6,329
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	7.00 EA		-	4,333	-	-	-	619.00 /EA	4,333	1,372.11 /EA	9,605
						Valve accessory, extension stem	35.00 lf	4	279	175	-	-	-	12.98 /lf	454	28.19 /lf	987
						Valve accessory, stem couplings	7.00 set	2	184	140	-	-	-	46.33 /set	324	100.79 /set	706
						CI Valve Box & Cover, w/ Concrete Collar included	7.00 ea	21	1,695	1,050	-	956	-	528.73 /ea	3,701	1,154.46 /ea	8,081
						Meter Box	7.00 ea	28	1,633	1,750	-	-	-	483.29 /ea	3,383	1,054.37 /ea	7,381
						33.20.01.08 Buried Valves, Gate Valves, 8"	**7.00 EA**	283	22,185	24,889		10,892		**8,280.81 /EA**	57,966	**18,125.89 /EA**	**126,881**
						33.20.01.0004 8" Blow Off Assembly	**7.00 EA**	283	22,185	24,889		10,892		**8,280.81 /EA**	57,966	**18,125.89 /EA**	**126,881**
						33.07 Buried Process Pipe, HDPE	**175.00 LF**	283	22,185	24,889		10,892		**331.23 /LF**	57,966	**725.04 /LF**	**126,881**
						33.0 Utilities	***1.00* LS**	283	22,185	24,889		10,892		**57,965.67 /LS**	57,966	**126,881.20 /LS**	**126,881**
						05.0 8" Blow Off Assembly	**7.00 EA**	283	22,185	24,889		10,892		**8,280.81 /EA**	57,966	**18,125.89 /EA**	**126,881**
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	45,640.00 lf	702		-	91,280	-	-	2.00 /lf	91,280	4.19 /lf	191,154
						Asphalt Milling, 6" Depth	12,700.00 Sy	127		-	31,750	-	-	2.50 /Sy	31,750	5.24 /Sy	66,489
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	2,120.00 cy	218	14,857	-	-	20,923	-	16.88 /cy	35,780	36.06 /cy	76,445
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	2,120.00 cy		-	26,500	-	-	-	12.50 /cy	26,500	27.08 /cy	57,416
						02.01.01.01 General Site Demolition, Asphalt Pavement	**12,700.00 Sy**	1,047	14,857	26,500	123,030	20,923		**14.59 /Sy**	185,310	**30.83 /Sy**	**391,504**
						02.01.01.0007 Demo Asphalt	**12,700.00 Sy**	1,047	14,857	26,500	123,030	20,923		**14.59 /Sy**	185,310	**30.83 /Sy**	**391,504**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	12,677.78 SY	41	2,911	11,283	-	2,174	-	1.29 /SY	16,368	2.78 /SY	35,252
						Fog seal, sealcoating, prepare and clean surface for sealcoating	12,677.78 sy	36	2,153	-	-	504	-	0.21 /sy	2,657	0.44 /sy	5,600
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	12,677.78 sy	97	6,869	145,161	-	7,420	-	12.58 /sy	159,449	27.21 /sy	344,973
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	12,677.78 sy	6,454	430,924	304,267	-	39,970	-	61.14 /sy	775,160	130.01 /sy	1,648,258
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	22,820.00 LF	65	3,919	15,518	-	2,601	-	0.97 /LF	22,038	2.08 /LF	47,465
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**12,677.78 SY**	6,692	446,775	476,228		52,669		**76.96 /SY**	975,672	**164.19 /SY**	**2,081,548**
						32.40.02.0008 Trench Paving	**12,677.78 SY**	6,692	446,775	476,228		52,669		**76.96 /SY**	975,672	**164.19 /SY**	**2,081,548**
						32.12 Paving	**12,677.78 SY**	7,739	461,632	502,728	123,030	73,592		**91.58 /SY**	1,160,982	**195.07 /SY**	**2,473,052**
						32.0 Exterior Improvements	**12,677.78 SY**	7,739	461,632	502,728	123,030	73,592		**91.58 /SY**	1,160,982	**195.07 /SY**	**2,473,052**
						06.0 Asphalt Trench Repair	**22,820.00 LF**	7,739	461,632	502,728	123,030	73,592		**50.88 /LF**	1,160,982	**108.37 /LF**	**2,473,052**
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	17.00 EA	476	29,967	42,500	-	4,407	-	4,521.96 /EA	76,873	9,895.80 /EA	168,229
						10" HDPE pipe, excav/backfill included	341.00 LF	164	13,209	3,751	-	7,455	-	71.60 /LF	24,415	155.90 /LF	53,161
						10" HDPE Ell, 45	68.00 ea	209	16,847	6,346	-	9,508	-	480.90 /ea	32,701	1,048.02 /ea	71,266
						10" HDPE tee	34.00 ea	151	12,224	6,704	-	6,899	-	759.60 /ea	25,826	1,657.70 /ea	56,362
						10" HDPE wye	34.00 ea	151	12,224	10,139	-	6,899	-	860.64 /ea	29,262	1,881.67 /ea	63,977
						10" HDPE flange	170.00 ea	407	32,857		-	7,742	-	238.82 /ea	40,599	515.37 /ea	87,613
						10" steel blind flange	68.00 ea	79	6,393		-	3,608	-	147.07 /ea	10,001	319.20 /ea	21,705
						10" Bolt & Gasket Kits, SS	170.00 ea	374	29,844	12,240	-	-	-	247.55 /ea	42,084	536.01 /ea	91,121
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	51.00 ea		-	366,588	-	-	-	7,188.00 /ea	366,588	15,933.28 /ea	812,597
						Install Pinch valve, iron body, Flgd, 10"	51.00 ea	204	16,278	-	-	-	-	319.18 /ea	16,278	684.38 /ea	34,903
						33.00.09.10 Buried Pipe, HDPE, 10"	**341.00 LF**	2,216	169,842	448,269		46,517		**1,949.05 /LF**	664,628	**4,284.26 /LF**	**1,460,933**
						33.00.09.0009 Access Way and Cleaning Structure Vaults	**17.00 EA**	2,216	169,842	448,269		46,517		**39,095.74 /EA**	664,628	**85,937.24 /EA**	**1,460,933**
						33.07 Buried Process Pipe, HDPE	**341.00 LF**	2,216	169,842	448,269		46,517		**1,949.05 /LF**	664,628	**4,284.26 /LF**	**1,460,933**
						33.0 Utilities	***1.00* LS**	2,216	169,842	448,269		46,517		**664,627.63 /LS**	664,628	**1,460,933.07 /LS**	**1,460,933**
						07.0 Access Way and Cleaning Structure Vaults	**17.00 EA**	2,216	169,842	448,269		46,517		**39,095.74 /EA**	664,628	**85,937.24 /EA**	**1,460,933**
	08.0					**Traffic Control**											

BID FORM SUMMARY

Project type: Water
Job Size: 22,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-1 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	22,820.00 LF		-	-	570,500	-		25.00 /LF	570,500	53.60 /LF	1,223,237
						33.00.01.40 Buried Pipe, Traffic Control	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
						33.00.01.0009 Traffic Control Allowance	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
						33.89 Pipeline - Traffic Control	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
						33.0 Utilities	1.00 LS				570,500			570,500.00 /LS	570,500	1,223,237.37 /LS	1,223,237
						08.0 Traffic Control	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	14.00 EA		-	-	210,000	-		15,000.00 /EA	210,000	33,662.25 /EA	471,271
						26.00.99.00 Electrical, Other	14.00 EA				210,000			15,000.00 /EA	210,000	33,662.25 /EA	471,271
						26.00.99.0005 Replace Traffic Loops 3 Intersections	14.00 EA				210,000			15,000.00 /EA	210,000	33,662.25 /EA	471,271
						26.10 Site Electrical	1.00 LS				210,000			210,000.00 /LS	210,000	471,271.43 /LS	471,271
						26.0 Electrical Work	1.00 LS				210,000			210,000.00 /LS	210,000	471,271.43 /LS	471,271
						09.0 Traffic Loop Replacement Allowance	14.00 EA				210,000			15,000.00 /EA	210,000	33,662.25 /EA	471,271
						01.0 Las Virgenes Concentrate No. 1-1 Green Line	**1.00 LS**	28,346	1,955,180	3,412,691	1,323,711	1,007,384	282,795	**7,981,760.96 /LS**	7,981,761	**17,364,126.53 /LS**	17,364,127

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,955,180		28,346.130 hrs		85.678	11.26%	
Material	3,412,691				149.548	19.65%	
Subcontract	1,323,711				58.007	7.62%	
Equipment	1,007,384		18,509.207 hrs		44.145	5.80%	
Other	282,795				12.392	1.63%	
Subtotal Raw Costs	**7,981,761**	**7,981,761**			**349.770**	**45.97%**	**45.97%**
Material Sales & Use Tax - %	247,420			7.250 %	10.842	1.42%	
Construction Equip Tax - %	73,035			7.250 %	3.200	0.42%	
Total Taxes	**320,455**	**8,302,216**			**363.813**	**1.85%**	**47.81%**
Location Adj. Factor	908,478			11.800 %	39.811	5.23%	
Productivity Adjustment							
Subtotal Adj. Factors	**908,478**	**9,210,694**			**403.624**	**5.23%**	**53.04%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	52,500			25.000 %	2.301	0.30%	
Site/Civil I,OH&P	116,098			10.000 %	5.088	0.67%	
Buried Piping I,OH&P	991,617			15.000 %	43.454	5.71%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,160,215**	**10,370,909**			**454.466**	**6.68%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**10,370,909**			**454.466**		**59.73%**
Total Cost To Prime Contractor		**10,370,909**			**454.466**		**59.73%**
General Conditions	1,037,091			10.000 %	45.447	5.97%	
Mobilization/Demobilization	414,836			4.000 %	18.179	2.39%	
Subtotal Indirect Costs	**1,451,927**	**11,822,836**			**518.091**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,182,284			10.000 %	51.809	6.81%	
Prime Contractor Profit	591,142			5.000 %	25.905	3.40%	
Bonds & Insurance	295,039			2.170 %	12.929	1.70%	
Subtotal OH&P	**2,068,465**	**13,891,301**			**608.734**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**13,891,301**			**608.734**		**80.00%**
Design Contingency	3,472,825			25.000 %	152.183	20.00%	
Subtotal Contingency	**3,472,825**	**17,364,126**			**760.917**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**17,364,126**			**760.917**		**100.00%**
Total Prime Contractor Costs		**17,364,126**			**760.917**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**17,364,126**			**760.917**		**100.00%**
Total Contractor Costs w/ OFCI		**17,364,126**			**760.917**		**100.00%**
Total Construction Cost		**17,364,126**			**760.917**		**100.00%**
Total		***17,364,126***			***760.917***		

BID FORM SUMMARY

Project type: Water
Job Size: 22,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-1 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 1-1 Green Line**											
	01.0				10" HDPE Concentrate Line											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE	22,820.00 LF	16,028	1,161,518	2,130,490	378,776	792,943	271,140	207.49 /LF	4,734,866	452.77 /LF	10,332,216
					33.07 Buried Process Pipe, HDPE	22,820.00 LF	16,028	1,161,518	2,130,490	378,776	792,943	271,140	207.49 /LF	4,734,866	452.77 /LF	10,332,216
					33.0 Utilities	1.00 LS	16,028	1,161,518	2,130,490	378,776	792,943	271,140	4,734,866.13 /LS	4,734,866	10,332,215.87 /LS	10,332,216
					01.0 10" HDPE Concentrate Line	22,820.00 LF	16,028	1,161,518	2,130,490	378,776	792,943	271,140	207.49 /LF	4,734,866	452.77 /LF	10,332,216
	02.0				Crossing Highway 101 and 23 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0002	Crossing at Highway 101 and 23, 24" Casing with 10" Carrier	660.00 LF	1,737	125,242	299,276	11,655	77,954	11,655	796.64 /LF	525,782	1,747.47 /LF	1,153,329
					33.07 Buried Process Pipe, HDPE	660.00 LF	1,737	125,242	299,276	11,655	77,954	11,655	796.64 /LF	525,782	1,747.47 /LF	1,153,329
					33.0 Utilities	1.00 LS	1,737	125,242	299,276	11,655	77,954	11,655	525,782.10 /LS	525,782	1,153,329.39 /LS	1,153,329
					02.0 Crossing Highway 101 and 23 24" Casing with 10" Carrier	660.00 LF	1,737	125,242	299,276	11,655	77,954	11,655	796.64 /LF	525,782	1,747.47 /LF	1,153,329
	03.0				Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0003	Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.65 /LF	75,032
					33.07 Buried Process Pipe, HDPE	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.65 /LF	75,032
					33.0 Utilities	1.00 LS	274	9,159	1,200	19,250	5,169		34,778.67 /LS	34,779	75,032.42 /LS	75,032
					03.0 Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.65 /LF	75,032
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,881.91 /EA	48,173
					33.07 Buried Process Pipe, HDPE	175.00 LF	70	5,602	5,840	10,500	318		127.20 /LF	22,259	275.28 /LF	48,173
					33.0 Utilities	1.00 LS	70	5,602	5,840	10,500	318		22,259.14 /LS	22,259	48,173.37 /LS	48,173
					04.0 2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,881.91 /EA	48,173
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	7.00 EA	283	22,185	24,889		10,892		8,280.81 /EA	57,966	18,125.89 /EA	126,881
					33.07 Buried Process Pipe, HDPE	175.00 LF	283	22,185	24,889		10,892		331.23 /LF	57,966	725.04 /LF	126,881
					33.0 Utilities	1.00 LS	283	22,185	24,889		10,892		57,965.67 /LS	57,966	126,881.20 /LS	126,881
					05.0 8" Blow Off Assembly	7.00 EA	283	22,185	24,889		10,892		8,280.81 /EA	57,966	18,125.89 /EA	126,881
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	12,700.00 Sy	1,047	14,857	26,500	123,030	20,923		14.59 /Sy	185,310	30.83 /Sy	391,504
				32.40.02.0008	Trench Paving	12,677.78 SY	6,692	446,775	476,228		52,669		76.96 /SY	975,672	164.19 /SY	2,081,548
					32.12 Paving	12,677.78 SY	7,739	461,632	502,728	123,030	73,592		91.58 /SY	1,160,982	195.07 /SY	2,473,052
					32.0 Exterior Improvements	12,677.78 SY	7,739	461,632	502,728	123,030	73,592		91.58 /SY	1,160,982	195.07 /SY	2,473,052
					06.0 Asphalt Trench Repair	22,820.00 LF	7,739	461,632	502,728	123,030	73,592		50.88 /LF	1,160,982	108.37 /LF	2,473,052
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,937.24 /EA	1,460,933
					33.07 Buried Process Pipe, HDPE	341.00 LF	2,216	169,842	448,269		46,517		1,949.05 /LF	664,628	4,284.26 /LF	1,460,933
					33.0 Utilities	1.00 LS	2,216	169,842	448,269		46,517		664,627.63 /LS	664,628	1,460,933.07 /LS	1,460,933
					07.0 Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,937.24 /EA	1,460,933
	08.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
					33.89 Pipeline - Traffic Control	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
					33.0 Utilities	1.00 LS				570,500			570,500.00 /LS	570,500	1,223,237.37 /LS	1,223,237
					08.0 Traffic Control	22,820.00 LF				570,500			25.00 /LF	570,500	53.60 /LF	1,223,237
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	14.00 EA				210,000			15,000.00 /EA	210,000	33,662.25 /EA	471,271
					26.10 Site Electrical	1.00 LS				210,000			210,000.00 /LS	210,000	471,271.43 /LS	471,271
					26.0 Electrical Work	1.00 LS				210,000			210,000.00 /LS	210,000	471,271.43 /LS	471,271
					09.0 Traffic Loop Replacement Allowance	14.00 EA				210,000			15,000.00 /EA	210,000	33,662.25 /EA	471,271
					01.0 Las Virgenes Concentrate No. 1-1 Green Line	**1.00 LS**	28,346	1,955,180	3,412,691	1,323,711	1,007,384	282,795	**7,981,760.96 /LS**	7,981,761	**17,364,126.53 /LS**	17,364,127

BID FORM SUMMARY

Project type: Water
Job Size: 22,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-1 Green Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,955,180		28,346.130 hrs		85.678	11.26%	
Material	3,412,691				149.548	19.65%	
Subcontract	1,323,711				58.007	7.62%	
Equipment	1,007,384		18,509.207 hrs		44.145	5.80%	
Other	282,795				12.392	1.63%	
Subtotal Raw Costs	**7,981,761**	**7,981,761**			**349.770**	**45.97%**	**45.97%**
Material Sales & Use Tax - %	247,420			7.250 %	10.842	1.42%	
Construction Equip Tax - %	73,035			7.250 %	3.200	0.42%	
Total Taxes	**320,455**	**8,302,216**			**363.813**	**1.85%**	**47.81%**
Location Adj. Factor	908,478			11.800 %	39.811	5.23%	
Productivity Adjustment							
Subtotal Adj. Factors	**908,478**	**9,210,694**			**403.624**	**5.23%**	**53.04%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	52,500			25.000 %	2.301	0.30%	
Site/Civil I,OH&P	116,098			10.000 %	5.088	0.67%	
Buried Piping I,OH&P	991,617			15.000 %	43.454	5.71%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,160,215**	**10,370,909**			**454.466**	**6.68%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**10,370,909**			**454.466**		**59.73%**
Total Cost To Prime Contractor		**10,370,909**			**454.466**		**59.73%**
General Conditions	1,037,091			10.000 %	45.447	5.97%	
Mobilization/Demobilization	414,836			4.000 %	18.179	2.39%	
Subtotal Indirect Costs	**1,451,927**	**11,822,836**			**518.091**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,182,284			10.000 %	51.809	6.81%	
Prime Contractor Profit	591,142			5.000 %	25.905	3.40%	
Bonds & Insurance	295,039			2.170 %	12.929	1.70%	
Subtotal OH&P	**2,068,465**	**13,891,301**			**608.734**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**13,891,301**			**608.734**		**80.00%**
Design Contingency	3,472,825			25.000 %	152.183	20.00%	
Subtotal Contingency	**3,472,825**	**17,364,126**			**760.917**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**17,364,126**			**760.917**		**100.00%**
Total Prime Contractor Costs		**17,364,126**			**760.917**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**17,364,126**			**760.917**		**100.00%**
Total Contractor Costs w/ OFCI		**17,364,126**			**760.917**		**100.00%**
Total Construction Cost		**17,364,126**			**760.917**		**100.00%**
Total		***17,364,126***			***760.917***		

Reach 1

No. 1-2 Orange Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 1-2 Orange | Estimator: John DeWolf
Job Size: 26,930 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 1-2 Orange Line***			
	01.0	**10" HDPE Concentrate Line**	**26,930.00 LF**	**444.78 /LF**	**11,977,925**
	02.0	**Highway Crossings at 101 and 23**	**460.00 LF**	**1,438.34 /LF**	**661,638**
	03.0	**Bore at Flood Channel 24" Casing with 10" Carrier**	**50.00 LF**	**1,500.63 /LF**	**75,032**
	04.0	**2" CARV Assembly**	**7.00 EA**	**6,881.84 /EA**	**48,173**
	05.0	**8" Blow Off Assembly**	**7.00 EA**	**18,125.70 /EA**	**126,880**
	06.0	**Asphalt Trench Repair**	**26,930.00 LF**	**108.35 /LF**	**2,917,799**
	07.0	**Access Way and Cleaning Structure Vaults**	**20.00 EA**	**83,534.57 /EA**	**1,670,691**
	08.0	**Traffic Control**	**26,930.00 LF**	**53.60 /LF**	**1,443,533**
	09.0	**Traffic Loop Replacement Allowance**	**21.00 EA**	**33,661.90 /EA**	**706,900**
	01.0 Las Virgenes Concentrate No. 1-2 Orange Line		***1.00 LS***	***19,628,571.07 /LS***	***19,628,571***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	4,622,321		31,535.335 hrs		171.642	23.55%	
Material	8,288,930				307.795	42.23%	
Subcontract	3,733,362				138.632	19.02%	
Equipment	2,428,880		20,838.279 hrs		90.192	12.37%	
Other	555,078				20.612	2.83%	
Total Prime Contractor Costs	**19,628,571**	**19,628,571**			**728.874**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**19,628,571**			**728.874**		**100.00%**
Total		***19,628,571***			***728.874***		

BID FORM SUMMARY

Project type: Water
Job Size: 26,930 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-2 Orange Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 1-2 Orange Line**											
	01.0					10" HDPE Concentrate Line											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	135.00 day	**2,160**	**125,976**	-	-	-	-	933.15 /day	**125,976**	2,000.80 /day	**270,108**
						Trench Box, 8' x 24' x 10'	10.70 mo		-	-	-	**24,610**	-	2,300.00 /mo	**24,610**	5,098.24 /mo	**54,551**
						Dedicated Fire / Safety Monitor	540.00 hr	**540**	**31,494**	-	-	-	-	58.32 /hr	**31,494**	125.05 /hr	**67,527**
						25 tn Rough Terrain (per day)	114.70 day	**918**	**72,603**	-	-	**135,530**	-	1,814.58 /day	**208,133**	3,976.36 /day	**456,089**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	19,645.07 CY	**2,160**	**148,442**	-	-	**101,954**	-	12.75 /CY	**250,396**	27.71 /CY	**544,271**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	5,668.98 cy	**3,780**	**248,089**	-	-	**169,805**	-	73.72 /cy	**417,894**	160.23 /cy	**908,329**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	13,946.60 cy	**2,160**	**162,819**	-	-	**193,978**	-	25.58 /cy	**356,797**	55.86 /cy	**779,082**
						Pipe zone material	5,668.98 cy		-	**158,731**	-	-	-	28.00 /cy	**158,731**	62.07 /cy	**351,848**
						Pipe bedding material	1,716.71 cy		-	**48,068**	-	-	-	28.00 /cy	**48,068**	62.07 /cy	**106,549**
						Haul spoils, offsite, 10 - 20 miles	19,203.20 cy		-	-	**288,048**	-	-	15.00 /cy	**288,048**	32.16 /cy	**617,611**
						Dump fees, trench spoils	18,076.00 cy		-	-	-	-	**271,140**	15.00 /cy	**271,140**	30.39 /cy	**549,364**
						10" HDPE pipe, excav/backfill not included	26,930.00 LF	**6,480**	**522,937**	**1,458,529**	-	**295,124**	-	84.54 /LF	**2,276,590**	185.98 /LF	**5,008,437**
						10" HDPE Ell, 90	3.00 ea	**10**	**776**	**572**	-	**438**	-	595.28 /ea	**1,786**	1,300.77 /ea	**3,902**
						10" HDPE Ell, 45	20.00 ea	**61**	**4,955**	**1,867**	-	**2,796**	-	480.90 /ea	**9,618**	1,048.01 /ea	**20,960**
						Field weld fusion joints, Subcontracted (S), 10"	1,392.00 ea		-	-	**125,906**	-	-	90.45 /ea	**125,906**	193.94 /ea	**269,959**
						CLSM, pipe encasement	13,946.60 cy		-	**836,796**	-	-	-	60.00 /cy	**836,796**	133.00 /cy	**1,854,865**
						Pipe Marking, Detection Tape	26,930.00 lf	**269**	**21,822**	**3,501**	-	-	-	0.94 /lf	**25,323**	2.03 /lf	**54,550**
						Pipe Marking, Copper Wire	26,930.00 lf	**269**	**21,822**	**5,925**	-	-	-	1.03 /lf	**27,747**	2.23 /lf	**59,922**
						33.00.09.10 Buried Pipe, HDPE, 10"	**26,930.00 LF**	**18,807**	**1,361,735**	**2,513,988**	**413,954**	**924,234**	**271,140**	**203.68 /LF**	**5,485,052**	**444.78 /LF**	**11,977,925**
						33.00.09.0001 10" HDPE	**26,930.00 LF**	**18,807**	**1,361,735**	**2,513,988**	**413,954**	**924,234**	**271,140**	**203.68 /LF**	**5,485,052**	**444.78 /LF**	**11,977,925**
						33.07 Buried Process Pipe, HDPE	**26,930.00 LF**	**18,807**	**1,361,735**	**2,513,988**	**413,954**	**924,234**	**271,140**	**203.68 /LF**	**5,485,052**	**444.78 /LF**	**11,977,925**
						33.0 Utilities	***1.00 LS***	**18,807**	**1,361,735**	**2,513,988**	**413,954**	**924,234**	**271,140**	**5,485,052.18 /LS**	**5,485,052**	**11,977,924.51 /LS**	**11,977,925**
						01.0 10" HDPE Concentrate Line	**26,930.00 LF**	**18,807**	**1,361,735**	**2,513,988**	**413,954**	**924,234**	**271,140**	**203.68 /LF**	**5,485,052**	**444.78 /LF**	**11,977,925**
	02.0					Highway Crossings at 101 and 23											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.07.0002		Hwy 101 Bridge Crossing Allowance											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Division 33 Allowance Support Pipe Inside Bridge	300.00 lf		-	-	**150,000**	-		500.00 /lf	**150,000**	1,072.06 /lf	**321,619**
						10" HDPE pipe, excav/backfill not included	300.00 LF	**33**	**2,663**	**16,200**	-	**1,503**	-	67.89 /LF	**20,366**	149.84 /LF	**44,951**
						33.00.09.10 Buried Pipe, HDPE, 10"	**300.00 LF**	**33**	**2,663**	**16,200**	**150,000**	**1,503**		**567.89 /LF**	**170,366**	**1,221.90 /LF**	**366,570**
						33.00.07.0002 Hwy 101 Bridge Crossing Allowance	**300.00 LF**	**33**	**2,663**	**16,200**	**150,000**	**1,503**		**567.89 /LF**	**170,366**	**1,221.90 /LF**	**366,570**
				33.60.02.0002		Crossing at Highway 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	4.00 day	**64**	**3,733**	-	-	-	-	933.15 /day	**3,733**	2,000.80 /day	**8,003**
						Trench Box, 8' x 24' x 10'	0.20 mo		-	-	-	**460**	-	2,300.00 /mo	**460**	5,098.20 /mo	**1,020**
						Dedicated Fire / Safety Monitor	16.00 hr	**16**	**933**	-	-	-	-	58.32 /hr	**933**	125.05 /hr	**2,001**
						Horizontal boring, 24" diameter casing spacer	16.00 ea		-	**800**	-	-	-	50.00 /ea	**800**	110.83 /ea	**1,773**
						Horizontal boring, 24" diameter end seals	2.00 ea		-	**500**	-	-	-	250.00 /ea	**500**	554.16 /ea	**1,108**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	186.86 CY	**50**	**3,465**	-	-	**2,380**	-	31.28 /CY	**5,845**	68.00 /CY	**12,706**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	63.64 cy	**88**	**5,792**	-	-	**3,964**	-	153.30 /cy	**9,756**	333.20 /cy	**21,205**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	110.63 cy	**50**	**3,801**	-	-	**4,528**	-	75.28 /cy	**8,329**	164.39 /cy	**18,186**
						Pipe zone material	63.64 cy		-	**1,782**	-	-	-	28.00 /cy	**1,782**	62.07 /cy	**3,950**
						Pipe bedding material	14.18 cy		-	**397**	-	-	-	28.00 /cy	**397**	62.07 /cy	**880**
						Haul spoils, offsite, 10 - 20 miles	188.00 cy		-	-	**2,820**	-	-	15.00 /cy	**2,820**	32.16 /cy	**6,046**
						Dump fees, trench spoils	188.00 cy		-	-	-	-	**2,820**	15.00 /cy	**2,820**	30.39 /cy	**5,714**
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	160.00 LF	**192**	**15,494**	**54,645**	-	**8,744**	-	493.02 /LF	**78,884**	1,085.83 /LF	**173,732**
						10" HDPE pipe, excav/backfill not included	160.00 lf	**18**	**1,420**	**8,666**	-	**802**	-	68.05 /lf	**10,887**	150.19 /lf	**24,031**
						CLSM, pipe encasement	110.63 cy		-	**6,638**	-	-	-	60.00 /cy	**6,638**	133.00 /cy	**14,714**
						33.00.09.10 Buried Pipe, HDPE, 10"	**160.00 LF**	**479**	**34,638**	**73,427**	**2,820**	**20,878**	**2,820**	**841.15 /LF**	**134,584**	**1,844.18 /LF**	**295,069**
						33.60.02.0002 Crossing at Highway 23, 24" Casing with 10" Carrier	**160.00 LF**	**479**	**34,638**	**73,427**	**2,820**	**20,878**	**2,820**	**841.15 /LF**	**134,584**	**1,844.18 /LF**	**295,069**
						33.07 Buried Process Pipe, HDPE	**460.00 LF**	**512**	**37,301**	**89,627**	**152,820**	**22,381**	**2,820**	**662.93 /LF**	**304,950**	**1,438.34 /LF**	**661,638**
						33.0 Utilities	***1.00 LS***	**512**	**37,301**	**89,627**	**152,820**	**22,381**	**2,820**	**304,949.57 /LS**	**304,950**	**661,638.43 /LS**	**661,638**
						02.0 Highway Crossings at 101 and 23	**460.00 LF**	**512**	**37,301**	**89,627**	**152,820**	**22,381**	**2,820**	**662.93 /LF**	**304,950**	**1,438.34 /LF**	**661,638**
	03.0					Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0003		Bore at Flood Channel 24" Casing with 10" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 24" x 10"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,151.27 /ea	**13,151**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,575.62 /ea	**6,576**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,575.64 /ea	**6,576**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,287.81 /ea	**3,288**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 24" diameter casing	50.00 lf	**160**		-	**19,250**	-	-	385.00 /lf	**19,250**	825.49 /lf	**41,274**
						Horizontal boring, 24" diameter casing spacer	3.00 ea		-	**150**	-	-	-	50.00 /ea	**150**	110.83 /ea	**332**
						Horizontal boring, 24" diameter end seals	2.00 ea		-	**500**	-	-	-	250.00 /ea	**500**	554.16 /ea	**1,108**
						10" HDPE pipe, excav/backfill not included	50.00 LF	**6**	**444**	**550**	-	**250**	-	24.89 /LF	**1,244**	54.52 /LF	**2,726**
						33.60.02.36 Pipeline Specials, Jack and Bore, 24" x 10"	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.63 /LF**	**75,032**
						33.60.02.0003 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.63 /LF**	**75,032**
						33.07 Buried Process Pipe, HDPE	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.63 /LF**	**75,032**
						33.0 Utilities	***1.00 LS***	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**34,778.67 /LS**	**34,779**	**75,031.66 /LS**	**75,032**
						03.0 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.63 /LF**	**75,032**
	04.0					2" CARV Assembly											
		33.0				Utilities											

BID FORM SUMMARY

Project type: Water
Job Size: 26,930 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-2 Orange Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	7.00 EA		-	-	10,500	-		1,500.00 /EA	10,500	3,216.19 /EA	22,513
						2" Corporation stop, thrd	7.00 ea	8	658		-	318	-	139.45 /ea	976	302.30 /ea	2,116
						Ball valve, bronze, screwed, 2"	7.00 ea	3	223	448	-	-	-	95.92 /ea	671	210.30 /ea	1,472
						2" copper pipe, K-soft	175.00 LF	12	978	1,852	-	-	-	16.17 /LF	2,829	35.43 /LF	6,201
						2" copper, ELL, 90	14.00 ea	9	726	180	-	-	-	64.71 /ea	906	139.67 /ea	1,955
						Install Air & Vacuum relief valve, 2"	7.00 ea	17	1,341	-	-	-	-	191.51 /ea	1,341	410.62 /ea	2,874
						FURNISH Air & Vacuum relief valve, iron body, 2"	7.00 ea		-	2,625	-	-	-	375.00 /ea	2,625	831.23 /ea	5,819
						Double Strap Saddle, 10" x 2"	7.00 ea	21	1,676	735	-	-	-	344.39 /ea	2,411	746.03 /ea	5,222
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**7.00 EA**	**70**	**5,602**	**5,840**	**10,500**	**318**		**3,179.88 /EA**	**22,259**	**6,881.84 /EA**	**48,173**
						33.20.08.0005 2" CARV Assembly	**7.00 EA**	**70**	**5,602**	**5,840**	**10,500**	**318**		**3,179.88 /EA**	**22,259**	**6,881.84 /EA**	**48,173**
						33.07 Buried Process Pipe, HDPE	**175.00 LF**	**70**	**5,602**	**5,840**	**10,500**	**318**		**127.20 /LF**	**22,259**	**275.27 /LF**	**48,173**
						33.0 Utilities	***1.00* LS**	**70**	**5,602**	**5,840**	**10,500**	**318**		**22,259.14 /LS**	**22,259**	**48,172.85 /LS**	**48,173**
						04.0 2" CARV Assembly	**7.00 EA**	**70**	**5,602**	**5,840**	**10,500**	**318**		**3,179.88 /EA**	**22,259**	**6,881.84 /EA**	**48,173**
	05.0					**8" Blow Off Assembly**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.01.0004		**8" Blow Off Assembly**											
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						8" pipe, DI, MJ, excav/bkfill included	175.00 LF	84	6,779	9,137	-	3,826	-	112.81 /LF	19,741	247.24 /LF	43,267
						8" DI, MJ, Ell, 90	7.00 ea	21	1,695	2,406	-	956	-	722.48 /ea	5,057	1,583.92 /ea	11,087
						8" DI, MJ, Ell, 45	7.00 ea	21	1,695	2,056	-	956	-	672.43 /ea	4,707	1,472.98 /ea	10,311
						8" DI, RJ, cap or plug	7.00 ea	11	847	1,093	-	478	-	345.52 /ea	2,419	757.10 /ea	5,300
						10" HDPE tee	7.00 ea	31	2,517	1,380	-	1,420	-	759.60 /ea	5,317	1,657.68 /ea	11,604
						10" HDPE reducer	7.00 ea	20	1,644	1,369	-	928	-	562.93 /ea	3,941	1,230.78 /ea	8,615
						10" HDPE flange	7.00 ea	17	1,353		-	319	-	238.82 /ea	1,672	515.37 /ea	3,608
						Install gate valve, Flgd, DIP, 8"	7.00 ea	23	1,864	-	-	1,052	-	416.61 /ea	2,916	904.15 /ea	6,329
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	7.00 EA		-	4,333	-	-	-	619.00 /EA	4,333	1,372.09 /EA	9,605
						Valve accessory, extension stem	35.00 lf	4	279	175	-	-	-	12.98 /lf	454	28.19 /lf	987
						Valve accessory, stem couplings	7.00 set	2	184	140	-	-	-	46.33 /set	324	100.79 /set	706
						CI Valve Box & Cover, w/ Concrete Collar included	7.00 ea	21	1,695	1,050	-	956	-	528.73 /ea	3,701	1,154.45 /ea	8,081
						Meter Box	7.00 ea	28	1,633	1,750	-	-	-	483.29 /ea	3,383	1,054.36 /ea	7,381
						33.20.01.08 Buried Valves, Gate Valves, 8"	**7.00 EA**	**283**	**22,185**	**24,889**		**10,892**		**8,280.81 /EA**	**57,966**	**18,125.70 /EA**	**126,880**
						33.20.01.0004 8" Blow Off Assembly	**7.00 EA**	**283**	**22,185**	**24,889**		**10,892**		**8,280.81 /EA**	**57,966**	**18,125.70 /EA**	**126,880**
						33.07 Buried Process Pipe, HDPE	**175.00 LF**	**283**	**22,185**	**24,889**		**10,892**		**331.23 /LF**	**57,966**	**725.03 /LF**	**126,880**
						33.0 Utilities	***1.00* LS**	**283**	**22,185**	**24,889**		**10,892**		**57,965.67 /LS**	**57,966**	**126,879.87 /LS**	**126,880**
						05.0 8" Blow Off Assembly	**7.00 EA**	**283**	**22,185**	**24,889**		**10,892**		**8,280.81 /EA**	**57,966**	**18,125.70 /EA**	**126,880**
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Asphalt, 6" Depth	53,860.00 lf	829		-	107,720	-	-	2.00 /lf	107,720	4.19 /lf	225,579
						Asphalt Milling, 6" Depth	14,961.00 Sy	150		-	37,403	-	-	2.50 /Sy	37,403	5.24 /Sy	78,326
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	2,494.00 cy	257	17,478	-	-	24,614	-	16.88 /cy	42,092	36.06 /cy	89,930
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	2,494.00 cy		-	31,175	-	-	-	12.50 /cy	31,175	27.08 /cy	67,545
						02.01.01.01 General Site Demolition, Asphalt Pavement	**14,961.00 Sy**	**1,235**	**17,478**	**31,175**	**145,123**	**24,614**		**14.60 /Sy**	**218,389**	**30.84 /Sy**	**461,379**
						02.01.01.0007 Demo Asphalt	**14,961.00 Sy**	**1,235**	**17,478**	**31,175**	**145,123**	**24,614**		**14.60 /Sy**	**218,389**	**30.84 /Sy**	**461,379**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	14,961.11 SY	48	3,435	13,315	-	2,565	-	1.29 /SY	19,316	2.78 /SY	41,601
						Fog seal, sealcoating, prepare and clean surface for sealcoating	14,961.11 sy	42	2,540	-	-	595	-	0.21 /sy	3,135	0.44 /sy	6,609
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	14,961.11 sy	114	8,106	171,305	-	8,756	-	12.58 /sy	188,167	27.21 /sy	407,100
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	14,961.11 sy	7,617	508,535	359,067	-	47,168	-	61.14 /sy	914,770	130.01 /sy	1,945,097
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	26,930.00 LF	77	4,625	18,312	-	3,070	-	0.97 /LF	26,007	2.08 /LF	56,013
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**14,961.11 SY**	**7,897**	**527,242**	**561,999**		**62,154**		**76.96 /SY**	**1,151,396**	**164.19 /SY**	**2,456,420**
						32.40.02.0008 Trench Paving	**14,961.11 SY**	**7,897**	**527,242**	**561,999**		**62,154**		**76.96 /SY**	**1,151,396**	**164.19 /SY**	**2,456,420**
						32.12 Paving	**14,961.11 SY**	**9,132**	**544,719**	**593,174**	**145,123**	**86,769**		**91.56 /SY**	**1,369,785**	**195.03 /SY**	**2,917,799**
						32.0 Exterior Improvements	**14,961.11 SY**	**9,132**	**544,719**	**593,174**	**145,123**	**86,769**		**91.56 /SY**	**1,369,785**	**195.03 /SY**	**2,917,799**
						06.0 Asphalt Trench Repair	**26,930.00 LF**	**9,132**	**544,719**	**593,174**	**145,123**	**86,769**		**50.86 /LF**	**1,369,785**	**108.35 /LF**	**2,917,799**
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	20.00 EA	560	35,255	50,000	-	5,184	-	4,521.96 /EA	90,439	9,895.70 /EA	197,914
						10" HDPE pipe, excav/backfill included	400.00 LF	192	15,494	4,400	-	8,744	-	71.60 /LF	28,639	155.90 /LF	62,358
						10" HDPE Ell, 45	45.00 ea	138	11,149	4,200	-	6,292	-	480.90 /ea	21,640	1,048.01 /ea	47,161
						10" HDPE tee	40.00 ea	178	14,381	7,887	-	8,116	-	759.60 /ea	30,384	1,657.68 /ea	66,307
						10" HDPE wye	40.00 ea	178	14,381	11,929	-	8,116	-	860.64 /ea	34,425	1,881.65 /ea	75,266
						10" HDPE flange	200.00 ea	479	38,655		-	9,109	-	238.82 /ea	47,764	515.36 /ea	103,073
						10" steel blind flange	45.00 ea	52	4,231		-	2,388	-	147.07 /ea	6,618	319.19 /ea	14,364
						10" Bolt & Gasket Kits, SS	200.00 ea	440	35,110	14,400	-	-	-	247.55 /ea	49,510	536.00 /ea	107,200
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	60.00 ea		-	431,280	-	-	-	7,188.00 /ea	431,280	15,933.11 /ea	955,987
						Install Pinch valve, iron body, Flgd, 10"	60.00 ea	240	19,151	-	-	-	-	319.18 /ea	19,151	684.37 /ea	41,062
						33.00.09.10 Buried Pipe, HDPE, 10"	**400.00 LF**	**2,458**	**187,807**	**524,096**		**47,949**		**1,899.63 /LF**	**759,852**	**4,176.73 /LF**	**1,670,691**

BID FORM SUMMARY

Project type: Water
Job Size: 26,930 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-2 Orange Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.00.09.0009 Access Way and Cleaning Structure Vaults	20.00 EA	2,458	187,807	524,096		47,949		37,992.58 /EA	759,852	83,534.57 /EA	1,670,691
						33.07 Buried Process Pipe, HDPE	400.00 LF	2,458	187,807	524,096		47,949		1,899.63 /LF	759,852	4,176.73 /LF	1,670,691
						33.0 Utilities	*1.00* LS	2,458	187,807	524,096		47,949		759,851.55 /LS	759,852	1,670,691.38 /LS	1,670,691
						07.0 Access Way and Cleaning Structure Vaults	20.00 EA	2,458	187,807	524,096		47,949		37,992.58 /EA	759,852	83,534.57 /EA	1,670,691
	08.0					Traffic Control											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	26,930.00 LF		-	-	673,250	-		25.00 /LF	673,250	53.60 /LF	1,443,533
						33.00.01.40 Buried Pipe, Traffic Control	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
						33.00.01.0009 Traffic Control Allowance	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
						33.89 Pipeline - Traffic Control	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
						33.0 Utilities	*1.00* LS				673,250			673,250.00 /LS	673,250	1,443,533.44 /LS	1,443,533
						08.0 Traffic Control	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	21.00 EA		-	-	315,000	-		15,000.00 /EA	315,000	33,661.90 /EA	706,900
						26.00.99.00 Electrical, Other	21.00 EA				315,000			15,000.00 /EA	315,000	33,661.90 /EA	706,900
						26.00.99.0005 Replace Traffic Loops 3 Intersections	21.00 EA				315,000			15,000.00 /EA	315,000	33,661.90 /EA	706,900
						26.10 Site Electrical	*1.00* LS				315,000			315,000.00 /LS	315,000	706,899.97 /LS	706,900
						26.0 Electrical Work	*1.00* LS				315,000			315,000.00 /LS	315,000	706,899.97 /LS	706,900
						09.0 Traffic Loop Replacement Allowance	21.00 EA				315,000			15,000.00 /EA	315,000	33,661.90 /EA	706,900
						01.0 Las Virgenes Concentrate No. 1-2 Orange Line	*1.00* LS	31,535	2,168,508	3,752,814	1,729,897	1,097,712	273,960	9,022,891.53 /LS	9,022,892	19,628,571.07 /LS	19,628,571

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,168,508		31,535.335 hrs		80.524	11.05%	
Material	3,752,814				139.354	19.12%	
Subcontract	1,729,897				64.237	8.81%	
Equipment	1,097,712		20,838.279 hrs		40.762	5.59%	
Other	273,960				10.173	1.40%	
Subtotal Raw Costs	**9,022,891**	**9,022,891**			**335.050**	**45.97%**	**45.97%**
Material Sales & Use Tax - %	272,079			7.250 %	10.103	1.39%	
Construction Equip Tax - %	79,584			7.250 %	2.955	0.41%	
Total Taxes	**351,663**	**9,374,554**			**348.108**	**1.79%**	**47.76%**
Location Adj. Factor	1,032,374			11.800 %	38.335	5.26%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,032,374**	**10,406,928**			**386.444**	**5.26%**	**53.02%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	78,750			25.000 %	2.924	0.40%	
Site/Civil I,OH&P	136,978			10.000 %	5.086	0.70%	
Buried Piping I,OH&P	1,100,716			15.000 %	40.873	5.61%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,316,444**	**11,723,372**			**435.328**	**6.71%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**11,723,372**			**435.328**		**59.73%**
Total Cost To Prime Contractor		**11,723,372**			**435.328**		**59.73%**
General Conditions	1,172,337			10.000 %	43.533	5.97%	
Mobilization/Demobilization	468,935			4.000 %	17.413	2.39%	
Subtotal Indirect Costs	**1,641,272**	**13,364,644**			**496.273**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,336,465			10.000 %	49.627	6.81%	
Prime Contractor Profit	668,232			5.000 %	24.814	3.40%	
Bonds & Insurance	333,515			2.170 %	12.385	1.70%	
Subtotal OH&P	**2,338,212**	**15,702,856**			**583.099**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**15,702,856**			**583.099**		**80.00%**
Design Contingency	3,925,714			25.000 %	145.775	20.00%	
Subtotal Contingency	**3,925,714**	**19,628,570**			**728.874**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**19,628,570**			**728.874**		**100.00%**
Total Prime Contractor Costs		**19,628,570**			**728.874**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**19,628,570**			**728.874**		**100.00%**
Total Contractor Costs w/ OFCI		**19,628,570**			**728.874**		**100.00%**
Total Construction Cost		**19,628,570**			**728.874**		**100.00%**
Total		***19,628,570***			***728.874***		

BID FORM SUMMARY

Project type: Water
Job Size: 26,930 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-2 Orange Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 1-2 Orange Line**											
	01.0				10" HDPE Concentrate Line											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE	26,930.00 LF	18,807	1,361,735	2,513,988	413,954	924,234	271,140	203.68 /LF	5,485,052	444.78 /LF	11,977,925
					33.07 Buried Process Pipe, HDPE	26,930.00 LF	18,807	1,361,735	2,513,988	413,954	924,234	271,140	203.68 /LF	5,485,052	444.78 /LF	11,977,925
					33.0 Utilities	*1.00* LS	18,807	1,361,735	2,513,988	413,954	924,234	271,140	5,485,052.18 /LS	5,485,052	11,977,924.51 /LS	11,977,925
					01.0 10" HDPE Concentrate Line	26,930.00 LF	18,807	1,361,735	2,513,988	413,954	924,234	271,140	203.68 /LF	5,485,052	444.78 /LF	11,977,925
	02.0				Highway Crossings at 101 and 23											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.07.0002	Hwy 101 Bridge Crossing Allowance	300.00 LF	33	2,663	16,200	150,000	1,503		567.89 /LF	170,366	1,221.90 /LF	366,570
				33.60.02.0002	Crossing at Highway 23, 24" Casing with 10" Carrier	160.00 LF	479	34,638	73,427	2,820	20,878	2,820	841.15 /LF	134,584	1,844.18 /LF	295,069
					33.07 Buried Process Pipe, HDPE	460.00 LF	512	37,301	89,627	152,820	22,381	2,820	662.93 /LF	304,950	1,438.34 /LF	661,638
					33.0 Utilities	*1.00* LS	512	37,301	89,627	152,820	22,381	2,820	304,949.57 /LS	304,950	661,638.43 /LS	661,638
					02.0 Highway Crossings at 101 and 23	460.00 LF	512	37,301	89,627	152,820	22,381	2,820	662.93 /LF	304,950	1,438.34 /LF	661,638
	03.0				Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0003	Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.63 /LF	75,032
					33.07 Buried Process Pipe, HDPE	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.63 /LF	75,032
					33.0 Utilities	*1.00* LS	274	9,159	1,200	19,250	5,169		34,778.67 /LS	34,779	75,031.66 /LS	75,032
					03.0 Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.63 /LF	75,032
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,881.84 /EA	48,173
					33.07 Buried Process Pipe, HDPE	175.00 LF	70	5,602	5,840	10,500	318		127.20 /LF	22,259	275.27 /LF	48,173
					33.0 Utilities	*1.00* LS	70	5,602	5,840	10,500	318		22,259.14 /LS	22,259	48,172.85 /LS	48,173
					04.0 2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,881.84 /EA	48,173
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	7.00 EA	283	22,185	24,889		10,892		8,280.81 /EA	57,966	18,125.70 /EA	126,880
					33.07 Buried Process Pipe, HDPE	175.00 LF	283	22,185	24,889		10,892		331.23 /LF	57,966	725.03 /LF	126,880
					33.0 Utilities	*1.00* LS	283	22,185	24,889		10,892		57,965.67 /LS	57,966	126,879.87 /LS	126,880
					05.0 8" Blow Off Assembly	7.00 EA	283	22,185	24,889		10,892		8,280.81 /EA	57,966	18,125.70 /EA	126,880
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	14,961.00 Sy	1,235	17,478	31,175	145,123	24,614		14.60 /Sy	218,389	30.84 /Sy	461,379
				32.40.02.0008	Trench Paving	14,961.11 SY	7,897	527,242	561,999		62,154		76.96 /SY	1,151,396	164.19 /SY	2,456,420
					32.12 Paving	14,961.11 SY	9,132	544,719	593,174	145,123	86,769		91.56 /SY	1,369,785	195.03 /SY	2,917,799
					32.0 Exterior Improvements	14,961.11 SY	9,132	544,719	593,174	145,123	86,769		91.56 /SY	1,369,785	195.03 /SY	2,917,799
					06.0 Asphalt Trench Repair	26,930.00 LF	9,132	544,719	593,174	145,123	86,769		50.86 /LF	1,369,785	108.35 /LF	2,917,799
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	20.00 EA	2,458	187,807	524,096		47,949		37,992.58 /EA	759,852	83,534.57 /EA	1,670,691
					33.07 Buried Process Pipe, HDPE	400.00 LF	2,458	187,807	524,096		47,949		1,899.63 /LF	759,852	4,176.73 /LF	1,670,691
					33.0 Utilities	*1.00* LS	2,458	187,807	524,096		47,949		759,851.55 /LS	759,852	1,670,691.38 /LS	1,670,691
					07.0 Access Way and Cleaning Structure Vaults	20.00 EA	2,458	187,807	524,096		47,949		37,992.58 /EA	759,852	83,534.57 /EA	1,670,691
	08.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
					33.89 Pipeline - Traffic Control	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
					33.0 Utilities	*1.00* LS				673,250			673,250.00 /LS	673,250	1,443,533.44 /LS	1,443,533
					08.0 Traffic Control	26,930.00 LF				673,250			25.00 /LF	673,250	53.60 /LF	1,443,533
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	21.00 EA				315,000			15,000.00 /EA	315,000	33,661.90 /EA	706,900
					26.10 Site Electrical	*1.00* LS				315,000			315,000.00 /LS	315,000	706,899.97 /LS	706,900
					26.0 Electrical Work	*1.00* LS				315,000			315,000.00 /LS	315,000	706,899.97 /LS	706,900
					09.0 Traffic Loop Replacement Allowance	21.00 EA				315,000			15,000.00 /EA	315,000	33,661.90 /EA	706,900
					01.0 Las Virgenes Concentrate No. 1-2 Orange Line	*1.00* LS	31,535	2,168,508	3,752,814	1,729,897	1,097,712	273,960	**9,022,891.53 /LS**	9,022,892	**19,628,571.07 /LS**	19,628,571

BID FORM SUMMARY

Project type: Water
Job Size: 26,930 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-2 Orange Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,168,508		31,535.335 hrs		80.524	11.05%	
Material	3,752,814				139.354	19.12%	
Subcontract	1,729,897				64.237	8.81%	
Equipment	1,097,712		20,838.279 hrs		40.762	5.59%	
Other	273,960				10.173	1.40%	
Subtotal Raw Costs	**9,022,891**	**9,022,891**			**335.050**	**45.97%**	**45.97%**
Material Sales & Use Tax - %	272,079			7.250 %	10.103	1.39%	
Construction Equip Tax - %	79,584			7.250 %	2.955	0.41%	
Total Taxes	**351,663**	**9,374,554**			**348.108**	**1.79%**	**47.76%**
Location Adj. Factor	1,032,374			11.800 %	38.335	5.26%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,032,374**	**10,406,928**			**386.444**	**5.26%**	**53.02%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	78,750			25.000 %	2.924	0.40%	
Site/Civil I,OH&P	136,978			10.000 %	5.086	0.70%	
Buried Piping I,OH&P	1,100,716			15.000 %	40.873	5.61%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,316,444**	**11,723,372**			**435.328**	**6.71%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**11,723,372**			**435.328**		**59.73%**
Total Cost To Prime Contractor		**11,723,372**			**435.328**		**59.73%**
General Conditions	1,172,337			10.000 %	43.533	5.97%	
Mobilization/Demobilization	468,935			4.000 %	17.413	2.39%	
Subtotal Indirect Costs	**1,641,272**	**13,364,644**			**496.273**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,336,465			10.000 %	49.627	6.81%	
Prime Contractor Profit	668,232			5.000 %	24.814	3.40%	
Bonds & Insurance	333,515			2.170 %	12.385	1.70%	
Subtotal OH&P	**2,338,212**	**15,702,856**			**583.099**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**15,702,856**			**583.099**		**80.00%**
Design Contingency	3,925,714			25.000 %	145.775	20.00%	
Subtotal Contingency	**3,925,714**	**19,628,570**			**728.874**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**19,628,570**			**728.874**		**100.00%**
Total Prime Contractor Costs		**19,628,570**			**728.874**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**19,628,570**			**728.874**		**100.00%**
Total Contractor Costs w/ OFCI		**19,628,570**			**728.874**		**100.00%**
Total Construction Cost		**19,628,570**			**728.874**		**100.00%**
Total		***19,628,570***			***728.874***		

Reach 1

No. 1-3 Light Blue Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 1-3 Light Bl | Estimator: John DeWolf
Job Size: 22,680 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 1-3 Light Blue Line***			
	01.0	**10" HDPE Concentrate Line**	**22,680.00 LF**	**453.52 /LF**	**10,285,893**
	02.0	**Crossing Highway 101 and 23 24" Casing with 10" Carrier**	**410.00 LF**	**1,786.96 /LF**	**732,652**
	03.0	**Bore at Flood Channel 24" Casing with 10" Carrier**	**50.00 LF**	**1,500.15 /LF**	**75,008**
	04.0	**2" CARV Assembly**	**10.00 EA**	**6,879.63 /EA**	**68,796**
	05.0	**8" Blow Off Assembly**	**10.00 EA**	**18,119.95 /EA**	**181,199**
	06.0	**Asphalt Trench Repair**	**22,680.00 LF**	**108.31 /LF**	**2,456,495**
	07.0	**Access Way and Cleaning Structure Vaults**	**17.00 EA**	**85,909.19 /EA**	**1,460,456**
	08.0	**Traffic Control**	**22,680.00 LF**	**53.59 /LF**	**1,215,326**
	09.0	**Traffic Loop Replacement Allowance**	**10.00 EA**	**33,651.48 /EA**	**336,515**
	01.0 Las Virgenes Concentrate No. 1-3 Light Blue Line		***1.00 LS***	***16,812,340.71 /LS***	***16,812,341***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	4,076,616		27,733.128 hrs		179.745	24.25%	
Material	7,282,898				321.115	43.32%	
Subcontract	2,713,219				119.630	16.14%	
Equipment	2,166,826		17,975.986 hrs		95.539	12.89%	
Other	572,782				25.255	3.41%	
Total Prime Contractor Costs	**16,812,341**	**16,812,341**			**741.285**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**16,812,341**			**741.285**		**100.00%**
Total		***16,812,341***			***741.285***		

BID FORM SUMMARY

Project type: Water
Job Size: 22,680 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-3 Light Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 1-3 Light Blue Line**											
	01.0					10" HDPE Concentrate Line											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	**/lf**		**/lf**	
						Traffic Control, Labor per Day	114.00 day	**1,824**	**106,379**	-	-	-	-	933.15 /day	**106,379**	2,000.15 /day	**228,017**
						Trench Box, 8' x 24' x 10'	5.50 mo		-	-	-	**12,650**	-	2,300.00 /mo	**12,650**	5,096.64 /mo	**28,032**
						Dedicated Fire / Safety Monitor	456.00 hr	**456**	**26,595**	-	-	-	-	58.32 /hr	**26,595**	125.01 /hr	**57,004**
						25 tn Rough Terrain (per day)	114.00 day	**912**	**72,160**	-	-	**134,702**	-	1,814.58 /day	**206,863**	3,975.10 /day	**453,162**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,544.75 CY	**1,813**	**124,580**	-	-	**85,565**	-	12.70 /CY	**210,146**	27.60 /CY	**456,636**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	4,774.32 cy	**3,172**	**208,213**	-	-	**142,511**	-	73.46 /cy	**350,724**	159.62 /cy	**762,085**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	11,745.60 cy	**1,813**	**136,648**	-	-	**162,798**	-	25.49 /cy	**299,446**	55.65 /cy	**653,645**
						Pipe zone material	4,774.32 cy		-	**133,681**	-	-	-	28.00 /cy	**133,681**	62.05 /cy	**296,228**
						Pipe bedding material	1,445.78 cy		-	**40,482**	-	-	-	28.00 /cy	**40,482**	62.05 /cy	**89,705**
						Haul spoils, offsite, 10 - 20 miles	18,037.61 cy		-	-	**270,564**	-	-	15.00 /cy	**270,564**	32.15 /cy	**579,936**
						Dump fees, trench spoils	18,076.00 cy		-	-	-	-	**271,140**	15.00 /cy	**271,140**	30.38 /cy	**549,176**
						10" HDPE pipe, excav/backfill not included	22,680.00 LF	**5,438**	**438,881**	**1,228,349**	-	**247,685**	-	84.43 /LF	**1,914,915**	185.69 /LF	**4,211,503**
						10" HDPE Ell, 90	5.00 ea	**16**	**1,293**	**953**	-	**730**	-	595.28 /ea	**2,976**	1,300.35 /ea	**6,502**
						10" HDPE Ell, 45	24.00 ea	**74**	**5,946**	**2,240**	-	**3,356**	-	480.90 /ea	**11,542**	1,047.68 /ea	**25,144**
						Field weld fusion joints, Subcontracted (S), 10"	1,192.00 ea		-	-	**107,816**	-	-	90.45 /ea	**107,816**	193.87 /ea	**231,097**
						CLSM, pipe encasement	11,745.60 cy		-	**704,736**	-	-	-	60.00 /cy	**704,736**	132.96 /cy	**1,561,647**
						Pipe Marking, Detection Tape	22,680.00 lf	**227**	**18,378**	**2,948**	-	-	-	0.94 /lf	**21,327**	2.02 /lf	**45,926**
						Pipe Marking, Copper Wire	22,680.00 lf	**227**	**18,378**	**4,990**	-	-	-	1.03 /lf	**23,368**	2.22 /lf	**50,449**
						33.00.09.10 Buried Pipe, HDPE, 10"	**22,680.00 LF**	**15,972**	**1,157,451**	**2,118,379**	**378,381**	**789,998**	**271,140**	**207.91 /LF**	**4,715,349**	**453.52 /LF**	**10,285,893**
						33.00.09.0001 10" HDPE	**22,680.00 LF**	**15,972**	**1,157,451**	**2,118,379**	**378,381**	**789,998**	**271,140**	**207.91 /LF**	**4,715,349**	**453.52 /LF**	**10,285,893**
						33.07 Buried Process Pipe, HDPE	**22,680.00 LF**	**15,972**	**1,157,451**	**2,118,379**	**378,381**	**789,998**	**271,140**	**207.91 /LF**	**4,715,349**	**453.52 /LF**	**10,285,893**
						33.0 Utilities	***1.00*** **LS**	**15,972**	**1,157,451**	**2,118,379**	**378,381**	**789,998**	**271,140**	**4,715,348.91 /LS**	**4,715,349**	**10,285,893.12 /LS**	**10,285,893**
						01.0 10" HDPE Concentrate Line	**22,680.00 LF**	**15,972**	**1,157,451**	**2,118,379**	**378,381**	**789,998**	**271,140**	**207.91 /LF**	**4,715,349**	**453.52 /LF**	**10,285,893**
	02.0					Crossing Highway 101 and 23 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0002		Crossing at Highway 101 and 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	8.00 day	**128**	**7,465**	-	-	-	-	933.15 /day	**7,465**	2,000.15 /day	**16,001**
						Trench Box, 8' x 24' x 10'	0.50 mo		-	-	-	**1,150**	-	2,300.00 /mo	**1,150**	5,096.64 /mo	**2,548**
						Dedicated Fire / Safety Monitor	32.00 hr	**32**	**1,866**	-	-	-	-	58.32 /hr	**1,866**	125.01 /hr	**4,000**
						Horizontal boring, 24" diameter casing spacer	25.00 ea		-	**1,250**	-	-	-	50.00 /ea	**1,250**	110.80 /ea	**2,770**
						Horizontal boring, 24" diameter end seals	2.00 ea		-	**500**	-	-	-	250.00 /ea	**500**	553.99 /ea	**1,108**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	478.83 CY	**129**	**8,880**	-	-	**6,099**	-	31.28 /CY	**14,979**	67.98 /CY	**32,549**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	163.08 cy	**226**	**14,841**	-	-	**10,158**	-	153.30 /cy	**25,000**	333.10 /cy	**54,321**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	283.50 cy	**129**	**9,740**	-	-	**11,603**	-	75.28 /cy	**21,343**	164.33 /cy	**46,589**
						Pipe zone material	163.08 cy		-	**4,566**	-	-	-	28.00 /cy	**4,566**	62.05 /cy	**10,119**
						Pipe bedding material	36.33 cy		-	**1,017**	-	-	-	28.00 /cy	**1,017**	62.05 /cy	**2,254**
						Haul spoils, offsite, 10 - 20 miles	655.43 cy		-	-	**9,831**	-	-	15.00 /cy	**9,831**	32.15 /cy	**21,073**
						Dump fees, trench spoils	777.00 cy		-	-	-	-	**11,655**	15.00 /cy	**11,655**	30.38 /cy	**23,606**
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	410.00 LF	**388**	**31,282**	**140,027**	-	**17,654**	-	460.89 /LF	**188,963**	1,015.76 /LF	**416,462**
						10" HDPE pipe, excav/backfill not included	410.00 lf	**45**	**3,640**	**22,206**	-	**2,054**	-	68.05 /lf	**27,899**	150.14 /lf	**61,559**
						CLSM, pipe encasement	283.50 cy		-	**17,010**	-	-	-	60.00 /cy	**17,010**	132.96 /cy	**37,693**
						33.00.09.10 Buried Pipe, HDPE, 10"	**410.00 LF**	**1,077**	**77,714**	**186,576**	**9,831**	**48,719**	**11,655**	**815.84 /LF**	**334,495**	**1,786.96 /LF**	**732,652**
						33.60.02.0002 Crossing at Highway 101 and 23, 24" Casing with 10" Carrier	**410.00 LF**	**1,077**	**77,714**	**186,576**	**9,831**	**48,719**	**11,655**	**815.84 /LF**	**334,495**	**1,786.96 /LF**	**732,652**
						33.07 Buried Process Pipe, HDPE	**410.00 LF**	**1,077**	**77,714**	**186,576**	**9,831**	**48,719**	**11,655**	**815.84 /LF**	**334,495**	**1,786.96 /LF**	**732,652**
						33.0 Utilities	***1.00*** **LS**	**1,077**	**77,714**	**186,576**	**9,831**	**48,719**	**11,655**	**334,495.49 /LS**	**334,495**	**732,651.98 /LS**	**732,652**
						02.0 Crossing Highway 101 and 23 24" Casing with 10" Carrier	**410.00 LF**	**1,077**	**77,714**	**186,576**	**9,831**	**48,719**	**11,655**	**815.84 /LF**	**334,495**	**1,786.96 /LF**	**732,652**
	03.0					Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0003		Bore at Flood Channel 24" Casing with 10" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 24" x 10"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,147.08 /ea	**13,147**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,573.54 /ea	**6,574**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,573.52 /ea	**6,574**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,286.74 /ea	**3,287**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 24" diameter casing	50.00 lf	**160**		-	**19,250**	-	-	385.00 /lf	**19,250**	825.22 /lf	**41,261**
						Horizontal boring, 24" diameter casing spacer	3.00 ea		-	**150**	-	-	-	50.00 /ea	**150**	110.80 /ea	**332**
						Horizontal boring, 24" diameter end seals	2.00 ea		-	**500**	-	-	-	250.00 /ea	**500**	553.99 /ea	**1,108**
						10" HDPE pipe, excav/backfill not included	50.00 LF	**6**	**444**	**550**	-	**250**	-	24.89 /LF	**1,244**	54.50 /LF	**2,725**
						33.60.02.36 Pipeline Specials, Jack and Bore, 24" x 10"	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.15 /LF**	**75,008**
						33.60.02.0003 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.15 /LF**	**75,008**
						33.07 Buried Process Pipe, HDPE	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.15 /LF**	**75,008**
						33.0 Utilities	***1.00*** **LS**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**34,778.67 /LS**	**34,779**	**75,007.50 /LS**	**75,008**
						03.0 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.15 /LF**	**75,008**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	10.00 EA		-	-	**15,000**	-		1,500.00 /EA	**15,000**	3,215.15 /EA	**32,151**
						2" Corporation stop, thrd	10.00 ea	**12**	**940**		-	**454**	-	139.45 /ea	**1,395**	302.20 /ea	**3,022**

BID FORM SUMMARY

Project type: Water
Job Size: 22,680 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-3 Light Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Ball valve, bronze, screwed, 2"	10.00 ea	4	319	640	-	-	-	95.92 /ea	959	210.23 /ea	2,102
						2" copper pipe, K-soft	250.00 LF	18	1,396	2,646	-	-	-	16.17 /LF	4,042	35.42 /LF	8,855
						2" copper, ELL, 90	20.00 ea	13	1,037	257	-	-	-	64.71 /ea	1,294	139.63 /ea	2,793
						Install Air & Vacuum relief valve, 2"	10.00 ea	24	1,915	-	-	-	-	191.51 /ea	1,915	410.49 /ea	4,105
						FURNISH Air & Vacuum relief valve, iron body, 2"	10.00 ea		-	3,750	-	-	-	375.00 /ea	3,750	830.98 /ea	8,310
						Double Strap Saddle, 10" x 2"	10.00 ea	30	2,394	1,050	-	-	-	344.39 /ea	3,444	745.79 /ea	7,458
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**10.00 EA**	100	8,002	8,342	15,000	454		**3,179.88 /EA**	31,799	**6,879.63 /EA**	**68,796**
						33.20.08.0005 2" CARV Assembly	**10.00 EA**	100	8,002	8,342	15,000	454		**3,179.88 /EA**	31,799	**6,879.63 /EA**	**68,796**
						33.07 Buried Process Pipe, HDPE	**250.00 LF**	100	8,002	8,342	15,000	454		**127.20 /LF**	31,799	**275.19 /LF**	**68,796**
						33.0 Utilities	***1.00* LS**	100	8,002	8,342	15,000	454		**31,798.77 /LS**	31,799	**68,796.27 /LS**	**68,796**
						04.0 2" CARV Assembly	**10.00 EA**	100	8,002	8,342	15,000	454		**3,179.88 /EA**	31,799	**6,879.63 /EA**	**68,796**
	05.0					**8" Blow Off Assembly**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.01.0004		**8" Blow Off Assembly**											
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						8" pipe, DI, MJ, excav/bkfill included	250.00 LF	120	9,684	13,053	-	5,465	-	112.81 /LF	28,202	247.16 /LF	61,791
						8" DI, MJ, Ell, 90	10.00 ea	30	2,421	3,438	-	1,366	-	722.48 /ea	7,225	1,583.42 /ea	15,834
						8" DI, MJ, Ell, 45	10.00 ea	30	2,421	2,937	-	1,366	-	672.43 /ea	6,724	1,472.51 /ea	14,725
						8" DI, RJ, cap or plug	10.00 ea	15	1,211	1,562	-	683	-	345.52 /ea	3,455	756.87 /ea	7,569
						10" HDPE tee	10.00 ea	45	3,595	1,972	-	2,029	-	759.60 /ea	7,596	1,657.15 /ea	16,572
						10" HDPE reducer	10.00 ea	29	2,348	1,956	-	1,325	-	562.93 /ea	5,629	1,230.39 /ea	12,304
						10" HDPE flange	10.00 ea	24	1,933		-	455	-	238.82 /ea	2,388	515.20 /ea	5,152
						Install gate valve, Flgd, DIP, 8"	10.00 ea	33	2,663	-	-	1,503	-	416.61 /ea	4,166	903.86 /ea	9,039
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	10.00 EA		-	6,190	-	-	-	619.00 /EA	6,190	1,371.66 /EA	13,717
						Valve accessory, extension stem	50.00 lf	5	399	250	-	-	-	12.98 /lf	649	28.18 /lf	1,409
						Valve accessory, stem couplings	10.00 set	3	263	200	-	-	-	46.33 /set	463	100.76 /set	1,008
						CI Valve Box & Cover, w/ Concrete Collar included	10.00 ea	30	2,421	1,500	-	1,366	-	528.73 /ea	5,287	1,154.08 /ea	11,541
						Meter Box	10.00 ea	40	2,333	2,500	-	-	-	483.29 /ea	4,833	1,054.02 /ea	10,540
						33.20.01.08 Buried Valves, Gate Valves, 8"	**10.00 EA**	404	31,692	35,556		15,560		**8,280.81 /EA**	82,808	**18,119.95 /EA**	**181,199**
						33.20.01.0004 8" Blow Off Assembly	**10.00 EA**	404	31,692	35,556		15,560		**8,280.81 /EA**	82,808	**18,119.95 /EA**	**181,199**
						33.07 Buried Process Pipe, HDPE	**250.00 LF**	404	31,692	35,556		15,560		**331.23 /LF**	82,808	**724.80 /LF**	**181,199**
						33.0 Utilities	***1.00* LS**	404	31,692	35,556		15,560		**82,808.11 /LS**	82,808	**181,199.46 /LS**	**181,199**
						05.0 8" Blow Off Assembly	**10.00 EA**	404	31,692	35,556		15,560		**8,280.81 /EA**	82,808	**18,119.95 /EA**	**181,199**
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	45,360.00 lf	698		-	90,720	-	-	2.00 /lf	90,720	4.19 /lf	189,916
						Asphalt Milling, 6" Depth	12,600.00 Sy	126		-	31,500	-	-	2.50 /Sy	31,500	5.23 /Sy	65,943
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	2,100.00 cy	216	14,716	-	-	20,726	-	16.88 /cy	35,442	36.05 /cy	75,698
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	2,100.00 cy		-	26,250	-	-	-	12.50 /cy	26,250	27.07 /cy	56,856
						02.01.01.01 General Site Demolition, Asphalt Pavement	**12,600.00 Sy**	1,040	14,716	26,250	122,220	20,726		**14.60 /Sy**	183,912	**30.83 /Sy**	**388,413**
						02.01.01.0007 Demo Asphalt	**12,600.00 Sy**	1,040	14,716	26,250	122,220	20,726		**14.60 /Sy**	183,912	**30.83 /Sy**	**388,413**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	12,600.00 SY	40	2,893	11,214	-	2,161	-	1.29 /SY	16,267	2.78 /SY	35,024
						Fog seal, sealcoating, prepare and clean surface for sealcoating	12,600.00 sy	35	2,139	-	-	501	-	0.21 /sy	2,641	0.44 /sy	5,564
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	12,600.00 sy	96	6,827	144,270	-	7,374	-	12.58 /sy	158,471	27.20 /sy	342,743
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	12,600.00 sy	6,415	428,280	302,400	-	39,724	-	61.14 /sy	770,404	129.97 /sy	1,637,593
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	22,680.00 LF	65	3,895	15,422	-	2,585	-	0.97 /LF	21,903	2.08 /LF	47,158
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**12,600.00 SY**	6,651	444,034	473,306		52,345		**76.96 /SY**	969,686	**164.13 /SY**	**2,068,082**
						32.40.02.0008 Trench Paving	**12,600.00 SY**	6,651	444,034	473,306		52,345		**76.96 /SY**	969,686	**164.13 /SY**	**2,068,082**
						32.12 Paving	**12,600.00 SY**	7,691	458,751	499,556	122,220	73,071		**91.56 /SY**	1,153,598	**194.96 /SY**	**2,456,495**
						32.0 Exterior Improvements	**12,600.00 SY**	7,691	458,751	499,556	122,220	73,071		**91.56 /SY**	1,153,598	**194.96 /SY**	**2,456,495**
						06.0 Asphalt Trench Repair	**22,680.00 LF**	7,691	458,751	499,556	122,220	73,071		**50.86 /LF**	1,153,598	**108.31 /LF**	**2,456,495**
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	17.00 EA	476	29,967	42,500	-	4,407	-	4,521.96 /EA	76,873	9,892.56 /EA	168,174
						10" HDPE pipe, excav/backfill included	341.00 LF	164	13,209	3,751	-	7,455	-	71.60 /LF	24,415	155.85 /LF	53,143
						10" HDPE Ell, 45	68.00 ea	209	16,847	6,346	-	9,508	-	480.90 /ea	32,701	1,047.68 /ea	71,242
						10" HDPE tee	34.00 ea	151	12,224	6,704	-	6,899	-	759.60 /ea	25,826	1,657.15 /ea	56,343
						10" HDPE wye	34.00 ea	151	12,224	10,139	-	6,899	-	860.64 /ea	29,262	1,881.05 /ea	63,956
						10" HDPE flange	170.00 ea	407	32,857		-	7,742	-	238.82 /ea	40,599	515.20 /ea	87,584
						10" steel blind flange	68.00 ea	79	6,393		-	3,608	-	147.07 /ea	10,001	319.09 /ea	21,698
						10" Bolt & Gasket Kits, SS	170.00 ea	374	29,844	12,240	-	-	-	247.55 /ea	42,084	535.83 /ea	91,091
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	51.00 ea		-	366,588	-	-	-	7,188.00 /ea	366,588	15,928.12 /ea	812,334
						Install Pinch valve, iron body, Flgd, 10"	51.00 ea	204	16,278	-	-	-	-	319.18 /ea	16,278	684.15 /ea	34,892
						33.00.09.10 Buried Pipe, HDPE, 10"	**341.00 LF**	2,216	169,842	448,269		46,517		**1,949.05 /LF**	664,628	**4,282.86 /LF**	**1,460,456**
						33.00.09.0009 Access Way and Cleaning Structure Vaults	**17.00 EA**	2,216	169,842	448,269		46,517		**39,095.74 /EA**	664,628	**85,909.19 /EA**	**1,460,456**
						33.07 Buried Process Pipe, HDPE	**341.00 LF**	2,216	169,842	448,269		46,517		**1,949.05 /LF**	664,628	**4,282.86 /LF**	**1,460,456**
						33.0 Utilities	***1.00* LS**	2,216	169,842	448,269		46,517		**664,627.63 /LS**	664,628	**1,460,456.20 /LS**	**1,460,456**
						07.0 Access Way and Cleaning Structure Vaults	**17.00 EA**	2,216	169,842	448,269		46,517		**39,095.74 /EA**	664,628	**85,909.19 /EA**	**1,460,456**
	08.0					**Traffic Control**											

BID FORM SUMMARY

Project type: Water
Job Size: 22,680 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-3 Light Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	22,680.00 LF		-	-	567,000	-		25.00 /LF	567,000	53.59 /LF	1,215,326
						33.00.01.40 Buried Pipe, Traffic Control	22,680.00 LF				567,000			25.00 /LF	567,000	53.59 /LF	1,215,326
						33.00.01.0009 Traffic Control Allowance	22,680.00 LF				567,000			25.00 /LF	567,000	53.59 /LF	1,215,326
						33.89 Pipeline - Traffic Control	22,680.00 LF				567,000			25.00 /LF	567,000	53.59 /LF	1,215,326
						33.0 Utilities	1.00 LS				567,000			567,000.00 /LS	567,000	1,215,326.01 /LS	1,215,326
						08.0 Traffic Control	22,680.00 LF				567,000			25.00 /LF	567,000	53.59 /LF	1,215,326
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	10.00 EA		-	-	150,000	-		15,000.00 /EA	150,000	33,651.48 /EA	336,515
						26.00.99.00 Electrical, Other	10.00 EA				150,000			15,000.00 /EA	150,000	33,651.48 /EA	336,515
						26.00.99.0005 Replace Traffic Loops 3 Intersections	10.00 EA				150,000			15,000.00 /EA	150,000	33,651.48 /EA	336,515
						26.10 Site Electrical	1.00 LS				150,000			150,000.00 /LS	150,000	336,514.82 /LS	336,515
						26.0 Electrical Work	1.00 LS				150,000			150,000.00 /LS	150,000	336,514.82 /LS	336,515
						09.0 Traffic Loop Replacement Allowance	10.00 EA				150,000			15,000.00 /EA	150,000	33,651.48 /EA	336,515
						01.0 Las Virgenes Concentrate No. 1-3 Light Blue Line	**1.00 LS**	27,733	1,912,612	3,297,879	1,261,682	979,488	282,795	**7,734,455.95 /LS**	7,734,456	**16,812,340.71 /LS**	16,812,341

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,912,612		27,733.128 hrs		84.330	11.38%	
Material	3,297,879				145.409	19.62%	
Subcontract	1,261,682				55.630	7.50%	
Equipment	979,488		17,975.986 hrs		43.187	5.83%	
Other	282,795				12.469	1.68%	
Subtotal Raw Costs	**7,734,456**	**7,734,456**			**341.025**	**46.00%**	**46.00%**
Material Sales & Use Tax - %	239,096			7.250 %	10.542	1.42%	
Construction Equip Tax - %	71,013			7.250 %	3.131	0.42%	
Total Taxes	**310,109**	**8,044,565**			**354.699**	**1.84%**	**47.85%**
Location Adj. Factor	879,296			11.800 %	38.770	5.23%	
Productivity Adjustment							
Subtotal Adj. Factors	**879,296**	**8,923,861**			**393.468**	**5.23%**	**53.08%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	37,500			25.000 %	1.653	0.22%	
Site/Civil I,OH&P	115,360			10.000 %	5.086	0.69%	
Buried Piping I,OH&P	964,629			15.000 %	42.532	5.74%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,117,489**	**10,041,350**			**442.740**	**6.65%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**10,041,350**			**442.740**		**59.73%**
Total Cost To Prime Contractor		**10,041,350**			**442.740**		**59.73%**
General Conditions	1,004,135			10.000 %	44.274	5.97%	
Mobilization/Demobilization	401,654			4.000 %	17.710	2.39%	
Subtotal Indirect Costs	**1,405,789**	**11,447,139**			**504.724**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,144,714			10.000 %	50.472	6.81%	
Prime Contractor Profit	572,357			5.000 %	25.236	3.40%	
Bonds & Insurance	285,663			2.170 %	12.595	1.70%	
Subtotal OH&P	**2,002,734**	**13,449,873**			**593.028**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**13,449,873**			**593.028**		**80.00%**
Design Contingency	3,362,468			25.000 %	148.257	20.00%	
Subtotal Contingency	**3,362,468**	**16,812,341**			**741.285**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**16,812,341**			**741.285**		**100.00%**
Total Prime Contractor Costs		**16,812,341**			**741.285**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**16,812,341**			**741.285**		**100.00%**
Total Contractor Costs w/ OFCI		**16,812,341**			**741.285**		**100.00%**
Total Construction Cost		**16,812,341**			**741.285**		**100.00%**
Total		***16,812,341***			***741.285***		

BID FORM SUMMARY

Project type: Water
Job Size: 22,680 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-3 Light Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 1-3 Light Blue Line**											
	01.0				10" HDPE Concentrate Line											
		33.0			Utilities											
			33.07		**Buried Process Pipe, HDPE**											
				33.00.09.0001	10" HDPE	22,680.00 LF	15,972	1,157,451	2,118,379	378,381	789,998	271,140	207.91 /LF	4,715,349	453.52 /LF	10,285,893
					33.07 Buried Process Pipe, HDPE	**22,680.00 LF**	15,972	1,157,451	2,118,379	378,381	789,998	271,140	**207.91 /LF**	4,715,349	**453.52 /LF**	**10,285,893**
					33.0 Utilities	*1.00* LS	15,972	1,157,451	2,118,379	378,381	789,998	271,140	4,715,348.91 /LS	4,715,349	10,285,893.12 /LS	10,285,893
					01.0 10" HDPE Concentrate Line	22,680.00 LF	15,972	1,157,451	2,118,379	378,381	789,998	271,140	207.91 /LF	4,715,349	453.52 /LF	10,285,893
	02.0				Crossing Highway 101 and 23 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		**Buried Process Pipe, HDPE**											
				33.60.02.0002	Crossing at Highway 101 and 23, 24" Casing with 10" Carrier	410.00 LF	1,077	77,714	186,576	9,831	48,719	11,655	815.84 /LF	334,495	1,786.96 /LF	732,652
					33.07 Buried Process Pipe, HDPE	**410.00 LF**	1,077	77,714	186,576	9,831	48,719	11,655	**815.84 /LF**	334,495	**1,786.96 /LF**	**732,652**
					33.0 Utilities	*1.00* LS	1,077	77,714	186,576	9,831	48,719	11,655	334,495.49 /LS	334,495	732,651.98 /LS	732,652
					02.0 Crossing Highway 101 and 23 24" Casing with 10" Carrier	410.00 LF	1,077	77,714	186,576	9,831	48,719	11,655	815.84 /LF	334,495	1,786.96 /LF	732,652
	03.0				Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		**Buried Process Pipe, HDPE**											
				33.60.02.0003	Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.15 /LF	75,008
					33.07 Buried Process Pipe, HDPE	**50.00 LF**	274	9,159	1,200	19,250	5,169		**695.57 /LF**	34,779	**1,500.15 /LF**	**75,008**
					33.0 Utilities	*1.00* LS	274	9,159	1,200	19,250	5,169		34,778.67 /LS	34,779	75,007.50 /LS	75,008
					03.0 Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.15 /LF	75,008
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		**Buried Process Pipe, HDPE**											
				33.20.08.0005	2" CARV Assembly	10.00 EA	100	8,002	8,342	15,000	454		3,179.88 /EA	31,799	6,879.63 /EA	68,796
					33.07 Buried Process Pipe, HDPE	**250.00 LF**	100	8,002	8,342	15,000	454		**127.20 /LF**	31,799	**275.19 /LF**	**68,796**
					33.0 Utilities	*1.00* LS	100	8,002	8,342	15,000	454		31,798.77 /LS	31,799	68,796.27 /LS	68,796
					04.0 2" CARV Assembly	10.00 EA	100	8,002	8,342	15,000	454		3,179.88 /EA	31,799	6,879.63 /EA	68,796
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		**Buried Process Pipe, HDPE**											
				33.20.01.0004	8" Blow Off Assembly	10.00 EA	404	31,692	35,556		15,560		8,280.81 /EA	82,808	18,119.95 /EA	181,199
					33.07 Buried Process Pipe, HDPE	**250.00 LF**	404	31,692	35,556		15,560		**331.23 /LF**	82,808	**724.80 /LF**	**181,199**
					33.0 Utilities	*1.00* LS	404	31,692	35,556		15,560		82,808.11 /LS	82,808	181,199.46 /LS	181,199
					05.0 8" Blow Off Assembly	10.00 EA	404	31,692	35,556		15,560		8,280.81 /EA	82,808	18,119.95 /EA	181,199
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		**Paving**											
				02.01.01.0007	Demo Asphalt	12,600.00 Sy	1,040	14,716	26,250	122,220	20,726		14.60 /Sy	183,912	30.83 /Sy	388,413
				32.40.02.0008	Trench Paving	12,600.00 SY	6,651	444,034	473,306		52,345		76.96 /SY	969,686	164.13 /SY	2,068,082
					32.12 Paving	**12,600.00 SY**	7,691	458,751	499,556	122,220	73,071		**91.56 /SY**	1,153,598	**194.96 /SY**	**2,456,495**
					32.0 Exterior Improvements	12,600.00 SY	7,691	458,751	499,556	122,220	73,071		91.56 /SY	1,153,598	194.96 /SY	2,456,495
					06.0 Asphalt Trench Repair	22,680.00 LF	7,691	458,751	499,556	122,220	73,071		50.86 /LF	1,153,598	108.31 /LF	2,456,495
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		**Buried Process Pipe, HDPE**											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,909.19 /EA	1,460,456
					33.07 Buried Process Pipe, HDPE	**341.00 LF**	2,216	169,842	448,269		46,517		**1,949.05 /LF**	664,628	**4,282.86 /LF**	**1,460,456**
					33.0 Utilities	*1.00* LS	2,216	169,842	448,269		46,517		664,627.63 /LS	664,628	1,460,456.20 /LS	1,460,456
					07.0 Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,909.19 /EA	1,460,456
	08.0				Traffic Control											
		33.0			Utilities											
			33.89		**Pipeline - Traffic Control**											
				33.00.01.0009	Traffic Control Allowance	22,680.00 LF				567,000			25.00 /LF	567,000	53.59 /LF	1,215,326
					33.89 Pipeline - Traffic Control	**22,680.00 LF**				567,000			**25.00 /LF**	567,000	**53.59 /LF**	**1,215,326**
					33.0 Utilities	*1.00* LS				567,000			567,000.00 /LS	567,000	1,215,326.01 /LS	1,215,326
					08.0 Traffic Control	22,680.00 LF				567,000			25.00 /LF	567,000	53.59 /LF	1,215,326
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		**Site Electrical**											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	10.00 EA				150,000			15,000.00 /EA	150,000	33,651.48 /EA	336,515
					26.10 Site Electrical	*1.00* LS				150,000			**150,000.00 /LS**	150,000	**336,514.82 /LS**	**336,515**
					26.0 Electrical Work	*1.00* LS				150,000			150,000.00 /LS	150,000	336,514.82 /LS	336,515
					09.0 Traffic Loop Replacement Allowance	10.00 EA				150,000			15,000.00 /EA	150,000	33,651.48 /EA	336,515
					01.0 Las Virgenes Concentrate No. 1-3 Light Blue Line	*1.00* LS	27,733	1,912,612	3,297,879	1,261,682	979,488	282,795	**7,734,455.95 /LS**	7,734,456	**16,812,340.71 /LS**	16,812,341

BID FORM SUMMARY

Project type: Water
Job Size: 22,680 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-3 Light Blue Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,912,612		27,733.128 hrs		84.330	11.38%	
Material	3,297,879				145.409	19.62%	
Subcontract	1,261,682				55.630	7.50%	
Equipment	979,488		17,975.986 hrs		43.187	5.83%	
Other	282,795				12.469	1.68%	
Subtotal Raw Costs	**7,734,456**	**7,734,456**			**341.025**	**46.00%**	**46.00%**
Material Sales & Use Tax - %	239,096			7.250 %	10.542	1.42%	
Construction Equip Tax - %	71,013			7.250 %	3.131	0.42%	
Total Taxes	**310,109**	**8,044,565**			**354.699**	**1.84%**	**47.85%**
Location Adj. Factor	879,296			11.800 %	38.770	5.23%	
Productivity Adjustment							
Subtotal Adj. Factors	**879,296**	**8,923,861**			**393.468**	**5.23%**	**53.08%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	37,500			25.000 %	1.653	0.22%	
Site/Civil I,OH&P	115,360			10.000 %	5.086	0.69%	
Buried Piping I,OH&P	964,629			15.000 %	42.532	5.74%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,117,489**	**10,041,350**			**442.740**	**6.65%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**10,041,350**			**442.740**		**59.73%**
Total Cost To Prime Contractor		**10,041,350**			**442.740**		**59.73%**
General Conditions	1,004,135			10.000 %	44.274	5.97%	
Mobilization/Demobilization	401,654			4.000 %	17.710	2.39%	
Subtotal Indirect Costs	**1,405,789**	**11,447,139**			**504.724**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,144,714			10.000 %	50.472	6.81%	
Prime Contractor Profit	572,357			5.000 %	25.236	3.40%	
Bonds & Insurance	285,663			2.170 %	12.595	1.70%	
Subtotal OH&P	**2,002,734**	**13,449,873**			**593.028**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**13,449,873**			**593.028**		**80.00%**
Design Contingency	3,362,468			25.000 %	148.257	20.00%	
Subtotal Contingency	**3,362,468**	**16,812,341**			**741.285**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**16,812,341**			**741.285**		**100.00%**
Total Prime Contractor Costs		**16,812,341**			**741.285**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**16,812,341**			**741.285**		**100.00%**
Total Contractor Costs w/ OFCI		**16,812,341**			**741.285**		**100.00%**
Total Construction Cost		**16,812,341**			**741.285**		**100.00%**
Total		***16,812,341***			***741.285***		

Reach 1

No. 1-4 Red Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Lir | Estimator: John DeWolf
Job Size: 22,770 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 1-4 Red Line***			
	01.0	**10" HDPE**	**22,770.00 LF**	**452.58 /LF**	**10,305,235**
	02.0	**Crossing Highway 101 and 23 24" Casing with 10" Carrier**	**460.00 LF**	**1,437.95 /LF**	**661,455**
	03.0	**Bore at Flood Channel 24" Casing with 10" Carrier**	**50.00 LF**	**1,500.21 /LF**	**75,011**
	04.0	**2" CARV Assembly**	**7.00 EA**	**6,879.92 /EA**	**48,159**
	05.0	**8" Blow Off Assembly**	**6.00 EA**	**18,120.71 /EA**	**108,724**
	06.0	**Asphalt Trench Repair**	**22,770.00 LF**	**108.29 /LF**	**2,465,746**
	07.0	**Access Way and Cleaning Structure Vaults**	**17.00 EA**	**85,912.80 /EA**	**1,460,518**
	08.0	**Traffic Control**	**22,770.00 LF**	**53.59 /LF**	**1,220,201**
	09.0	**Traffic Loop Replacement Allowance**	**18.00 EA**	**33,652.87 /EA**	**605,752**
	01.0 Las Virgenes Concentrate No. 1-4 Red Line		***1.00 LS***	***16,950,801.18 /LS***	***16,950,801***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,964,225		27,024.709 hrs		174.099	23.39%	
Material	7,051,306				309.675	41.60%	
Subcontract	3,282,932				144.178	19.37%	
Equipment	2,097,426		17,320.333 hrs		92.114	12.37%	
Other	554,913				24.370	3.27%	
Total Prime Contractor Costs	**16,950,802**	**16,950,802**			**744.436**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**16,950,802**			**744.436**		**100.00%**
Total		***16,950,802***			***744.436***		

BID FORM SUMMARY

Project type: Water
Job Size: 22,770 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 1-4 Red Line**											
	01.0					10" HDPE											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	**/lf**		**/lf**	
						Traffic Control, Labor per Day	114.00 day	**1,824**	**106,379**	-	-	-	-	933.15 /day	**106,379**	2,000.23 /day	**228,027**
						Trench Box, 8' x 24' x 10'	5.50 mo		-	-	-	**12,650**	-	2,300.00 /mo	**12,650**	5,096.86 /mo	**28,033**
						Dedicated Fire / Safety Monitor	456.00 hr	**456**	**26,595**	-	-	-	-	58.32 /hr	**26,595**	125.01 /hr	**57,007**
						25 tn Rough Terrain (per day)	114.00 day	**912**	**72,160**	-	-	**134,702**	-	1,814.58 /day	**206,863**	3,975.27 /day	**453,181**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	16,610.41 CY	**1,820**	**125,075**	-	-	**85,905**	-	12.70 /CY	**210,980**	27.60 /CY	**458,468**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	4,793.27 cy	**3,185**	**209,039**	-	-	**143,077**	-	73.46 /cy	**352,116**	159.63 /cy	**765,143**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	11,792.21 cy	**1,820**	**137,190**	-	-	**163,444**	-	25.49 /cy	**300,634**	55.65 /cy	**656,266**
						Pipe zone material	4,793.27 cy		-	**134,212**	-	-	-	28.00 /cy	**134,212**	62.05 /cy	**297,416**
						Pipe bedding material	1,451.52 cy		-	**40,643**	-	-	-	28.00 /cy	**40,643**	62.05 /cy	**90,065**
						Haul spoils, offsite, 10 - 20 miles	18,062.30 cy		-	-	**270,935**	-	-	15.00 /cy	**270,935**	32.15 /cy	**580,755**
						Dump fees, trench spoils	18,076.00 cy		-	-	-	-	**271,140**	15.00 /cy	**271,140**	30.38 /cy	**549,201**
						10" HDPE pipe, excav/backfill not included	22,770.00 LF	**5,460**	**440,622**	**1,233,223**	-	**248,668**	-	84.43 /LF	**1,922,514**	185.70 /LF	**4,228,392**
						10" HDPE Ell, 90	2.00 ea	**6**	**517**	**381**	-	**292**	-	595.29 /ea	**1,191**	1,300.41 /ea	**2,601**
						10" HDPE Ell, 45	17.00 ea	**52**	**4,212**	**1,587**	-	**2,377**	-	480.90 /ea	**8,175**	1,047.72 /ea	**17,811**
						Field weld fusion joints, Subcontracted (S), 10"	1,177.00 ea		-	-	**106,460**	-	-	90.45 /ea	**106,460**	193.88 /ea	**228,199**
						CLSM, pipe encasement	11,792.21 cy		-	**707,533**	-	-	-	60.00 /cy	**707,533**	132.96 /cy	**1,567,910**
						Pipe Marking, Detection Tape	22,770.00 lf	**228**	**18,451**	**2,960**	-	-	-	0.94 /lf	**21,411**	2.03 /lf	**46,110**
						Pipe Marking, Copper Wire	22,770.00 lf	**228**	**18,451**	**5,009**	-	-	-	1.03 /lf	**23,461**	2.22 /lf	**50,652**
						33.00.09.10 Buried Pipe, HDPE, 10"	**22,770.00 LF**	**15,991**	**1,158,692**	**2,125,547**	**377,394**	**791,116**	**271,140**	**207.46 /LF**	**4,723,889**	**452.58 /LF**	**10,305,235**
						33.00.09.0001 10" HDPE	**22,770.00 LF**	**15,991**	**1,158,692**	**2,125,547**	**377,394**	**791,116**	**271,140**	**207.46 /LF**	**4,723,889**	**452.58 /LF**	**10,305,235**
						33.07 Buried Process Pipe, HDPE	**22,770.00 LF**	**15,991**	**1,158,692**	**2,125,547**	**377,394**	**791,116**	**271,140**	**207.46 /LF**	**4,723,889**	**452.58 /LF**	**10,305,235**
						33.0 Utilities	***1.00* LS**	**15,991**	**1,158,692**	**2,125,547**	**377,394**	**791,116**	**271,140**	**4,723,888.87 /LS**	**4,723,889**	**10,305,235.11 /LS**	**10,305,235**
						01.0 10" HDPE	**22,770.00 LF**	**15,991**	**1,158,692**	**2,125,547**	**377,394**	**791,116**	**271,140**	**207.46 /LF**	**4,723,889**	**452.58 /LF**	**10,305,235**
	02.0					Crossing Highway 101 and 23 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.07.0002		Hwy 101 Bridge Crossing Allowance											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Division 33 Allowance Support Pipe Inside Bridge	300.00 lf		-	-	**150,000**	-		500.00 /lf	**150,000**	1,071.76 /lf	**321,529**
						10" HDPE pipe, excav/backfill not included	300.00 LF	**33**	**2,663**	**16,200**	-	**1,503**	-	67.89 /LF	**20,366**	149.80 /LF	**44,939**
						33.00.09.10 Buried Pipe, HDPE, 10"	**300.00 LF**	**33**	**2,663**	**16,200**	**150,000**	**1,503**		**567.89 /LF**	**170,366**	**1,221.56 /LF**	**366,467**
						33.00.07.0002 Hwy 101 Bridge Crossing Allowance	**300.00 LF**	**33**	**2,663**	**16,200**	**150,000**	**1,503**		**567.89 /LF**	**170,366**	**1,221.56 /LF**	**366,467**
				33.60.02.0002		Crossing at Highway 101 and 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	4.00 day	**64**	**3,733**	-	-	-	-	933.15 /day	**3,733**	2,000.24 /day	**8,001**
						Trench Box, 8' x 24' x 10'	0.20 mo		-	-	-	**460**	-	2,300.00 /mo	**460**	5,096.85 /mo	**1,019**
						Dedicated Fire / Safety Monitor	16.00 hr	**16**	**933**	-	-	-	-	58.32 /hr	**933**	125.01 /hr	**2,000**
						Horizontal boring, 24" diameter casing spacer	16.00 ea		-	**800**	-	-	-	50.00 /ea	**800**	110.80 /ea	**1,773**
						Horizontal boring, 24" diameter end seals	2.00 ea		-	**500**	-	-	-	250.00 /ea	**500**	554.01 /ea	**1,108**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	186.86 CY	**50**	**3,465**	-	-	**2,380**	-	31.28 /CY	**5,845**	67.98 /CY	**12,702**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	63.64 cy	**88**	**5,792**	-	-	**3,964**	-	153.30 /cy	**9,756**	333.11 /cy	**21,199**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	110.63 cy	**50**	**3,801**	-	-	**4,528**	-	75.28 /cy	**8,329**	164.34 /cy	**18,181**
						Pipe zone material	63.64 cy		-	**1,782**	-	-	-	28.00 /cy	**1,782**	62.05 /cy	**3,949**
						Pipe bedding material	14.18 cy		-	**397**	-	-	-	28.00 /cy	**397**	62.05 /cy	**880**
						Haul spoils, offsite, 10 - 20 miles	188.00 cy		-	-	**2,820**	-	-	15.00 /cy	**2,820**	32.15 /cy	**6,045**
						Dump fees, trench spoils	188.00 cy		-	-	-	-	**2,820**	15.00 /cy	**2,820**	30.38 /cy	**5,712**
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	160.00 LF	**192**	**15,494**	**54,645**	-	**8,744**	-	493.02 /LF	**78,884**	1,085.53 /LF	**173,685**
						10" HDPE pipe, excav/backfill not included	160.00 lf	**18**	**1,420**	**8,666**	-	**802**	-	68.05 /lf	**10,887**	150.15 /lf	**24,024**
						CLSM, pipe encasement	110.63 cy		-	**6,638**	-	-	-	60.00 /cy	**6,638**	132.96 /cy	**14,710**
						33.00.09.10 Buried Pipe, HDPE, 10"	**160.00 LF**	**479**	**34,638**	**73,427**	**2,820**	**20,878**	**2,820**	**841.15 /LF**	**134,584**	**1,843.67 /LF**	**294,987**
						33.60.02.0002 Crossing at Highway 101 and 23, 24" Casing with 10" Carrier	**160.00 LF**	**479**	**34,638**	**73,427**	**2,820**	**20,878**	**2,820**	**841.15 /LF**	**134,584**	**1,843.67 /LF**	**294,987**
						33.07 Buried Process Pipe, HDPE	**460.00 LF**	**512**	**37,301**	**89,627**	**152,820**	**22,381**	**2,820**	**662.93 /LF**	**304,950**	**1,437.95 /LF**	**661,455**
						33.0 Utilities	***1.00* LS**	**512**	**37,301**	**89,627**	**152,820**	**22,381**	**2,820**	**304,949.57 /LS**	**304,950**	**661,454.71 /LS**	**661,455**
						02.0 Crossing Highway 101 and 23 24" Casing with 10" Carrier	**460.00 LF**	**512**	**37,301**	**89,627**	**152,820**	**22,381**	**2,820**	**662.93 /LF**	**304,950**	**1,437.95 /LF**	**661,455**
	03.0					Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0003		Bore at Flood Channel 24" Casing with 10" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 24" x 10"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	-	-	**2,186**	-	6,059.71 /ea	**6,060**	13,147.63 /ea	**13,148**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,573.80 /ea	**6,574**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	-	-	**1,093**	-	3,029.85 /ea	**3,030**	6,573.82 /ea	**6,574**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	-	-	**547**	-	1,514.92 /ea	**1,515**	3,286.89 /ea	**3,287**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 24" diameter casing	50.00 lf	**160**		-	**19,250**	-	-	385.00 /lf	**19,250**	825.26 /lf	**41,263**
						Horizontal boring, 24" diameter casing spacer	3.00 ea		-	**150**	-	-	-	50.00 /ea	**150**	110.81 /ea	**332**
						Horizontal boring, 24" diameter end seals	2.00 ea		-	**500**	-	-	-	250.00 /ea	**500**	554.01 /ea	**1,108**
						10" HDPE pipe, excav/backfill not included	50.00 LF	**6**	**444**	**550**	-	**250**	-	24.89 /LF	**1,244**	54.51 /LF	**2,725**
						33.60.02.36 Pipeline Specials, Jack and Bore, 24" x 10"	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.21 /LF**	**75,011**
						33.60.02.0003 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.21 /LF**	**75,011**
						33.07 Buried Process Pipe, HDPE	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.21 /LF**	**75,011**
						33.0 Utilities	***1.00* LS**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**34,778.67 /LS**	**34,779**	**75,010.71 /LS**	**75,011**
						03.0 Bore at Flood Channel 24" Casing with 10" Carrier	**50.00 LF**	**274**	**9,159**	**1,200**	**19,250**	**5,169**		**695.57 /LF**	**34,779**	**1,500.21 /LF**	**75,011**
	04.0					2" CARV Assembly											

BID FORM SUMMARY

Project type: Water
Job Size: 22,770 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	7.00 EA		-	-	10,500	-		1,500.00 /EA	10,500	3,215.29 /EA	22,507
						2" Corporation stop, thrd	7.00 ea	8	658		-	318	-	139.45 /ea	976	302.21 /ea	2,115
						Ball valve, bronze, screwed, 2"	7.00 ea	3	223	448	-	-	-	95.92 /ea	671	210.25 /ea	1,472
						2" copper pipe, K-soft	175.00 LF	12	978	1,852	-	-	-	16.17 /LF	2,829	35.42 /LF	6,199
						2" copper, ELL, 90	14.00 ea	9	726	180	-	-	-	64.71 /ea	906	139.63 /ea	1,955
						Install Air & Vacuum relief valve, 2"	7.00 ea	17	1,341	-	-	-	-	191.51 /ea	1,341	410.51 /ea	2,874
						FURNISH Air & Vacuum relief valve, iron body, 2"	7.00 ea		-	2,625	-	-	-	375.00 /ea	2,625	831.01 /ea	5,817
						Double Strap Saddle, 10" x 2"	7.00 ea	21	1,676	735	-	-	-	344.39 /ea	2,411	745.82 /ea	5,221
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,879.92 /EA	48,159
						33.20.08.0005 2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,879.92 /EA	48,159
						33.07 Buried Process Pipe, HDPE	175.00 LF	70	5,602	5,840	10,500	318		127.20 /LF	22,259	275.20 /LF	48,159
						33.0 Utilities	*1.00* LS	70	5,602	5,840	10,500	318		22,259.14 /LS	22,259	48,159.42 /LS	48,159
						04.0 2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,879.92 /EA	48,159
	05.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	150.00 LF	72	5,810	7,832	-	3,279	-	112.81 /LF	16,921	247.17 /LF	37,076
						8" DI, MJ, Ell, 90	6.00 ea	18	1,453	2,063	-	820	-	722.48 /ea	4,335	1,583.49 /ea	9,501
						8" DI, MJ, Ell, 45	6.00 ea	18	1,453	1,762	-	820	-	672.43 /ea	4,035	1,472.57 /ea	8,835
						8" DI, RJ, cap or plug	6.00 ea	9	726	937	-	410	-	345.52 /ea	2,073	756.89 /ea	4,541
						10" HDPE tee	6.00 ea	27	2,157	1,183	-	1,217	-	759.60 /ea	4,558	1,657.23 /ea	9,943
						10" HDPE reducer	6.00 ea	17	1,409	1,173	-	795	-	562.93 /ea	3,378	1,230.44 /ea	7,383
						10" HDPE flange	6.00 ea	14	1,160		-	273	-	238.82 /ea	1,433	515.22 /ea	3,091
						Install gate valve, Flgd, DIP, 8"	6.00 ea	20	1,598	-	-	902	-	416.61 /ea	2,500	903.90 /ea	5,423
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	6.00 EA		-	3,714	-	-	-	619.00 /EA	3,714	1,371.72 /EA	8,230
						Valve accessory, extension stem	30.00 lf	3	239	150	-	-	-	12.98 /lf	389	28.18 /lf	846
						Valve accessory, stem couplings	6.00 set	2	158	120	-	-	-	46.33 /set	278	100.77 /set	605
						CI Valve Box & Cover, w/ Concrete Collar included	6.00 ea	18	1,453	900	-	820	-	528.73 /ea	3,172	1,154.13 /ea	6,925
						Meter Box	6.00 ea	24	1,400	1,500	-	-	-	483.29 /ea	2,900	1,054.07 /ea	6,324
						33.20.01.08 Buried Valves, Gate Valves, 8"	6.00 EA	242	19,015	21,334		9,336		8,280.81 /EA	49,685	18,120.71 /EA	108,724
						33.20.01.0004 8" Blow Off Assembly	6.00 EA	242	19,015	21,334		9,336		8,280.81 /EA	49,685	18,120.71 /EA	108,724
						33.07 Buried Process Pipe, HDPE	150.00 LF	242	19,015	21,334		9,336		331.23 /LF	49,685	724.83 /LF	108,724
						33.0 Utilities	*1.00* LS	242	19,015	21,334		9,336		49,684.85 /LS	49,685	108,724.26 /LS	108,724
						05.0 8" Blow Off Assembly	6.00 EA	242	19,015	21,334		9,336		8,280.81 /EA	49,685	18,120.71 /EA	108,724
	06.0					Asphalt Trench Repair											
		32.0				Exterior Improvements											
			32.12			Paving											
				02.01.01.0007		Demo Asphalt											
					02.01.01.01	General Site Demolition, Asphalt Pavement											
						Saw Cutting, Ashpalt, 6" Depth	45,540.00 lf	701		-	91,080	-	-	2.00 /lf	91,080	4.19 /lf	190,678
						Asphalt Milling, 6" Depth	12,611.00 Sy	126		-	31,528	-	-	2.50 /Sy	31,528	5.23 /Sy	66,004
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	2,102.00 cy	216	14,730	-	-	20,745	-	16.88 /cy	35,476	36.05 /cy	75,774
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	2,102.00 cy		-	26,275	-	-	-	12.50 /cy	26,275	27.08 /cy	56,912
						02.01.01.01 General Site Demolition, Asphalt Pavement	12,611.00 Sy	1,043	14,730	26,275	122,608	20,745		14.62 /Sy	184,358	30.88 /Sy	389,368
						02.01.01.0007 Demo Asphalt	12,611.00 Sy	1,043	14,730	26,275	122,608	20,745		14.62 /Sy	184,358	30.88 /Sy	389,368
				32.40.02.0008		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	12,650.00 SY	40	2,904	11,259	-	2,169	-	1.29 /SY	16,332	2.78 /SY	35,165
						Fog seal, sealcoating, prepare and clean surface for sealcoating	12,650.00 sy	36	2,148	-	-	503	-	0.21 /sy	2,651	0.44 /sy	5,586
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	12,650.00 sy	96	6,854	144,843	-	7,403	-	12.58 /sy	159,100	27.20 /sy	344,117
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	12,650.00 sy	6,440	429,979	303,600	-	39,882	-	61.14 /sy	773,461	129.97 /sy	1,644,163
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	22,770.00 LF	65	3,911	15,484	-	2,596	-	0.97 /LF	21,990	2.08 /LF	47,347
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	12,650.00 SY	6,677	445,796	475,185		52,553		76.96 /SY	973,534	164.14 /SY	2,076,379
						32.40.02.0008 Trench Paving	12,650.00 SY	6,677	445,796	475,185		52,553		76.96 /SY	973,534	164.14 /SY	2,076,379
						32.12 Paving	12,650.00 SY	7,720	460,527	501,460	122,608	73,299		91.53 /SY	1,157,893	194.92 /SY	2,465,746
						32.0 Exterior Improvements	12,650.00 SY	7,720	460,527	501,460	122,608	73,299		91.53 /SY	1,157,893	194.92 /SY	2,465,746
						06.0 Asphalt Trench Repair	22,770.00 LF	7,720	460,527	501,460	122,608	73,299		50.85 /LF	1,157,893	108.29 /LF	2,465,746
	07.0					Access Way and Cleaning Structure Vaults											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.00.09.0009		Access Way and Cleaning Structure Vaults											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	17.00 EA	476	29,967	42,500	-	4,407	-	4,521.96 /EA	76,873	9,892.98 /EA	168,181
						10" HDPE pipe, excav/backfill included	341.00 LF	164	13,209	3,751	-	7,455	-	71.60 /LF	24,415	155.85 /LF	53,146
						10" HDPE Ell, 45	68.00 ea	209	16,847	6,346	-	9,508	-	480.90 /ea	32,701	1,047.72 /ea	71,245
						10" HDPE tee	34.00 ea	151	12,224	6,704	-	6,899	-	759.60 /ea	25,826	1,657.22 /ea	56,346
						10" HDPE wye	34.00 ea	151	12,224	10,139	-	6,899	-	860.64 /ea	29,262	1,881.13 /ea	63,958
						10" HDPE flange	170.00 ea	407	32,857		-	7,742	-	238.82 /ea	40,599	515.22 /ea	87,587
						10" steel blind flange	68.00 ea	79	6,393		-	3,608	-	147.07 /ea	10,001	319.10 /ea	21,699
						10" Bolt & Gasket Kits, SS	170.00 ea	374	29,844	12,240	-	-	-	247.55 /ea	42,084	535.85 /ea	91,095
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	51.00 ea		-	366,588	-	-	-	7,188.00 /ea	366,588	15,928.78 /ea	812,368
						Install Pinch valve, iron body, Flgd, 10"	51.00 ea	204	16,278	-	-	-	-	319.18 /ea	16,278	684.18 /ea	34,893

BID FORM SUMMARY

Project type: Water
Job Size: 22,770 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.00.09.10 Buried Pipe, HDPE, 10"	341.00 LF	2,216	169,842	448,269		46,517		1,949.05 /LF	664,628	4,283.04 /LF	1,460,518
						33.00.09.0009 Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,912.80 /EA	1,460,518
						33.07 Buried Process Pipe, HDPE	341.00 LF	2,216	169,842	448,269		46,517		1,949.05 /LF	664,628	4,283.04 /LF	1,460,518
						33.0 Utilities	1.00 LS	2,216	169,842	448,269		46,517		664,627.63 /LS	664,628	1,460,517.56 /LS	1,460,518
						07.0 Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,912.80 /EA	1,460,518
	08.0					Traffic Control											
		33.0				Utilities											
			33.89			Pipeline - Traffic Control											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	22,770.00 LF		-	-	569,250	-		25.00 /LF	569,250	53.59 /LF	1,220,201
						33.00.01.40 Buried Pipe, Traffic Control	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
						33.00.01.0009 Traffic Control Allowance	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
						33.89 Pipeline - Traffic Control	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
						33.0 Utilities	1.00 LS				569,250			569,250.00 /LS	569,250	1,220,201.32 /LS	1,220,201
						08.0 Traffic Control	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
	09.0					Traffic Loop Replacement Allowance											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	18.00 EA		-	-	270,000	-		15,000.00 /EA	270,000	33,652.87 /EA	605,752
						26.00.99.00 Electrical, Other	18.00 EA				270,000			15,000.00 /EA	270,000	33,652.87 /EA	605,752
						26.00.99.0005 Replace Traffic Loops 3 Intersections	18.00 EA				270,000			15,000.00 /EA	270,000	33,652.87 /EA	605,752
						26.10 Site Electrical	1.00 LS				270,000			270,000.00 /LS	270,000	605,751.63 /LS	605,752
						26.0 Electrical Work	1.00 LS				270,000			270,000.00 /LS	270,000	605,751.63 /LS	605,752
						09.0 Traffic Loop Replacement Allowance	18.00 EA				270,000			15,000.00 /EA	270,000	33,652.87 /EA	605,752
						01.0 Las Virgenes Concentrate No. 1-4 Red Line	**1.00 LS**	**27,025**	**1,860,138**	**3,193,276**	**1,521,822**	**948,135**	**273,960**	**7,797,331.31 /LS**	**7,797,331**	**16,950,801.18 /LS**	**16,950,801**

BID FORM SUMMARY

Project type: Water
Job Size: 22,770 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,860,138		27,024.709 hrs		81.692	10.97%	
Material	3,193,276				140.241	18.84%	
Subcontract	1,521,822				66.835	8.98%	
Equipment	948,135		17,320.333 hrs		41.640	5.59%	
Other	273,960				12.032	1.62%	
Subtotal Raw Costs	**7,797,331**	**7,797,331**			**342.439**	**46.00%**	**46.00%**
Material Sales & Use Tax - %	231,513			7.250 %	10.167	1.37%	
Construction Equip Tax - %	68,740			7.250 %	3.019	0.41%	
Total Taxes	**300,253**	**8,097,584**			**355.625**	**1.77%**	**47.77%**
Location Adj. Factor	887,758			11.800 %	38.988	5.24%	
Productivity Adjustment							
Subtotal Adj. Factors	**887,758**	**8,985,342**			**394.613**	**5.24%**	**53.01%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	67,500			25.000 %	2.964	0.40%	
Site/Civil I,OH&P	115,789			10.000 %	5.085	0.68%	
Buried Piping I,OH&P	955,416			15.000 %	41.959	5.64%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,138,705**	**10,124,047**			**444.622**	**6.72%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**10,124,047**			**444.622**		**59.73%**
Total Cost To Prime Contractor		**10,124,047**			**444.622**		**59.73%**
General Conditions	1,012,405			10.000 %	44.462	5.97%	
Mobilization/Demobilization	404,962			4.000 %	17.785	2.39%	
Subtotal Indirect Costs	**1,417,367**	**11,541,414**			**506.869**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,154,141			10.000 %	50.687	6.81%	
Prime Contractor Profit	577,071			5.000 %	25.343	3.40%	
Bonds & Insurance	288,016			2.170 %	12.649	1.70%	
Subtotal OH&P	**2,019,228**	**13,560,642**			**595.549**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**13,560,642**			**595.549**		**80.00%**
Design Contingency	3,390,160			25.000 %	148.887	20.00%	
Subtotal Contingency	**3,390,160**	**16,950,802**			**744.436**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**16,950,802**			**744.436**		**100.00%**
Total Prime Contractor Costs		**16,950,802**			**744.436**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**16,950,802**			**744.436**		**100.00%**
Total Contractor Costs w/ OFCI		**16,950,802**			**744.436**		**100.00%**
Total Construction Cost		**16,950,802**			**744.436**		**100.00%**
Total		***16,950,802***			***744.436***		

BID FORM SUMMARY

Project type: Water
Job Size: 22,770 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 1-4 Red Line**											
	01.0				10" HDPE											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE	22,770.00 LF	15,991	1,158,692	2,125,547	377,394	791,116	271,140	207.46 /LF	4,723,889	452.58 /LF	10,305,235
					33.07 Buried Process Pipe, HDPE	22,770.00 LF	15,991	1,158,692	2,125,547	377,394	791,116	271,140	207.46 /LF	4,723,889	452.58 /LF	10,305,235
					33.0 Utilities	*1.00* LS	15,991	1,158,692	2,125,547	377,394	791,116	271,140	4,723,888.87 /LS	4,723,889	10,305,235.11 /LS	10,305,235
					01.0 10" HDPE	22,770.00 LF	15,991	1,158,692	2,125,547	377,394	791,116	271,140	207.46 /LF	4,723,889	452.58 /LF	10,305,235
	02.0				Crossing Highway 101 and 23 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.07.0002	Hwy 101 Bridge Crossing Allowance	300.00 LF	33	2,663	16,200	150,000	1,503		567.89 /LF	170,366	1,221.56 /LF	366,467
				33.60.02.0002	Crossing at Highway 101 and 23, 24" Casing with 10" Carrier	160.00 LF	479	34,638	73,427	2,820	20,878	2,820	841.15 /LF	134,584	1,843.67 /LF	294,987
					33.07 Buried Process Pipe, HDPE	460.00 LF	512	37,301	89,627	152,820	22,381	2,820	662.93 /LF	304,950	1,437.95 /LF	661,455
					33.0 Utilities	*1.00* LS	512	37,301	89,627	152,820	22,381	2,820	304,949.57 /LS	304,950	661,454.71 /LS	661,455
					02.0 Crossing Highway 101 and 23 24" Casing with 10" Carrier	460.00 LF	512	37,301	89,627	152,820	22,381	2,820	662.93 /LF	304,950	1,437.95 /LF	661,455
	03.0				Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0003	Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.21 /LF	75,011
					33.07 Buried Process Pipe, HDPE	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.21 /LF	75,011
					33.0 Utilities	*1.00* LS	274	9,159	1,200	19,250	5,169		34,778.67 /LS	34,779	75,010.71 /LS	75,011
					03.0 Bore at Flood Channel 24" Casing with 10" Carrier	50.00 LF	274	9,159	1,200	19,250	5,169		695.57 /LF	34,779	1,500.21 /LF	75,011
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,879.92 /EA	48,159
					33.07 Buried Process Pipe, HDPE	175.00 LF	70	5,602	5,840	10,500	318		127.20 /LF	22,259	275.20 /LF	48,159
					33.0 Utilities	*1.00* LS	70	5,602	5,840	10,500	318		22,259.14 /LS	22,259	48,159.42 /LS	48,159
					04.0 2" CARV Assembly	7.00 EA	70	5,602	5,840	10,500	318		3,179.88 /EA	22,259	6,879.92 /EA	48,159
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	6.00 EA	242	19,015	21,334		9,336		8,280.81 /EA	49,685	18,120.71 /EA	108,724
					33.07 Buried Process Pipe, HDPE	150.00 LF	242	19,015	21,334		9,336		331.23 /LF	49,685	724.83 /LF	108,724
					33.0 Utilities	*1.00* LS	242	19,015	21,334		9,336		49,684.85 /LS	49,685	108,724.26 /LS	108,724
					05.0 8" Blow Off Assembly	6.00 EA	242	19,015	21,334		9,336		8,280.81 /EA	49,685	18,120.71 /EA	108,724
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	12,611.00 Sy	1,043	14,730	26,275	122,608	20,745		14.62 /Sy	184,358	30.88 /Sy	389,368
				32.40.02.0008	Trench Paving	12,650.00 SY	6,677	445,796	475,185		52,553		76.96 /SY	973,534	164.14 /SY	2,076,379
					32.12 Paving	12,650.00 SY	7,720	460,527	501,460	122,608	73,299		91.53 /SY	1,157,893	194.92 /SY	2,465,746
					32.0 Exterior Improvements	12,650.00 SY	7,720	460,527	501,460	122,608	73,299		91.53 /SY	1,157,893	194.92 /SY	2,465,746
					06.0 Asphalt Trench Repair	22,770.00 LF	7,720	460,527	501,460	122,608	73,299		50.85 /LF	1,157,893	108.29 /LF	2,465,746
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,912.80 /EA	1,460,518
					33.07 Buried Process Pipe, HDPE	341.00 LF	2,216	169,842	448,269		46,517		1,949.05 /LF	664,628	4,283.04 /LF	1,460,518
					33.0 Utilities	*1.00* LS	2,216	169,842	448,269		46,517		664,627.63 /LS	664,628	1,460,517.56 /LS	1,460,518
					07.0 Access Way and Cleaning Structure Vaults	17.00 EA	2,216	169,842	448,269		46,517		39,095.74 /EA	664,628	85,912.80 /EA	1,460,518
	08.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
					33.89 Pipeline - Traffic Control	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
					33.0 Utilities	*1.00* LS				569,250			569,250.00 /LS	569,250	1,220,201.32 /LS	1,220,201
					08.0 Traffic Control	22,770.00 LF				569,250			25.00 /LF	569,250	53.59 /LF	1,220,201
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	18.00 EA				270,000			15,000.00 /EA	270,000	33,652.87 /EA	605,752
					26.10 Site Electrical	*1.00* LS				270,000			270,000.00 /LS	270,000	605,751.63 /LS	605,752
					26.0 Electrical Work	*1.00* LS				270,000			270,000.00 /LS	270,000	605,751.63 /LS	605,752
					09.0 Traffic Loop Replacement Allowance	18.00 EA				270,000			15,000.00 /EA	270,000	33,652.87 /EA	605,752
					01.0 Las Virgenes Concentrate No. 1-4 Red Line	*1.00* LS	27,025	1,860,138	3,193,276	1,521,822	948,135	273,960	7,797,331.31 /LS	7,797,331	16,950,801.18 /LS	16,950,801

BID FORM SUMMARY

Project type: Water
Job Size: 22,770 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 1-4 Red Line 8-10-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,860,138		27,024.709 hrs		81.692	10.97%	
Material	3,193,276				140.241	18.84%	
Subcontract	1,521,822				66.835	8.98%	
Equipment	948,135		17,320.333 hrs		41.640	5.59%	
Other	273,960				12.032	1.62%	
Subtotal Raw Costs	**7,797,331**	**7,797,331**			**342.439**	**46.00%**	**46.00%**
Material Sales & Use Tax - %	231,513			7.250 %	10.167	1.37%	
Construction Equip Tax - %	68,740			7.250 %	3.019	0.41%	
Total Taxes	**300,253**	**8,097,584**			**355.625**	**1.77%**	**47.77%**
Location Adj. Factor	887,758			11.800 %	38.988	5.24%	
Productivity Adjustment							
Subtotal Adj. Factors	**887,758**	**8,985,342**			**394.613**	**5.24%**	**53.01%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	67,500			25.000 %	2.964	0.40%	
Site/Civil I,OH&P	115,789			10.000 %	5.085	0.68%	
Buried Piping I,OH&P	955,416			15.000 %	41.959	5.64%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,138,705**	**10,124,047**			**444.622**	**6.72%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**10,124,047**			**444.622**		**59.73%**
Total Cost To Prime Contractor		**10,124,047**			**444.622**		**59.73%**
General Conditions	1,012,405			10.000 %	44.462	5.97%	
Mobilization/Demobilization	404,962			4.000 %	17.785	2.39%	
Subtotal Indirect Costs	**1,417,367**	**11,541,414**			**506.869**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,154,141			10.000 %	50.687	6.81%	
Prime Contractor Profit	577,071			5.000 %	25.343	3.40%	
Bonds & Insurance	288,016			2.170 %	12.649	1.70%	
Subtotal OH&P	**2,019,228**	**13,560,642**			**595.549**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**13,560,642**			**595.549**		**80.00%**
Design Contingency	3,390,160			25.000 %	148.887	20.00%	
Subtotal Contingency	**3,390,160**	**16,950,802**			**744.436**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**16,950,802**			**744.436**		**100.00%**
Total Prime Contractor Costs		**16,950,802**			**744.436**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**16,950,802**			**744.436**		**100.00%**
Total Contractor Costs w/ OFCI		**16,950,802**			**744.436**		**100.00%**
Total Construction Cost		**16,950,802**			**744.436**		**100.00%**
Total		***16,950,802***			***744.436***		

Reach 2

No. 2-1 Pink Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Lir | Estimator: John DeWolf
Job Size: 16,820 Lf | Project Number: W9Y31200 | Rev/Date: 8-10-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 2-1 Pink Line***			
	01.0	**10" HDPE Concentrate Line**	**16,820.00 LF**	**475.38 /LF**	**7,995,866**
	02.0	**Crossing Highway 23 24" Casing with 10" Carrier**	**460.00 LF**	**1,447.24 /LF**	**665,732**
	04.0	**2" CARV Assembly**	**3.00 EA**	**6,880.34 /EA**	**20,641**
	05.0	**8" Blow Off Assembly**	**3.00 EA**	**18,121.85 /EA**	**54,366**
	06.0	**Asphalt Trench Repair**	**16,820.00 LF**	**108.64 /LF**	**1,827,336**
	07.0	**Access Way and Cleaning Structure Vaults**	**12.00 EA**	**85,908.93 /EA**	**1,030,907**
	08.0	**Energy Dissipation Facility**	**16,820.00 LF**	**53.59 /LF**	**901,409**
	09.0	**Traffic Loop Replacement Allowance**	**17.00 EA**	**33,654.90 /EA**	**572,133**
		01.0 Las Virgenes Concentrate No. 2-1 Pink Line	***1.00 LS***	***13,068,390.84 /LS***	***13,068,391***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,014,738		20,356.848 hrs		179.235	23.07%	
Material	5,438,904				323.359	41.62%	
Subcontract	2,377,762				141.365	18.19%	
Equipment	1,682,037		14,135.934 hrs		100.002	12.87%	
Other	554,950				32.993	4.25%	
Total Prime Contractor Costs	**13,068,391**	**13,068,391**			**776.955**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**13,068,391**			**776.955**		**100.00%**
Total		***13,068,391***			***776.955***		

BID FORM SUMMARY

Project type: Water
Job Size: 16,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 2-1 Pink Line**											
	01.0					10" HDPE Concentrate Line											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			**-**	**-**	**-**	**-**	***/lf***		***/lf***	
						Traffic Control, Labor per Day	84.00 day	**1,344**	**78,385**	**-**	**-**	**-**	**-**	933.15 /day	**78,385**	2,000.36 /day	**168,030**
						Trench Box, 8' x 24' x 10'	8.50 mo		**-**	**-**	**-**	**19,550**	**-**	2,300.00 /mo	**19,550**	5,097.17 /mo	**43,326**
						Dedicated Fire / Safety Monitor	336.00 hr	**336**	**19,596**	**-**	**-**	**-**	**-**	58.32 /hr	**19,596**	125.02 /hr	**42,008**
						25 tn Rough Terrain (per day)	112.50 day	**900**	**71,211**	**-**	**-**	**132,930**	**-**	1,814.58 /day	**204,141**	3,975.52 /day	**447,246**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	12,269.96 CY	**1,344**	**92,392**	**-**	**-**	**63,457**	**-**	12.70 /CY	**155,849**	27.60 /CY	**338,687**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	3,540.75 cy	**2,353**	**154,416**	**-**	**-**	**105,690**	**-**	73.46 /cy	**260,105**	159.64 /cy	**565,240**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	8,710.80 cy	**1,344**	**101,341**	**-**	**-**	**120,735**	**-**	25.49 /cy	**222,076**	55.66 /cy	**484,808**
						Pipe zone material	3,540.75 cy		**-**	**99,141**	**-**	**-**	**-**	28.00 /cy	**99,141**	62.05 /cy	**219,712**
						Pipe bedding material	1,072.23 cy		**-**	**30,022**	**-**	**-**	**-**	28.00 /cy	**30,022**	62.05 /cy	**66,535**
						Haul spoils, offsite, 10 - 20 miles	16,430.49 cy		**-**	**-**	**246,457**	**-**	**-**	15.00 /cy	**246,457**	32.15 /cy	**528,321**
						Dump fees, trench spoils	18,076.00 cy		**-**	**-**	**-**	**-**	**271,140**	15.00 /cy	**271,140**	30.38 /cy	**549,238**
						10" HDPE pipe, excav/backfill not included	16,820.00 LF	**4,033**	**325,484**	**910,971**	**-**	**183,689**	**-**	84.43 /LF	**1,420,144**	185.71 /LF	**3,123,669**
						10" HDPE Ell, 45	18.00 ea	**55**	**4,459**	**1,680**	**-**	**2,517**	**-**	480.90 /ea	**8,656**	1,047.79 /ea	**18,860**
						Field weld fusion joints, Subcontracted (S), 10"	879.00 ea		**-**	**-**	**79,506**	**-**	**-**	90.45 /ea	**79,506**	193.89 /ea	**170,433**
						CLSM, pipe encasement	8,710.80 cy		**-**	**522,648**	**-**	**-**	**-**	60.00 /cy	**522,648**	132.97 /cy	**1,158,272**
						Pipe Marking, Detection Tape	16,820.00 lf	**168**	**13,630**	**2,187**	**-**	**-**	**-**	0.94 /lf	**15,816**	2.03 /lf	**34,063**
						Pipe Marking, Copper Wire	16,820.00 lf	**168**	**13,630**	**3,700**	**-**	**-**	**-**	1.03 /lf	**17,330**	2.22 /lf	**37,418**
						33.00.09.10 Buried Pipe, HDPE, 10"	**16,820.00 LF**	**12,046**	**874,542**	**1,570,350**	**325,963**	**628,568**	**271,140**	**218.23 /LF**	**3,670,563**	**475.38 /LF**	**7,995,866**
						33.00.09.0001 10" HDPE	**16,820.00 LF**	**12,046**	**874,542**	**1,570,350**	**325,963**	**628,568**	**271,140**	**218.23 /LF**	**3,670,563**	**475.38 /LF**	**7,995,866**
						33.07 Buried Process Pipe, HDPE	**16,820.00 LF**	**12,046**	**874,542**	**1,570,350**	**325,963**	**628,568**	**271,140**	**218.23 /LF**	**3,670,563**	**475.38 /LF**	**7,995,866**
						33.0 Utilities	***1.00*** **LS**	**12,046**	**874,542**	**1,570,350**	**325,963**	**628,568**	**271,140**	**3,670,562.52 /LS**	**3,670,563**	**7,995,866.00 /LS**	**7,995,866**
						01.0 10" HDPE Concentrate Line	**16,820.00 LF**	**12,046**	**874,542**	**1,570,350**	**325,963**	**628,568**	**271,140**	**218.23 /LF**	**3,670,563**	**475.38 /LF**	**7,995,866**
	02.0					Crossing Highway 23 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0002		Crossing at Highway 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	4.00 day	**64**	**3,733**	**-**	**-**	**-**	**-**	933.15 /day	**3,733**	2,000.36 /day	**8,001**
						Trench Box, 8' x 24' x 10'	0.20 mo		**-**	**-**	**-**	**460**	**-**	2,300.00 /mo	**460**	5,097.20 /mo	**1,019**
						Dedicated Fire / Safety Monitor	16.00 hr	**16**	**933**	**-**	**-**	**-**	**-**	58.32 /hr	**933**	125.02 /hr	**2,000**
						Horizontal boring, 24" diameter casing spacer	16.00 ea		**-**	**800**	**-**	**-**	**-**	50.00 /ea	**800**	110.81 /ea	**1,773**
						Horizontal boring, 24" diameter end seals	2.00 ea		**-**	**500**	**-**	**-**	**-**	250.00 /ea	**500**	554.04 /ea	**1,108**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	186.86 CY	**50**	**3,465**	**-**	**-**	**2,380**	**-**	31.28 /CY	**5,845**	67.98 /CY	**12,703**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	63.64 cy	**88**	**5,792**	**-**	**-**	**3,964**	**-**	153.30 /cy	**9,756**	333.13 /cy	**21,200**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	110.63 cy	**50**	**3,801**	**-**	**-**	**4,528**	**-**	75.28 /cy	**8,329**	164.35 /cy	**18,182**
						Pipe zone material	63.64 cy		**-**	**1,782**	**-**	**-**	**-**	28.00 /cy	**1,782**	62.05 /cy	**3,949**
						Pipe bedding material	14.18 cy		**-**	**397**	**-**	**-**	**-**	28.00 /cy	**397**	62.05 /cy	**880**
						Haul spoils, offsite, 10 - 20 miles	188.00 cy		**-**	**-**	**2,820**	**-**	**-**	15.00 /cy	**2,820**	32.16 /cy	**6,045**
						Dump fees, trench spoils	188.00 cy		**-**	**-**	**-**	**-**	**2,820**	15.00 /cy	**2,820**	30.38 /cy	**5,712**
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	460.00 LF	**552**	**44,546**	**157,104**	**-**	**25,140**	**-**	493.02 /LF	**226,790**	1,085.60 /LF	**499,374**
						10" HDPE pipe, excav/backfill not included	460.00 lf	**51**	**4,083**	**24,914**	**-**	**2,305**	**-**	68.05 /lf	**31,302**	150.16 /lf	**69,073**
						CLSM, pipe encasement	110.63 cy		**-**	**6,638**	**-**	**-**	**-**	60.00 /cy	**6,638**	132.97 /cy	**14,710**
						33.00.09.10 Buried Pipe, HDPE, 10"	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,447.24 /LF**	**665,732**
						33.60.02.0002 Crossing at Highway 23, 24" Casing with 10" Carrier	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,447.24 /LF**	**665,732**
						33.07 Buried Process Pipe, HDPE	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,447.24 /LF**	**665,732**
						33.0 Utilities	***1.00*** **LS**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**302,904.38 /LS**	**302,904**	**665,732.38 /LS**	**665,732**
						02.0 Crossing Highway 23 24" Casing with 10" Carrier	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,447.24 /LF**	**665,732**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	3.00 EA			**-**	**4,500**	**-**		1,500.00 /EA	**4,500**	3,215.49 /EA	**9,646**
						2" Corporation stop, thrd	3.00 ea	**3**	**282**		**-**	**136**	**-**	139.45 /ea	**418**	302.23 /ea	**907**
						Ball valve, bronze, screwed, 2"	3.00 ea	**1**	**96**	**192**	**-**	**-**	**-**	95.92 /ea	**288**	210.26 /ea	**631**
						2" copper pipe, K-soft	75.00 LF	**5**	**419**	**794**	**-**	**-**	**-**	16.17 /LF	**1,213**	35.43 /LF	**2,657**
						2" copper, ELL, 90	6.00 ea	**4**	**311**	**77**	**-**	**-**	**-**	64.71 /ea	**388**	139.64 /ea	**838**
						Install Air & Vacuum relief valve, 2"	3.00 ea	**7**	**575**	**-**	**-**	**-**	**-**	191.51 /ea	**575**	410.53 /ea	**1,232**
						FURNISH Air & Vacuum relief valve, iron body, 2"	3.00 ea		**-**	**1,125**	**-**	**-**	**-**	375.00 /ea	**1,125**	831.06 /ea	**2,493**
						Double Strap Saddle, 10" x 2"	3.00 ea	**9**	**718**	**315**	**-**	**-**	**-**	344.39 /ea	**1,033**	745.85 /ea	**2,238**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**3.00 EA**	**30**	**2,401**	**2,503**	**4,500**	**136**		**3,179.88 /EA**	**9,540**	**6,880.34 /EA**	**20,641**
						33.20.08.0005 2" CARV Assembly	**3.00 EA**	**30**	**2,401**	**2,503**	**4,500**	**136**		**3,179.88 /EA**	**9,540**	**6,880.34 /EA**	**20,641**
						33.07 Buried Process Pipe, HDPE	**75.00 LF**	**30**	**2,401**	**2,503**	**4,500**	**136**		**127.20 /LF**	**9,540**	**275.21 /LF**	**20,641**
						33.0 Utilities	***1.00*** **LS**	**30**	**2,401**	**2,503**	**4,500**	**136**		**9,539.63 /LS**	**9,540**	**20,641.03 /LS**	**20,641**
						04.0 2" CARV Assembly	**3.00 EA**	**30**	**2,401**	**2,503**	**4,500**	**136**		**3,179.88 /EA**	**9,540**	**6,880.34 /EA**	**20,641**
	05.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	**36**	**2,905**	**3,916**	**-**	**1,640**	**-**	112.81 /LF	**8,461**	247.19 /LF	**18,539**
						8" DI, MJ, Ell, 90	3.00 ea	**9**	**726**	**1,031**	**-**	**410**	**-**	722.48 /ea	**2,167**	1,583.58 /ea	**4,751**
						8" DI, MJ, Ell, 45	3.00 ea	**9**	**726**	**881**	**-**	**410**	**-**	672.43 /ea	**2,017**	1,472.66 /ea	**4,418**
						8" DI, RJ, cap or plug	3.00 ea	**5**	**363**	**468**	**-**	**205**	**-**	345.52 /ea	**1,037**	756.95 /ea	**2,271**

BID FORM SUMMARY

Project type: Water
Job Size: 16,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						10" HDPE tee	3.00 ea	13	1,079	592	-	609	-	759.60 /ea	2,279	1,657.33 /ea	4,972
						10" HDPE reducer	3.00 ea	9	705	587	-	398	-	562.93 /ea	1,689	1,230.51 /ea	3,692
						10" HDPE flange	3.00 ea	7	580		-	137	-	238.82 /ea	716	515.25 /ea	1,546
						Install gate valve, Flgd, DIP, 8"	3.00 ea	10	799	-	-	451	-	416.61 /ea	1,250	903.96 /ea	2,712
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		-	1,857	-	-	-	619.00 /EA	1,857	1,371.81 /EA	4,115
						Valve accessory, extension stem	15.00 lf	2	120	75	-	-	-	12.98 /lf	195	28.19 /lf	423
						Valve accessory, stem couplings	3.00 set	1	79	60	-	-	-	46.33 /set	139	100.77 /set	302
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	9	726	450	-	410	-	528.73 /ea	1,586	1,154.20 /ea	3,463
						Meter Box	3.00 ea	12	700	750	-	-	-	483.29 /ea	1,450	1,054.13 /ea	3,162
						33.20.01.08 Buried Valves, Gate Valves, 8"	**3.00 EA**	**121**	**9,508**	**10,667**		**4,668**		**8,280.82 /EA**	**24,842**	**18,121.85 /EA**	**54,366**
						33.20.01.0004 8" Blow Off Assembly	**3.00 EA**	**121**	**9,508**	**10,667**		**4,668**		**8,280.82 /EA**	**24,842**	**18,121.85 /EA**	**54,366**
						33.07 Buried Process Pipe, HDPE	**75.00 LF**	**121**	**9,508**	**10,667**		**4,668**		**331.23 /LF**	**24,842**	**724.87 /LF**	**54,366**
						33.0 Utilities	***1.00* LS**	**121**	**9,508**	**10,667**		**4,668**		**24,842.45 /LS**	**24,842**	**54,365.55 /LS**	**54,366**
						05.0 8" Blow Off Assembly	**3.00 EA**	**121**	**9,508**	**10,667**		**4,668**		**8,280.82 /EA**	**24,842**	**18,121.85 /EA**	**54,366**
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	33,640.00 lf	518		-	67,280	-	-	2.00 /lf	67,280	4.19 /lf	140,861
						Asphalt Milling, 6" Depth	9,345.00 Sy	93		-	23,363	-	-	2.50 /Sy	23,363	5.23 /Sy	48,913
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,558.00 cy	160	10,918	-	-	15,376	-	16.88 /cy	26,295	36.05 /cy	56,167
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,558.00 cy		-	19,475	-	-	-	12.50 /cy	19,475	27.08 /cy	42,186
						02.01.01.01 General Site Demolition, Asphalt Pavement	**9,345.00 Sy**	**771**	**10,918**	**19,475**	**90,643**	**15,376**		**14.60 /Sy**	**136,412**	**30.83 /Sy**	**288,127**
						02.01.01.0007 Demo Asphalt	**9,345.00 Sy**	**771**	**10,918**	**19,475**	**90,643**	**15,376**		**14.60 /Sy**	**136,412**	**30.83 /Sy**	**288,127**
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	9,344.44 SY	50	3,576	8,317	-	2,671	-	1.56 /SY	14,563	3.35 /SY	31,286
						Fog seal, sealcoating, prepare and clean surface for sealcoating	9,344.44 sy	26	1,587	-	-	372	-	0.21 /sy	1,958	0.44 /sy	4,127
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	9,344.44 sy	71	5,063	106,994	-	5,469	-	12.58 /sy	117,526	27.20 /sy	254,212
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	9,344.44 sy	4,757	317,622	224,267	-	29,460	-	61.14 /sy	571,349	129.98 /sy	1,214,606
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	16,820.00 LF	48	2,889	11,438	-	1,917	-	0.97 /LF	16,244	2.08 /LF	34,977
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**9,344.44 SY**	**4,953**	**330,736**	**351,015**		**39,889**		**77.23 /SY**	**721,640**	**164.72 /SY**	**1,539,209**
						32.40.02.0008 Trench Paving	**9,344.44 SY**	**4,953**	**330,736**	**351,015**		**39,889**		**77.23 /SY**	**721,640**	**164.72 /SY**	**1,539,209**
						32.12 Paving	**9,344.44 SY**	**5,724**	**341,654**	**370,490**	**90,643**	**55,265**		**91.82 /SY**	**858,052**	**195.55 /SY**	**1,827,336**
						32.0 Exterior Improvements	**9,344.44 SY**	**5,724**	**341,654**	**370,490**	**90,643**	**55,265**		**91.82 /SY**	**858,052**	**195.55 /SY**	**1,827,336**
						06.0 Asphalt Trench Repair	**16,820.00 LF**	**5,724**	**341,654**	**370,490**	**90,643**	**55,265**		**51.01 /LF**	**858,052**	**108.64 /LF**	**1,827,336**
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	12.00 EA	336	21,153	30,000	-	3,111	-	4,521.96 /EA	54,264	9,893.59 /EA	118,723
						10" HDPE pipe, excav/backfill included	240.00 LF	115	9,297	2,640	-	5,247	-	71.60 /LF	17,183	155.86 /LF	37,407
						10" HDPE Ell, 45	48.00 ea	147	11,892	4,480	-	6,711	-	480.90 /ea	23,083	1,047.79 /ea	50,294
						10" HDPE tee	24.00 ea	107	8,628	4,732	-	4,870	-	759.60 /ea	18,230	1,657.32 /ea	39,776
						10" HDPE wye	24.00 ea	107	8,628	7,157	-	4,870	-	860.64 /ea	20,655	1,881.24 /ea	45,150
						10" HDPE flange	120.00 ea	287	23,193		-	5,465	-	238.82 /ea	28,658	515.25 /ea	61,830
						10" steel blind flange	48.00 ea	56	4,513		-	2,547	-	147.07 /ea	7,060	319.12 /ea	15,318
						10" Bolt & Gasket Kits, SS	120.00 ea	264	21,066	8,640	-	-	-	247.55 /ea	29,706	535.89 /ea	64,306
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	36.00 ea		-	258,768	-	-	-	7,188.00 /ea	258,768	15,929.76 /ea	573,471
						Install Pinch valve, iron body, Flgd, 10"	36.00 ea	144	11,491	-	-	-	-	319.18 /ea	11,491	684.22 /ea	24,632
						33.00.09.10 Buried Pipe, HDPE, 10"	**240.00 LF**	**1,564**	**119,861**	**316,417**		**32,820**		**1,954.58 /LF**	**469,098**	**4,295.45 /LF**	**1,030,907**
						33.00.09.0009 Access Way and Cleaning Structure Vaults	**12.00 EA**	**1,564**	**119,861**	**316,417**		**32,820**		**39,091.53 /EA**	**469,098**	**85,908.93 /EA**	**1,030,907**
						33.07 Buried Process Pipe, HDPE	**240.00 LF**	**1,564**	**119,861**	**316,417**		**32,820**		**1,954.58 /LF**	**469,098**	**4,295.45 /LF**	**1,030,907**
						33.0 Utilities	***1.00* LS**	**1,564**	**119,861**	**316,417**		**32,820**		**469,098.34 /LS**	**469,098**	**1,030,907.17 /LS**	**1,030,907**
						07.0 Access Way and Cleaning Structure Vaults	**12.00 EA**	**1,564**	**119,861**	**316,417**		**32,820**		**39,091.53 /EA**	**469,098**	**85,908.93 /EA**	**1,030,907**
	08.0					**Energy Dissipation Facility**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	16,820.00 LF		-	-	420,500	-		25.00 /LF	420,500	53.59 /LF	901,409
						33.00.01.40 Buried Pipe, Traffic Control	**16,820.00 LF**				**420,500**			**25.00 /LF**	**420,500**	**53.59 /LF**	**901,409**
						33.00.01.0009 Traffic Control Allowance	**16,820.00 LF**				**420,500**			**25.00 /LF**	**420,500**	**53.59 /LF**	**901,409**
						33.89 Pipeline - Traffic Control	**16,820.00 LF**				**420,500**			**25.00 /LF**	**420,500**	**53.59 /LF**	**901,409**
						33.0 Utilities	***1.00* LS**				**420,500**			**420,500.00 /LS**	**420,500**	**901,409.14 /LS**	**901,409**
						08.0 Energy Dissipation Facility	**16,820.00 LF**				**420,500**			**25.00 /LF**	**420,500**	**53.59 /LF**	**901,409**
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	17.00 EA		-	-	255,000	-		15,000.00 /EA	255,000	33,654.90 /EA	572,133
						26.00.99.00 Electrical, Other	**17.00 EA**				**255,000**			**15,000.00 /EA**	**255,000**	**33,654.90 /EA**	**572,133**
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**17.00 EA**				**255,000**			**15,000.00 /EA**	**255,000**	**33,654.90 /EA**	**572,133**
						26.10 Site Electrical	***1.00* LS**				**255,000**			**255,000.00 /LS**	**255,000**	**572,133.37 /LS**	**572,133**

BID FORM SUMMARY

Project type: Water
Job Size: 16,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						26.0 Electrical Work	*1.00* LS				255,000			255,000.00 /LS	255,000	572,133.37 /LS	572,133
						09.0 Traffic Loop Replacement Allowance	17.00 EA				255,000			15,000.00 /EA	255,000	33,654.90 /EA	572,133
						01.0 Las Virgenes Concentrate No. 2-1 Pink Line	*1.00* **LS**	20,357	1,414,320	2,462,560	1,099,425	760,234	273,960	**6,010,499.12 /LS**	6,010,499	**13,068,390.84 /LS**	13,068,391

BID FORM SUMMARY

Project type: Water
Job Size: 16,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,414,320		20,356.848 hrs		84.086	10.82%	
Material	2,462,560				146.407	18.84%	
Subcontract	1,099,425				65.364	8.41%	
Equipment	760,234		14,135.934 hrs		45.198	5.82%	
Other	273,960				16.288	2.10%	
Subtotal Raw Costs	**6,010,499**	**6,010,499**			**357.342**	**45.99%**	**45.99%**
Material Sales & Use Tax - %	178,536			7.250 %	10.614	1.37%	
Construction Equip Tax - %	55,117			7.250 %	3.277	0.42%	
Total Taxes	**233,653**	**6,244,152**			**371.234**	**1.79%**	**47.78%**
Location Adj. Factor	676,912			11.800 %	40.244	5.18%	
Productivity Adjustment							
Subtotal Adj. Factors	**676,912**	**6,921,064**			**411.478**	**5.18%**	**52.96%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	63,750			25.000 %	3.790	0.49%	
Site/Civil I,OH&P	85,805			10.000 %	5.101	0.66%	
Buried Piping I,OH&P	734,617			15.000 %	43.675	5.62%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**884,172**	**7,805,236**			**464.045**	**6.77%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**7,805,236**			**464.045**		**59.73%**
Total Cost To Prime Contractor		**7,805,236**			**464.045**		**59.73%**
General Conditions	780,524			10.000 %	46.404	5.97%	
Mobilization/Demobilization	312,209			4.000 %	18.562	2.39%	
Subtotal Indirect Costs	**1,092,733**	**8,897,969**			**529.011**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	889,797			10.000 %	52.901	6.81%	
Prime Contractor Profit	444,898			5.000 %	26.451	3.40%	
Bonds & Insurance	222,049			2.170 %	13.201	1.70%	
Subtotal OH&P	**1,556,744**	**10,454,713**			**621.564**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**10,454,713**			**621.564**		**80.00%**
Design Contingency	2,613,678			25.000 %	155.391	20.00%	
Subtotal Contingency	**2,613,678**	**13,068,391**			**776.955**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**13,068,391**			**776.955**		**100.00%**
Total Prime Contractor Costs		**13,068,391**			**776.955**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**13,068,391**			**776.955**		**100.00%**
Total Contractor Costs w/ OFCI		**13,068,391**			**776.955**		**100.00%**
Total Construction Cost		**13,068,391**			**776.955**		**100.00%**
Total		***13,068,391***			***776.955***		

BID FORM SUMMARY

Project type: Water
Job Size: 16,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 2-1 Pink Line**											
	01.0				10" HDPE Concentrate Line											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE	16,820.00 LF	12,046	874,542	1,570,350	325,963	628,568	271,140	218.23 /LF	3,670,563	475.38 /LF	7,995,866
					33.07 Buried Process Pipe, HDPE	**16,820.00 LF**	12,046	874,542	1,570,350	325,963	628,568	271,140	**218.23 /LF**	3,670,563	**475.38 /LF**	**7,995,866**
					33.0 Utilities	*1.00* LS	12,046	874,542	1,570,350	325,963	628,568	271,140	3,670,562.52 /LS	3,670,563	7,995,866.00 /LS	7,995,866
					01.0 10" HDPE Concentrate Line	16,820.00 LF	12,046	874,542	1,570,350	325,963	628,568	271,140	218.23 /LF	3,670,563	475.38 /LF	7,995,866
	02.0				Crossing Highway 23 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0002	Crossing at Highway 23, 24" Casing with 10" Carrier	460.00 LF	872	66,353	192,134	2,820	38,777	2,820	658.49 /LF	302,904	1,447.24 /LF	665,732
					33.07 Buried Process Pipe, HDPE	**460.00 LF**	872	66,353	192,134	2,820	38,777	2,820	**658.49 /LF**	302,904	**1,447.24 /LF**	**665,732**
					33.0 Utilities	*1.00* LS	872	66,353	192,134	2,820	38,777	2,820	302,904.38 /LS	302,904	665,732.38 /LS	665,732
					02.0 Crossing Highway 23 24" Casing with 10" Carrier	460.00 LF	872	66,353	192,134	2,820	38,777	2,820	658.49 /LF	302,904	1,447.24 /LF	665,732
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	3.00 EA	30	2,401	2,503	4,500	136		3,179.88 /EA	9,540	6,880.34 /EA	20,641
					33.07 Buried Process Pipe, HDPE	**75.00 LF**	30	2,401	2,503	4,500	136		**127.20 /LF**	9,540	**275.21 /LF**	**20,641**
					33.0 Utilities	*1.00* LS	30	2,401	2,503	4,500	136		9,539.63 /LS	9,540	20,641.03 /LS	20,641
					04.0 2" CARV Assembly	3.00 EA	30	2,401	2,503	4,500	136		3,179.88 /EA	9,540	6,880.34 /EA	20,641
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,121.85 /EA	54,366
					33.07 Buried Process Pipe, HDPE	**75.00 LF**	121	9,508	10,667		4,668		**331.23 /LF**	24,842	**724.87 /LF**	**54,366**
					33.0 Utilities	*1.00* LS	121	9,508	10,667		4,668		24,842.45 /LS	24,842	54,365.55 /LS	54,366
					05.0 8" Blow Off Assembly	3.00 EA	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,121.85 /EA	54,366
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	9,345.00 Sy	771	10,918	19,475	90,643	15,376		14.60 /Sy	136,412	30.83 /Sy	288,127
				32.40.02.0008	Trench Paving	9,344.44 SY	4,953	330,736	351,015		39,889		77.23 /SY	721,640	164.72 /SY	1,539,209
					32.12 Paving	**9,344.44 SY**	5,724	341,654	370,490	90,643	55,265		**91.82 /SY**	858,052	**195.55 /SY**	**1,827,336**
					32.0 Exterior Improvements	9,344.44 SY	5,724	341,654	370,490	90,643	55,265		91.82 /SY	858,052	195.55 /SY	1,827,336
					06.0 Asphalt Trench Repair	16,820.00 LF	5,724	341,654	370,490	90,643	55,265		51.01 /LF	858,052	108.64 /LF	1,827,336
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	12.00 EA	1,564	119,861	316,417		32,820		39,091.53 /EA	469,098	85,908.93 /EA	1,030,907
					33.07 Buried Process Pipe, HDPE	**240.00 LF**	1,564	119,861	316,417		32,820		**1,954.58 /LF**	469,098	**4,295.45 /LF**	**1,030,907**
					33.0 Utilities	*1.00* LS	1,564	119,861	316,417		32,820		469,098.34 /LS	469,098	1,030,907.17 /LS	1,030,907
					07.0 Access Way and Cleaning Structure Vaults	12.00 EA	1,564	119,861	316,417		32,820		39,091.53 /EA	469,098	85,908.93 /EA	1,030,907
	08.0				Energy Dissipation Facility											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	16,820.00 LF				420,500			25.00 /LF	420,500	53.59 /LF	901,409
					33.89 Pipeline - Traffic Control	**16,820.00 LF**				420,500			**25.00 /LF**	420,500	**53.59 /LF**	**901,409**
					33.0 Utilities	*1.00* LS				420,500			420,500.00 /LS	420,500	901,409.14 /LS	901,409
					08.0 Energy Dissipation Facility	16,820.00 LF				420,500			25.00 /LF	420,500	53.59 /LF	901,409
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	17.00 EA				255,000			15,000.00 /EA	255,000	33,654.90 /EA	572,133
					26.10 Site Electrical	*1.00* LS				255,000			**255,000.00 /LS**	255,000	**572,133.37 /LS**	**572,133**
					26.0 Electrical Work	*1.00* LS				255,000			255,000.00 /LS	255,000	572,133.37 /LS	572,133
					09.0 Traffic Loop Replacement Allowance	17.00 EA				255,000			15,000.00 /EA	255,000	33,654.90 /EA	572,133
					01.0 Las Virgenes Concentrate No. 2-1 Pink Line	*1.00* LS	20,357	1,414,320	2,462,560	1,099,425	760,234	273,960	**6,010,499.12 /LS**	6,010,499	**13,068,390.84 /LS**	13,068,391

BID FORM SUMMARY

Project type: Water
Job Size: 16,820 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-1 Pink Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-10-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,414,320		20,356.848 hrs		84.086	10.82%	
Material	2,462,560				146.407	18.84%	
Subcontract	1,099,425				65.364	8.41%	
Equipment	760,234		14,135.934 hrs		45.198	5.82%	
Other	273,960				16.288	2.10%	
Subtotal Raw Costs	**6,010,499**	**6,010,499**			**357.342**	**45.99%**	**45.99%**
Material Sales & Use Tax - %	178,536			7.250 %	10.614	1.37%	
Construction Equip Tax - %	55,117			7.250 %	3.277	0.42%	
Total Taxes	**233,653**	**6,244,152**			**371.234**	**1.79%**	**47.78%**
Location Adj. Factor	676,912			11.800 %	40.244	5.18%	
Productivity Adjustment							
Subtotal Adj. Factors	**676,912**	**6,921,064**			**411.478**	**5.18%**	**52.96%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	63,750			25.000 %	3.790	0.49%	
Site/Civil I,OH&P	85,805			10.000 %	5.101	0.66%	
Buried Piping I,OH&P	734,617			15.000 %	43.675	5.62%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**884,172**	**7,805,236**			**464.045**	**6.77%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**7,805,236**			**464.045**		**59.73%**
Total Cost To Prime Contractor		**7,805,236**			**464.045**		**59.73%**
General Conditions	780,524			10.000 %	46.404	5.97%	
Mobilization/Demobilization	312,209			4.000 %	18.562	2.39%	
Subtotal Indirect Costs	**1,092,733**	**8,897,969**			**529.011**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	889,797			10.000 %	52.901	6.81%	
Prime Contractor Profit	444,898			5.000 %	26.451	3.40%	
Bonds & Insurance	222,049			2.170 %	13.201	1.70%	
Subtotal OH&P	**1,556,744**	**10,454,713**			**621.564**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**10,454,713**			**621.564**		**80.00%**
Design Contingency	2,613,678			25.000 %	155.391	20.00%	
Subtotal Contingency	**2,613,678**	**13,068,391**			**776.955**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**13,068,391**			**776.955**		**100.00%**
Total Prime Contractor Costs		**13,068,391**			**776.955**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**13,068,391**			**776.955**		**100.00%**
Total Contractor Costs w/ OFCI		**13,068,391**			**776.955**		**100.00%**
Total Construction Cost		**13,068,391**			**776.955**		**100.00%**
Total		***13,068,391***			***776.955***		

Reach 2

No. 2-2 Purple Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple | Estimator: John DeWolf
Job Size: 17,870 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 2-2 Purple Line***			
	01.0	**10" HDPE Concentrate Line**	**17,870.00 LF**	**465.23 /LF**	**8,313,613**
	02.0	**Crossing Highway 23 24" Casing with 10" Carrier**	**460.00 LF**	**1,446.73 /LF**	**665,495**
	04.0	**2" CARV Assembly**	**3.00 EA**	**6,877.86 /EA**	**20,634**
	05.0	**8" Blow Off Assembly**	**3.00 EA**	**18,115.37 /EA**	**54,346**
	06.0	**Asphalt Trench Repair**	**17,870.00 LF**	**108.64 /LF**	**1,941,319**
	07.0	**Access Way and Cleaning Structure Vaults**	**13.00 EA**	**85,878.36 /EA**	**1,116,419**
	08.0	**Traffic Control**	**17,870.00 LF**	**53.57 /LF**	**957,331**
	09.0	**Traffic Loop Replacement Allowance**	**10.00 EA**	**33,643.17 /EA**	**336,432**
	01.0 Las Virgenes Concentrate No. 2-2 Purple Line		***1.00 LS***	***13,405,588.82 /LS***	***13,405,589***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,170,570		21,451.677 hrs		177.424	23.65%	
Material	5,762,679				322.478	42.99%	
Subcontract	2,228,643				124.714	16.62%	
Equipment	1,688,962		13,977.584 hrs		94.514	12.60%	
Other	554,736				31.043	4.14%	
Total Prime Contractor Costs	**13,405,590**	**13,405,590**			**750.173**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**13,405,590**			**750.173**		**100.00%**
Total		***13,405,590***			***750.173***		

BID FORM SUMMARY

Project type: Water
Job Size: 17,870 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 2-2 Purple Line**											
	01.0					10" HDPE Concentrate Line											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			**-**	**-**	**-**	**-**	***/lf***		***/lf***	
						Traffic Control, Labor per Day	90.00 day	**1,440**	**83,984**	**-**	-	-	-	933.15 /day	**83,984**	1,999.63 /day	**179,967**
						Trench Box, 8' x 24' x 10'	4.20 mo		**-**	**-**	-	**9,660**	-	2,300.00 /mo	**9,660**	5,095.37 /mo	**21,401**
						Dedicated Fire / Safety Monitor	360.00 hr	**360**	**20,996**	**-**	-	-	-	58.32 /hr	**20,996**	124.98 /hr	**44,992**
						25 tn Rough Terrain (per day)	90.00 day	**720**	**56,969**	**-**	-	**106,344**	-	1,814.58 /day	**163,313**	3,974.10 /day	**357,669**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	13,035.92 CY	**1,440**	**98,960**	**-**	-	**67,969**	-	12.81 /CY	**166,929**	27.82 /CY	**362,637**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	3,761.78 cy	**2,520**	**165,393**	**-**	-	**113,203**	-	74.06 /cy	**278,596**	160.88 /cy	**605,204**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	9,254.58 cy	**1,440**	**108,546**	**-**	-	**129,318**	-	25.70 /cy	**237,864**	56.09 /cy	**519,089**
						Pipe zone material	3,761.78 cy		**-**	**105,330**	-	-	-	28.00 /cy	**105,330**	62.03 /cy	**233,345**
						Pipe bedding material	1,139.16 cy		**-**	**31,896**	-	**-**	**-**	28.00 /cy	**31,896**	62.03 /cy	**70,663**
						Haul spoils, offsite, 10 - 20 miles	16,718.45 cy		**-**	**-**	**250,777**	**-**	-	15.00 /cy	**250,777**	32.14 /cy	**537,384**
						Dump fees, trench spoils	18,076.00 cy		**-**	**-**	**-**	**-**	**271,140**	15.00 /cy	**271,140**	30.37 /cy	**549,025**
						10" HDPE pipe, excav/backfill not included	17,870.00 LF	**4,320**	**348,627**	**967,839**	**-**	**196,750**	-	84.68 /LF	**1,513,216**	186.18 /LF	**3,327,069**
						10" HDPE Ell, 45	18.00 ea	**55**	**4,459**	**1,680**	-	**2,517**	-	480.90 /ea	**8,656**	1,047.41 /ea	**18,853**
						Field weld fusion joints, Subcontracted (S), 10"	930.00 ea		**-**	**-**	**84,119**	**-**	-	90.45 /ea	**84,119**	193.82 /ea	**180,256**
						CLSM, pipe encasement	9,254.58 cy		**-**	**555,275**	-	**-**	-	60.00 /cy	**555,275**	132.92 /cy	**1,230,144**
						Pipe Marking, Detection Tape	17,870.00 lf	**179**	**14,481**	**2,323**	-	**-**	-	0.94 /lf	**16,804**	2.02 /lf	**36,177**
						Pipe Marking, Copper Wire	17,870.00 lf	**179**	**14,481**	**3,931**	-	**-**	-	1.03 /lf	**18,412**	2.22 /lf	**39,740**
						33.00.09.10 Buried Pipe, HDPE, 10"	**17,870.00 LF**	**12,653**	**916,894**	**1,668,275**	**334,895**	**625,761**	**271,140**	**213.60 /LF**	**3,816,965**	**465.23 /LF**	**8,313,613**
						33.00.09.0001 10" HDPE	**17,870.00 LF**	**12,653**	**916,894**	**1,668,275**	**334,895**	**625,761**	**271,140**	**213.60 /LF**	**3,816,965**	**465.23 /LF**	**8,313,613**
						33.07 Buried Process Pipe, HDPE	**17,870.00 LF**	**12,653**	**916,894**	**1,668,275**	**334,895**	**625,761**	**271,140**	**213.60 /LF**	**3,816,965**	**465.23 /LF**	**8,313,613**
						33.0 Utilities	***1.00*** **LS**	**12,653**	**916,894**	**1,668,275**	**334,895**	**625,761**	**271,140**	**3,816,964.81 /LS**	**3,816,965**	**8,313,613.26 /LS**	**8,313,613**
						01.0 10" HDPE Concentrate Line	**17,870.00 LF**	**12,653**	**916,894**	**1,668,275**	**334,895**	**625,761**	**271,140**	**213.60 /LF**	**3,816,965**	**465.23 /LF**	**8,313,613**
	02.0					Crossing Highway 23 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0002		Crossing at Highway 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	4.00 day	**64**	**3,733**	**-**	-	-	-	933.15 /day	**3,733**	1,999.64 /day	**7,999**
						Trench Box, 8' x 24' x 10'	0.20 mo		**-**	**-**	-	**460**	-	2,300.00 /mo	**460**	5,095.40 /mo	**1,019**
						Dedicated Fire / Safety Monitor	16.00 hr	**16**	**933**	**-**	-	-	-	58.32 /hr	**933**	124.98 /hr	**2,000**
						Horizontal boring, 24" diameter casing spacer	16.00 ea		**-**	**800**	-	**-**	-	50.00 /ea	**800**	110.77 /ea	**1,772**
						Horizontal boring, 24" diameter end seals	2.00 ea		**-**	**500**	-	**-**	-	250.00 /ea	**500**	553.84 /ea	**1,108**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	186.86 CY	**50**	**3,465**	**-**	-	**2,380**	-	31.28 /CY	**5,845**	67.96 /CY	**12,699**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	63.64 cy	**88**	**5,792**	**-**	-	**3,964**	-	153.30 /cy	**9,756**	333.01 /cy	**21,193**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	110.63 cy	**50**	**3,801**	**-**	-	**4,528**	-	75.28 /cy	**8,329**	164.29 /cy	**18,176**
						Pipe zone material	63.64 cy		**-**	**1,782**	-	**-**	-	28.00 /cy	**1,782**	62.03 /cy	**3,948**
						Pipe bedding material	14.18 cy		**-**	**397**	-	**-**	-	28.00 /cy	**397**	62.03 /cy	**880**
						Haul spoils, offsite, 10 - 20 miles	188.00 cy		**-**	**-**	**2,820**	**-**	-	15.00 /cy	**2,820**	32.14 /cy	**6,043**
						Dump fees, trench spoils	188.00 cy		**-**	**-**	-	**-**	**2,820**	15.00 /cy	**2,820**	30.37 /cy	**5,710**
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	460.00 LF	**552**	**44,546**	**157,104**	-	**25,140**	-	493.02 /LF	**226,790**	1,085.21 /LF	**499,197**
						10" HDPE pipe, excav/backfill not included	460.00 lf	**51**	**4,083**	**24,914**	-	**2,305**	-	68.05 /lf	**31,302**	150.11 /lf	**69,049**
						CLSM, pipe encasement	110.63 cy		**-**	**6,638**	-	**-**	-	60.00 /cy	**6,638**	132.92 /cy	**14,705**
						33.00.09.10 Buried Pipe, HDPE, 10"	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,446.73 /LF**	**665,495**
						33.60.02.0002 Crossing at Highway 23, 24" Casing with 10" Carrier	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,446.73 /LF**	**665,495**
						33.07 Buried Process Pipe, HDPE	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,446.73 /LF**	**665,495**
						33.0 Utilities	***1.00*** **LS**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**302,904.38 /LS**	**302,904**	**665,495.46 /LS**	**665,495**
						02.0 Crossing Highway 23 24" Casing with 10" Carrier	**460.00 LF**	**872**	**66,353**	**192,134**	**2,820**	**38,777**	**2,820**	**658.49 /LF**	**302,904**	**1,446.73 /LF**	**665,495**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	3.00 EA			**-**	**4,500**	-		1,500.00 /EA	**4,500**	3,214.31 /EA	**9,643**
						2" Corporation stop, thrd	3.00 ea	**3**	**282**		-	**136**	-	139.45 /ea	**418**	302.13 /ea	**906**
						Ball valve, bronze, screwed, 2"	3.00 ea	**1**	**96**	**192**	-	-	-	95.92 /ea	**288**	210.18 /ea	**631**
						2" copper pipe, K-soft	75.00 LF	**5**	**419**	**794**	-	-	-	16.17 /LF	**1,213**	35.41 /LF	**2,656**
						2" copper, ELL, 90	6.00 ea	**4**	**311**	**77**	-	-	-	64.71 /ea	**388**	139.59 /ea	**838**
						Install Air & Vacuum relief valve, 2"	3.00 ea	**7**	**575**	**-**	-	-	-	191.51 /ea	**575**	410.38 /ea	**1,231**
						FURNISH Air & Vacuum relief valve, iron body, 2"	3.00 ea		**-**	**1,125**	-	-	-	375.00 /ea	**1,125**	830.76 /ea	**2,492**
						Double Strap Saddle, 10" x 2"	3.00 ea	**9**	**718**	**315**	-	-	-	344.39 /ea	**1,033**	745.60 /ea	**2,237**
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**3.00 EA**	**30**	**2,401**	**2,503**	**4,500**	**136**		**3,179.88 /EA**	**9,540**	**6,877.86 /EA**	**20,634**
						33.20.08.0005 2" CARV Assembly	**3.00 EA**	**30**	**2,401**	**2,503**	**4,500**	**136**		**3,179.88 /EA**	**9,540**	**6,877.86 /EA**	**20,634**
						33.07 Buried Process Pipe, HDPE	**75.00 LF**	**30**	**2,401**	**2,503**	**4,500**	**136**		**127.20 /LF**	**9,540**	**275.11 /LF**	**20,634**
						33.0 Utilities	***1.00*** **LS**	**30**	**2,401**	**2,503**	**4,500**	**136**		**9,539.63 /LS**	**9,540**	**20,633.59 /LS**	**20,634**
						04.0 2" CARV Assembly	**3.00 EA**	**30**	**2,401**	**2,503**	**4,500**	**136**		**3,179.88 /EA**	**9,540**	**6,877.86 /EA**	**20,634**
	05.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	75.00 LF	**36**	**2,905**	**3,916**	-	**1,640**	-	112.81 /LF	**8,461**	247.10 /LF	**18,533**
						8" DI, MJ, Ell, 90	3.00 ea	**9**	**726**	**1,031**	-	**410**	-	722.48 /ea	**2,167**	1,583.03 /ea	**4,749**
						8" DI, MJ, Ell, 45	3.00 ea	**9**	**726**	**881**	-	**410**	-	672.43 /ea	**2,017**	1,472.14 /ea	**4,416**
						8" DI, RJ, cap or plug	3.00 ea	**5**	**363**	**468**	-	**205**	-	345.52 /ea	**1,037**	756.67 /ea	**2,270**

BID FORM SUMMARY

Project type: Water
Job Size: 17,870 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						10" HDPE tee	3.00 ea	13	1,079	592	-	609	-	759.60 /ea	2,279	1,656.73 /ea	4,970
						10" HDPE reducer	3.00 ea	9	705	587	-	398	-	562.93 /ea	1,689	1,230.08 /ea	3,690
						10" HDPE flange	3.00 ea	7	580		-	137	-	238.82 /ea	716	515.06 /ea	1,545
						Install gate valve, Flgd, DIP, 8"	3.00 ea	10	799	-	-	451	-	416.61 /ea	1,250	903.63 /ea	2,711
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	3.00 EA		-	1,857	-	-	-	619.00 /EA	1,857	1,371.32 /EA	4,114
						Valve accessory, extension stem	15.00 lf	2	120	75	-	-	-	12.98 /lf	195	28.18 /lf	423
						Valve accessory, stem couplings	3.00 set	1	79	60	-	-	-	46.33 /set	139	100.74 /set	302
						CI Valve Box & Cover, w/ Concrete Collar included	3.00 ea	9	726	450	-	410	-	528.73 /ea	1,586	1,153.80 /ea	3,461
						Meter Box	3.00 ea	12	700	750	-	-	-	483.29 /ea	1,450	1,053.75 /ea	3,161
						33.20.01.08 Buried Valves, Gate Valves, 8"	**3.00 EA**	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,115.37 /EA	54,346
						33.20.01.0004 8" Blow Off Assembly	**3.00 EA**	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,115.37 /EA	54,346
						33.07 Buried Process Pipe, HDPE	**75.00 LF**	121	9,508	10,667		4,668		331.23 /LF	24,842	724.61 /LF	54,346
						33.0 Utilities	***1.00* LS**	121	9,508	10,667		4,668		24,842.45 /LS	24,842	54,346.11 /LS	54,346
						05.0 8" Blow Off Assembly	**3.00 EA**	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,115.37 /EA	54,346
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	35,740.00 lf	550		-	71,480	-	-	2.00 /lf	71,480	4.19 /lf	149,599
						Asphalt Milling, 6" Depth	9,930.00 Sy	99		-	24,825	-	-	2.50 /Sy	24,825	5.23 /Sy	51,956
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,665.00 cy	171	11,668	-	-	16,432	-	16.88 /cy	28,100	36.04 /cy	60,002
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,665.00 cy		-	20,813	-	-	-	12.50 /cy	20,813	27.07 /cy	45,067
						02.01.01.01 General Site Demolition, Asphalt Pavement	**9,930.00 Sy**	820	11,668	20,813	96,305	16,432		14.62 /Sy	145,218	30.88 /Sy	306,624
						02.01.01.0007 Demo Asphalt	**9,930.00 Sy**	820	11,668	20,813	96,305	16,432		14.62 /Sy	145,218	30.88 /Sy	306,624
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	9,927.78 SY	53	3,799	8,836	-	2,837	-	1.56 /SY	15,472	3.35 /SY	33,227
						Fog seal, sealcoating, prepare and clean surface for sealcoating	9,927.78 sy	28	1,686	-	-	395	-	0.21 /sy	2,081	0.44 /sy	4,383
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	9,927.78 sy	76	5,379	113,673	-	5,810	-	12.58 /sy	124,862	27.19 /sy	269,984
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	9,927.78 sy	5,054	337,450	238,267	-	31,300	-	61.14 /sy	607,016	129.93 /sy	1,289,954
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	17,870.00 LF	51	3,069	12,152	-	2,037	-	0.97 /LF	17,258	2.08 /LF	37,147
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**9,927.78 SY**	5,262	351,383	372,927		42,379		77.23 /SY	766,689	164.66 /SY	1,634,695
						32.40.02.0008 Trench Paving	**9,927.78 SY**	5,262	351,383	372,927		42,379		77.23 /SY	766,689	164.66 /SY	1,634,695
						32.12 Paving	**9,927.78 SY**	6,082	363,051	393,740	96,305	58,811		91.85 /SY	911,907	195.54 /SY	1,941,319
						32.0 Exterior Improvements	**9,927.78 SY**	6,082	363,051	393,740	96,305	58,811		91.85 /SY	911,907	195.54 /SY	1,941,319
						06.0 Asphalt Trench Repair	**17,870.00 LF**	6,082	363,051	393,740	96,305	58,811		51.03 /LF	911,907	108.64 /LF	1,941,319
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	13.00 EA	364	22,916	32,500	-	3,370	-	4,521.96 /EA	58,785	9,890.05 /EA	128,571
						10" HDPE pipe, excav/backfill included	260.00 LF	125	10,071	2,860	-	5,684	-	71.60 /LF	18,615	155.81 /LF	40,510
						10" HDPE Ell, 45	52.00 ea	160	12,883	4,853	-	7,271	-	480.90 /ea	25,007	1,047.41 /ea	54,465
						10" HDPE tee	26.00 ea	116	9,347	5,127	-	5,275	-	759.60 /ea	19,750	1,656.73 /ea	43,075
						10" HDPE wye	26.00 ea	116	9,347	7,754	-	5,275	-	860.64 /ea	22,377	1,880.57 /ea	48,895
						10" HDPE flange	130.00 ea	311	25,126		-	5,921	-	238.82 /ea	31,047	515.07 /ea	66,958
						10" steel blind flange	52.00 ea	61	4,889		-	2,759	-	147.07 /ea	7,648	319.01 /ea	16,588
						10" Bolt & Gasket Kits, SS	130.00 ea	286	22,822	9,360	-	-	-	247.55 /ea	32,182	535.69 /ea	69,640
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	39.00 ea		-	280,332	-	-	-	7,188.00 /ea	280,332	15,924.14 /ea	621,041
						Install Pinch valve, iron body, Flgd, 10"	39.00 ea	156	12,448	-	-	-	-	319.18 /ea	12,448	683.97 /ea	26,675
						33.00.09.10 Buried Pipe, HDPE, 10"	**260.00 LF**	1,694	129,850	342,786		35,555		1,954.58 /LF	508,190	4,293.92 /LF	1,116,419
						33.00.09.0009 Access Way and Cleaning Structure Vaults	**13.00 EA**	1,694	129,850	342,786		35,555		39,091.53 /EA	508,190	85,878.36 /EA	1,116,419
						33.07 Buried Process Pipe, HDPE	**260.00 LF**	1,694	129,850	342,786		35,555		1,954.58 /LF	508,190	4,293.92 /LF	1,116,419
						33.0 Utilities	***1.00* LS**	1,694	129,850	342,786		35,555		508,189.92 /LS	508,190	1,116,418.71 /LS	1,116,419
						07.0 Access Way and Cleaning Structure Vaults	**13.00 EA**	1,694	129,850	342,786		35,555		39,091.53 /EA	508,190	85,878.36 /EA	1,116,419
	08.0					**Traffic Control**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	17,870.00 LF		-	-	446,750	-		25.00 /LF	446,750	53.57 /LF	957,331
						33.00.01.40 Buried Pipe, Traffic Control	**17,870.00 LF**				446,750			25.00 /LF	446,750	53.57 /LF	957,331
						33.00.01.0009 Traffic Control Allowance	**17,870.00 LF**				446,750			25.00 /LF	446,750	53.57 /LF	957,331
						33.89 Pipeline - Traffic Control	**17,870.00 LF**				446,750			25.00 /LF	446,750	53.57 /LF	957,331
						33.0 Utilities	***1.00* LS**				446,750			446,750.00 /LS	446,750	957,330.79 /LS	957,331
						08.0 Traffic Control	**17,870.00 LF**				446,750			25.00 /LF	446,750	53.57 /LF	957,331
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	10.00 EA		-	-	150,000	-		15,000.00 /EA	150,000	33,643.17 /EA	336,432
						26.00.99.00 Electrical, Other	**10.00 EA**				150,000			15,000.00 /EA	150,000	33,643.17 /EA	336,432
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**10.00 EA**				150,000			15,000.00 /EA	150,000	33,643.17 /EA	336,432
						26.10 Site Electrical	***1.00* LS**				150,000			150,000.00 /LS	150,000	336,431.70 /LS	336,432

BID FORM SUMMARY

Project type: Water
Job Size: 17,870 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						26.0 Electrical Work	*1.00* LS				150,000			150,000.00 /LS	150,000	336,431.70 /LS	336,432
						09.0 Traffic Loop Replacement Allowance	10.00 EA				150,000			15,000.00 /EA	150,000	33,643.17 /EA	336,432
						01.0 Las Virgenes Concentrate No. 2-2 Purple Line	*1.00* **LS**	21,452	1,488,056	2,610,103	1,035,270	763,708	273,960	**6,171,097.75 /LS**	6,171,098	**13,405,588.82 /LS**	13,405,589

BID FORM SUMMARY

Project type: Water
Job Size: 17,870 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,488,056		21,451.677 hrs		83.271	11.10%	
Material	2,610,103				146.061	19.47%	
Subcontract	1,035,270				57.933	7.72%	
Equipment	763,708		13,977.584 hrs		42.737	5.70%	
Other	273,960				15.331	2.04%	
Subtotal Raw Costs	**6,171,097**	**6,171,097**			**345.333**	**46.03%**	**46.03%**
Material Sales & Use Tax - %	189,233			7.250 %	10.589	1.41%	
Construction Equip Tax - %	55,369			7.250 %	3.098	0.41%	
Total Taxes	**244,602**	**6,415,699**			**359.021**	**1.82%**	**47.86%**
Location Adj. Factor	695,862			11.800 %	38.940	5.19%	
Productivity Adjustment							
Subtotal Adj. Factors	**695,862**	**7,111,561**			**397.961**	**5.19%**	**53.05%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	37,500			25.000 %	2.098	0.28%	
Site/Civil I,OH&P	91,191			10.000 %	5.103	0.68%	
Buried Piping I,OH&P	766,379			15.000 %	42.886	5.72%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**895,070**	**8,006,631**			**448.049**	**6.68%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**8,006,631**			**448.049**		**59.73%**
Total Cost To Prime Contractor		**8,006,631**			**448.049**		**59.73%**
General Conditions	800,663			10.000 %	44.805	5.97%	
Mobilization/Demobilization	320,265			4.000 %	17.922	2.39%	
Subtotal Indirect Costs	**1,120,928**	**9,127,559**			**510.776**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	912,756			10.000 %	51.078	6.81%	
Prime Contractor Profit	456,378			5.000 %	25.539	3.40%	
Bonds & Insurance	227,778			2.170 %	12.746	1.70%	
Subtotal OH&P	**1,596,912**	**10,724,471**			**600.138**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**10,724,471**			**600.138**		**80.00%**
Design Contingency	2,681,118			25.000 %	150.035	20.00%	
Subtotal Contingency	**2,681,118**	**13,405,589**			**750.173**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**13,405,589**			**750.173**		**100.00%**
Total Prime Contractor Costs		**13,405,589**			**750.173**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**13,405,589**			**750.173**		**100.00%**
Total Contractor Costs w/ OFCI		**13,405,589**			**750.173**		**100.00%**
Total Construction Cost		**13,405,589**			**750.173**		**100.00%**
Total		***13,405,589***			***750.173***		

BID FORM SUMMARY

Project type: Water
Job Size: 17,870 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 2-2 Purple Line**											
	01.0				10" HDPE Concentrate Line											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE	17,870.00 LF	12,653	916,894	1,668,275	334,895	625,761	271,140	213.60 /LF	3,816,965	465.23 /LF	8,313,613
					33.07 Buried Process Pipe, HDPE	**17,870.00 LF**	12,653	916,894	1,668,275	334,895	625,761	271,140	**213.60 /LF**	3,816,965	**465.23 /LF**	8,313,613
					33.0 Utilities	*1.00* LS	12,653	916,894	1,668,275	334,895	625,761	271,140	3,816,964.81 /LS	3,816,965	8,313,613.26 /LS	8,313,613
					01.0 10" HDPE Concentrate Line	17,870.00 LF	12,653	916,894	1,668,275	334,895	625,761	271,140	213.60 /LF	3,816,965	465.23 /LF	8,313,613
	02.0				Crossing Highway 23 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0002	Crossing at Highway 23, 24" Casing with 10" Carrier	460.00 LF	872	66,353	192,134	2,820	38,777	2,820	658.49 /LF	302,904	1,446.73 /LF	665,495
					33.07 Buried Process Pipe, HDPE	**460.00 LF**	872	66,353	192,134	2,820	38,777	2,820	**658.49 /LF**	302,904	**1,446.73 /LF**	665,495
					33.0 Utilities	*1.00* LS	872	66,353	192,134	2,820	38,777	2,820	302,904.38 /LS	302,904	665,495.46 /LS	665,495
					02.0 Crossing Highway 23 24" Casing with 10" Carrier	460.00 LF	872	66,353	192,134	2,820	38,777	2,820	658.49 /LF	302,904	1,446.73 /LF	665,495
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	3.00 EA	30	2,401	2,503	4,500	136		3,179.88 /EA	9,540	6,877.86 /EA	20,634
					33.07 Buried Process Pipe, HDPE	**75.00 LF**	30	2,401	2,503	4,500	136		**127.20 /LF**	9,540	**275.11 /LF**	20,634
					33.0 Utilities	*1.00* LS	30	2,401	2,503	4,500	136		9,539.63 /LS	9,540	20,633.59 /LS	20,634
					04.0 2" CARV Assembly	3.00 EA	30	2,401	2,503	4,500	136		3,179.88 /EA	9,540	6,877.86 /EA	20,634
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	3.00 EA	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,115.37 /EA	54,346
					33.07 Buried Process Pipe, HDPE	**75.00 LF**	121	9,508	10,667		4,668		**331.23 /LF**	24,842	**724.61 /LF**	54,346
					33.0 Utilities	*1.00* LS	121	9,508	10,667		4,668		24,842.45 /LS	24,842	54,346.11 /LS	54,346
					05.0 8" Blow Off Assembly	3.00 EA	121	9,508	10,667		4,668		8,280.82 /EA	24,842	18,115.37 /EA	54,346
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	9,930.00 Sy	820	11,668	20,813	96,305	16,432		14.62 /Sy	145,218	30.88 /Sy	306,624
				32.40.02.0008	Trench Paving	9,927.78 SY	5,262	351,383	372,927		42,379		77.23 /SY	766,689	164.66 /SY	1,634,695
					32.12 Paving	**9,927.78 SY**	6,082	363,051	393,740	96,305	58,811		**91.85 /SY**	911,907	**195.54 /SY**	1,941,319
					32.0 Exterior Improvements	9,927.78 SY	6,082	363,051	393,740	96,305	58,811		91.85 /SY	911,907	195.54 /SY	1,941,319
					06.0 Asphalt Trench Repair	17,870.00 LF	6,082	363,051	393,740	96,305	58,811		51.03 /LF	911,907	108.64 /LF	1,941,319
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	13.00 EA	1,694	129,850	342,786		35,555		39,091.53 /EA	508,190	85,878.36 /EA	1,116,419
					33.07 Buried Process Pipe, HDPE	**260.00 LF**	1,694	129,850	342,786		35,555		**1,954.58 /LF**	508,190	**4,293.92 /LF**	1,116,419
					33.0 Utilities	*1.00* LS	1,694	129,850	342,786		35,555		508,189.92 /LS	508,190	1,116,418.71 /LS	1,116,419
					07.0 Access Way and Cleaning Structure Vaults	13.00 EA	1,694	129,850	342,786		35,555		39,091.53 /EA	508,190	85,878.36 /EA	1,116,419
	08.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	17,870.00 LF				446,750			25.00 /LF	446,750	53.57 /LF	957,331
					33.89 Pipeline - Traffic Control	**17,870.00 LF**				446,750			**25.00 /LF**	446,750	**53.57 /LF**	957,331
					33.0 Utilities	*1.00* LS				446,750			446,750.00 /LS	446,750	957,330.79 /LS	957,331
					08.0 Traffic Control	17,870.00 LF				446,750			25.00 /LF	446,750	53.57 /LF	957,331
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	10.00 EA				150,000			15,000.00 /EA	150,000	33,643.17 /EA	336,432
					26.10 Site Electrical	***1.00*** **LS**				150,000			**150,000.00 /LS**	150,000	**336,431.70 /LS**	336,432
					26.0 Electrical Work	*1.00* LS				150,000			150,000.00 /LS	150,000	336,431.70 /LS	336,432
					09.0 Traffic Loop Replacement Allowance	10.00 EA				150,000			15,000.00 /EA	150,000	33,643.17 /EA	336,432
					01.0 Las Virgenes Concentrate No. 2-2 Purple Line	***1.00*** **LS**	21,452	1,488,056	2,610,103	1,035,270	763,708	273,960	**6,171,097.75 /LS**	6,171,098	**13,405,588.82 /LS**	13,405,589

BID FORM SUMMARY

Project type: Water
Job Size: 17,870 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-2 Purple Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,488,056		21,451.677 hrs		83.271	11.10%	
Material	2,610,103				146.061	19.47%	
Subcontract	1,035,270				57.933	7.72%	
Equipment	763,708		13,977.584 hrs		42.737	5.70%	
Other	273,960				15.331	2.04%	
Subtotal Raw Costs	**6,171,097**	**6,171,097**			**345.333**	**46.03%**	**46.03%**
Material Sales & Use Tax - %	189,233			7.250 %	10.589	1.41%	
Construction Equip Tax - %	55,369			7.250 %	3.098	0.41%	
Total Taxes	**244,602**	**6,415,699**			**359.021**	**1.82%**	**47.86%**
Location Adj. Factor	695,862			11.800 %	38.940	5.19%	
Productivity Adjustment							
Subtotal Adj. Factors	**695,862**	**7,111,561**			**397.961**	**5.19%**	**53.05%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	37,500			25.000 %	2.098	0.28%	
Site/Civil I,OH&P	91,191			10.000 %	5.103	0.68%	
Buried Piping I,OH&P	766,379			15.000 %	42.886	5.72%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**895,070**	**8,006,631**			**448.049**	**6.68%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**8,006,631**			**448.049**		**59.73%**
Total Cost To Prime Contractor		**8,006,631**			**448.049**		**59.73%**
General Conditions	800,663			10.000 %	44.805	5.97%	
Mobilization/Demobilization	320,265			4.000 %	17.922	2.39%	
Subtotal Indirect Costs	**1,120,928**	**9,127,559**			**510.776**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	912,756			10.000 %	51.078	6.81%	
Prime Contractor Profit	456,378			5.000 %	25.539	3.40%	
Bonds & Insurance	227,778			2.170 %	12.746	1.70%	
Subtotal OH&P	**1,596,912**	**10,724,471**			**600.138**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**10,724,471**			**600.138**		**80.00%**
Design Contingency	2,681,118			25.000 %	150.035	20.00%	
Subtotal Contingency	**2,681,118**	**13,405,589**			**750.173**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**13,405,589**			**750.173**		**100.00%**
Total Prime Contractor Costs		**13,405,589**			**750.173**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**13,405,589**			**750.173**		**100.00%**
Total Contractor Costs w/ OFCI		**13,405,589**			**750.173**		**100.00%**
Total Construction Cost		**13,405,589**			**750.173**		**100.00%**
Total		***13,405,589***			***750.173***		

Reach 2

No. 2-3 Gray Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 2-3 Gray Li | Estimator: John DeWolf
Job Size: 19,660 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las V1rgenes Concentrate No. 2-3 Gray Line***			
	01.0	**10" HDPE Concentrate Line**	**19,660.00 LF**	**459.21 /LF**	**9,028,072**
	02.0	**Highway Crossings at 23**	**500.00 LF**	**1,717.95 /LF**	**858,976**
	04.0	**2" CARV Assembly**	**6.00 EA**	**6,881.36 /EA**	**41,288**
	05.0	**8" Blow Off Assembly**	**7.00 EA**	**18,124.46 /EA**	**126,871**
	06.0	**Asphalt Trench Repair**	**19,660.00 LF**	**108.34 /LF**	**2,129,916**
	07.0	**Access Way and Cleaning Structure Vaults**	**14.00 EA**	**81,283.38 /EA**	**1,137,967**
	08.0	**Traffic Control**	**19,660.00 LF**	**53.60 /LF**	**1,053,765**
	09.0	**Traffic Loop Replacement Allowance**	**16.00 EA**	**33,659.66 /EA**	**538,555**
	01.0 Las V1rgenes Concentrate No. 2-3 Gray Line		***1.00 LS***	***14,915,410.84 /LS***	***14,915,411***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	3,489,207		23,668.220 hrs		177.477	23.39%	
Material	6,394,688				325.264	42.87%	
Subcontract	2,598,983				132.196	17.42%	
Equipment	1,877,496		15,480.010 hrs		95.498	12.59%	
Other	555,037				28.232	3.72%	
Total Prime Contractor Costs	**14,915,411**	**14,915,411**			**758.668**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**14,915,411**			**758.668**		**100.00%**
Total		***14,915,411***			***758.668***		

BID FORM SUMMARY

Project type: Water
Job Size: 19,660 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-3 Gray Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Amount	Total Cost/Unit	Grand Total Price	Grand Total Amount
01.0						**Las V1rgenes Concentrate No. 2-3 Gray Line**											
	01.0					10" HDPE Concentrate Line											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0001		10" HDPE											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-		***/lf***	***/lf***	
						Traffic Control, Labor per Day	98.00 day	1,568	91,449	-	-	-	-	91,449	933.15 /day	2,000.66 /day	196,064
						Trench Box, 8' x 24' x 10'	4.20 mo		-	-	-	9,660	-	9,660	2,300.00 /mo	5,097.90 /mo	21,411
						Dedicated Fire / Safety Monitor	392.00 hr	392	22,862	-	-	-	-	22,862	58.32 /hr	125.04 /hr	49,016
						25 tn Rough Terrain (per day)	98.00 day	784	62,032	-	-	115,797	-	177,829	1,814.58 /day	3,976.09 /day	389,657
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	14,341.70 CY	1,568	107,757	-	-	74,010	-	181,767	12.67 /CY	27.55 /CY	395,070
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	4,138.59 cy	2,744	180,095	-	-	123,266	-	303,361	73.30 /cy	159.31 /cy	659,335
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	10,181.59 cy	1,568	118,194	-	-	140,813	-	259,007	25.44 /cy	55.54 /cy	565,515
						Pipe zone material	4,138.59 cy		-	115,881	-	-	-	115,881	28.00 /cy	62.06 /cy	256,847
						Pipe bedding material	1,253.27 cy		-	35,092	-	-	-	35,092	28.00 /cy	62.06 /cy	77,780
						Haul spoils, offsite, 10 - 20 miles	17,209.37 cy		-	-	258,141	-	-	258,141	15.00 /cy	32.16 /cy	553,447
						Dump fees, trench spoils	18,076.00 cy		-	-	-	-	271,140	271,140	15.00 /cy	30.39 /cy	549,323
						10" HDPE pipe, excav/backfill not included	19,660.00 LF	4,704	379,610	1,064,786	-	214,236	-	1,658,632	84.37 /LF	185.60 /LF	3,648,798
						10" HDPE Ell, 90	1.00 ea	3	259	191	-	146	-	595	595.28 /ea	1,300.67 /ea	1,301
						10" HDPE Ell, 45	25.00 ea	77	6,194	2,333	-	3,496	-	12,022	480.90 /ea	1,047.94 /ea	26,199
						Field weld fusion joints, Subcontracted (S), 10"	1,035.00 ea		-	-	93,616	-	-	93,616	90.45 /ea	193.92 /ea	200,710
						CLSM, pipe encasement	10,181.59 cy		-	610,895	-	-	-	610,895	60.00 /cy	132.99 /cy	1,354,036
						Pipe Marking, Detection Tape	19,660.00 lf	197	15,931	2,556	-	-	-	18,487	0.94 /lf	2.03 /lf	39,821
						Pipe Marking, Copper Wire	19,660.00 lf	197	15,931	4,325	-	-	-	20,256	1.03 /lf	2.22 /lf	43,743
						33.00.09.10 Buried Pipe, HDPE, 10"	**19,660.00 LF**	**13,801**	**1,000,314**	**1,836,058**	**351,756**	**681,424**	**271,140**	**4,140,692**	**210.62 /LF**	**459.21 /LF**	**9,028,072**
						33.00.09.0001 10" HDPE	**19,660.00 LF**	**13,801**	**1,000,314**	**1,836,058**	**351,756**	**681,424**	**271,140**	**4,140,692**	**210.62 /LF**	**459.21 /LF**	**9,028,072**
						33.07 Buried Process Pipe, HDPE	**19,660.00 LF**	**13,801**	**1,000,314**	**1,836,058**	**351,756**	**681,424**	**271,140**	**4,140,692**	**210.62 /LF**	**459.21 /LF**	**9,028,072**
						33.0 Utilities	***1.00*** **LS**	**13,801**	**1,000,314**	**1,836,058**	**351,756**	**681,424**	**271,140**	**4,140,692**	**4,140,692.00 /LS**	**9,028,072.39 /LS**	**9,028,072**
						01.0 10" HDPE Concentrate Line	**19,660.00 LF**	**13,801**	**1,000,314**	**1,836,058**	**351,756**	**681,424**	**271,140**	**4,140,692**	**210.62 /LF**	**459.21 /LF**	**9,028,072**
	02.0					Highway Crossings at 23											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.60.02.0002		Crossing at Highway 23, 24" Casing with 10" Carrier											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Traffic Control, Labor per Day	10.00 day	160	9,332	-	-	-	-	9,332	933.15 /day	2,000.66 /day	20,007
						Trench Box, 8' x 24' x 10'	0.50 mo		-	-	-	1,150	-	1,150	2,300.00 /mo	5,097.88 /mo	2,549
						Dedicated Fire / Safety Monitor	40.00 hr	40	2,333	-	-	-	-	2,333	58.32 /hr	125.04 /hr	5,002
						Horizontal boring, 24" diameter casing spacer	16.00 ea		-	800	-	-	-	800	50.00 /ea	110.82 /ea	1,773
						Horizontal boring, 24" diameter end seals	2.00 ea		-	500	-	-	-	500	250.00 /ea	554.12 /ea	1,108
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	583.94 CY	160	10,996	-	-	7,552	-	18,548	31.76 /CY	69.04 /CY	40,313
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	198.87 cy	280	18,377	-	-	12,578	-	30,955	155.65 /cy	338.31 /cy	67,279
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	345.74 cy	160	12,061	-	-	14,369	-	26,430	76.44 /cy	166.91 /cy	57,707
						Pipe zone material	198.87 cy		-	5,568	-	-	-	5,568	28.00 /cy	62.06 /cy	12,342
						Pipe bedding material	44.30 cy		-	1,240	-	-	-	1,240	28.00 /cy	62.06 /cy	2,749
						Haul spoils, offsite, 10 - 20 miles	353.35 cy		-	-	5,300	-	-	5,300	15.00 /cy	32.16 /cy	11,364
						Dump fees, trench spoils	188.00 cy		-	-	-	-	2,820	2,820	15.00 /cy	30.39 /cy	5,713
						24" CS pipe assembly, shop fab, excav/bkfill incl., 1/2" wall	500.00 LF	480	38,736	170,765	-	21,861	-	231,362	462.72 /LF	1,020.00 /LF	510,000
						10" HDPE pipe, excav/backfill not included	500.00 lf	55	4,439	27,080	-	2,505	-	34,023	68.05 /lf	150.18 /lf	75,090
						CLSM, pipe encasement	345.74 cy		-	20,744	-	-	-	20,744	60.00 /cy	132.99 /cy	45,980
						33.00.09.10 Buried Pipe, HDPE, 10"	**500.00 LF**	**1,335**	**96,272**	**226,698**	**5,300**	**60,015**	**2,820**	**391,106**	**782.21 /LF**	**1,717.95 /LF**	**858,976**
						33.60.02.0002 Crossing at Highway 23, 24" Casing with 10" Carrier	**500.00 LF**	**1,335**	**96,272**	**226,698**	**5,300**	**60,015**	**2,820**	**391,106**	**782.21 /LF**	**1,717.95 /LF**	**858,976**
						33.07 Buried Process Pipe, HDPE	**500.00 LF**	**1,335**	**96,272**	**226,698**	**5,300**	**60,015**	**2,820**	**391,106**	**782.21 /LF**	**1,717.95 /LF**	**858,976**
						33.0 Utilities	***1.00*** **LS**	**1,335**	**96,272**	**226,698**	**5,300**	**60,015**	**2,820**	**391,106**	**391,105.84 /LS**	**858,975.98 /LS**	**858,976**
						02.0 Highway Crossings at 23	**500.00 LF**	**1,335**	**96,272**	**226,698**	**5,300**	**60,015**	**2,820**	**391,106**	**782.21 /LF**	**1,717.95 /LF**	**858,976**
	04.0					2" CARV Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		2" CARV Assembly											
					33.20.08.01	Buried Valves, Air Valve Assembly, 1/2" to 3"											
						Division 03 Allowance Can and Concrete Base	6.00 EA		-	-	9,000	-		9,000	1,500.00 /EA	3,215.96 /EA	19,296
						2" Corporation stop, thrd	6.00 ea	7	564		-	273	-	837	139.45 /ea	302.28 /ea	1,814
						Ball valve, bronze, screwed, 2"	6.00 ea	2	192	384	-	-	-	576	95.92 /ea	210.29 /ea	1,262
						2" copper pipe, K-soft	150.00 LF	11	838	1,587	-	-	-	2,425	16.17 /LF	35.43 /LF	5,315
						2" copper, ELL, 90	12.00 ea	8	622	154	-	-	-	776	64.71 /ea	139.66 /ea	1,676
						Install Air & Vacuum relief valve, 2"	6.00 ea	14	1,149	-	-	-	-	1,149	191.51 /ea	410.59 /ea	2,464
						FURNISH Air & Vacuum relief valve, iron body, 2"	6.00 ea		-	2,250	-	-	-	2,250	375.00 /ea	831.18 /ea	4,987
						Double Strap Saddle, 10" x 2"	6.00 ea	18	1,436	630	-	-	-	2,066	344.39 /ea	745.97 /ea	4,476
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**6.00 EA**	**60**	**4,801**	**5,005**	**9,000**	**273**		**19,079**	**3,179.88 /EA**	**6,881.36 /EA**	**41,288**
						33.20.08.0005 2" CARV Assembly	**6.00 EA**	**60**	**4,801**	**5,005**	**9,000**	**273**		**19,079**	**3,179.88 /EA**	**6,881.36 /EA**	**41,288**
						33.07 Buried Process Pipe, HDPE	**150.00 LF**	**60**	**4,801**	**5,005**	**9,000**	**273**		**19,079**	**127.20 /LF**	**275.25 /LF**	**41,288**
						33.0 Utilities	***1.00*** **LS**	**60**	**4,801**	**5,005**	**9,000**	**273**		**19,079**	**19,079.26 /LS**	**41,288.14 /LS**	**41,288**
						04.0 2" CARV Assembly	**6.00 EA**	**60**	**4,801**	**5,005**	**9,000**	**273**		**19,079**	**3,179.88 /EA**	**6,881.36 /EA**	**41,288**
	05.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.07			**Buried Process Pipe, HDPE**											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	175.00 LF	84	6,779	9,137	-	3,826	-	19,741	112.81 /LF	247.23 /LF	43,265
						8" DI, MJ, Ell, 90	7.00 ea	21	1,695	2,406	-	956	-	5,057	722.48 /ea	1,583.81 /ea	11,087
						8" DI, MJ, Ell, 45	7.00 ea	21	1,695	2,056	-	956	-	4,707	672.43 /ea	1,472.88 /ea	10,310
						8" DI, RJ, cap or plug	7.00 ea	11	847	1,093	-	478	-	2,419	345.52 /ea	757.05 /ea	5,299
						10" HDPE tee	7.00 ea	31	2,517	1,380	-	1,420	-	5,317	759.60 /ea	1,657.56 /ea	11,603
						10" HDPE reducer	7.00 ea	20	1,644	1,369	-	928	-	3,941	562.93 /ea	1,230.70 /ea	8,615
						10" HDPE flange	7.00 ea	17	1,353		-	319	-	1,672	238.82 /ea	515.33 /ea	3,607
						Install gate valve, Flgd, DIP, 8"	7.00 ea	23	1,864	-	-	1,052	-	2,916	416.61 /ea	904.09 /ea	6,329
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	7.00 EA		-	4,333	-	-	-	4,333	619.00 /EA	1,372.00 /EA	9,604
						Valve accessory, extension stem	35.00 lf	4	279	175	-	-	-	454	12.98 /lf	28.19 /lf	987
						Valve accessory, stem couplings	7.00 set	2	184	140	-	-	-	324	46.33 /set	100.79 /set	706

BID FORM SUMMARY

Project type: Water
Job Size: 19,660 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-3 Gray Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Amount	Total Cost/Unit	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						CI Valve Box & Cover, w/ Concrete Collar included	7.00 ea	21	1,695	1,050	-	956	-	3,701	528.73 /ea	1,154.37 /ea	8,081
						Meter Box	7.00 ea	28	1,633	1,750	-	-	-	3,383	483.29 /ea	1,054.28 /ea	7,380
						33.20.01.08 Buried Valves, Gate Valves, 8"	**7.00 EA**	283	22,185	24,889		10,892		57,966	**8,280.81 /EA**	**18,124.46 /EA**	126,871
						33.20.01.0004 8" Blow Off Assembly	**7.00 EA**	283	22,185	24,889		10,892		57,966	**8,280.81 /EA**	**18,124.46 /EA**	126,871
						33.07 Buried Process Pipe, HDPE	**175.00 LF**	283	22,185	24,889		10,892		57,966	**331.23 /LF**	**724.98 /LF**	126,871
						33.0 Utilities	***1.00* LS**	283	22,185	24,889		10,892		57,966	**57,965.67 /LS**	**126,871.21 /LS**	126,871
						05.0 8" Blow Off Assembly	**7.00 EA**	283	22,185	24,889		10,892		57,966	**8,280.81 /EA**	**18,124.46 /EA**	126,871
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	39,320.00 lf	605		-	78,640	-	-	78,640	2.00 /lf	4.19 /lf	164,670
						Asphalt Milling, 6" Depth	10,922.00 Sy	109		-	27,305	-	-	27,305	2.50 /Sy	5.23 /Sy	57,176
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	1,820.00 cy	187	12,754	-	-	17,962	-	30,716	16.88 /cy	36.06 /cy	65,622
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	1,820.00 cy		-	22,750	-	-	-	22,750	12.50 /cy	27.08 /cy	49,287
						02.01.01.01 General Site Demolition, Asphalt Pavement	**10,922.00 Sy**	901	12,754	22,750	105,945	17,962		159,411	**14.60 /Sy**	**30.83 /Sy**	336,756
						02.01.01.0007 Demo Asphalt	**10,922.00 Sy**	901	12,754	22,750	105,945	17,962		159,411	**14.60 /Sy**	**30.83 /Sy**	336,756
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	10,922.22 SY	35	2,508	9,721	-	1,873	-	14,101	1.29 /SY	2.78 /SY	30,368
						Fog seal, sealcoating, prepare and clean surface for sealcoating	10,922.22 sy	31	1,855	-	-	434	-	2,289	0.21 /sy	0.44 /sy	4,824
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	10,922.22 sy	83	5,918	125,059	-	6,392	-	137,370	12.58 /sy	27.21 /sy	297,179
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	10,922.22 sy	5,560	371,251	262,133	-	34,435	-	667,820	61.14 /sy	130.00 /sy	1,419,900
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	19,660.00 LF	56	3,377	13,369	-	2,241	-	18,986	0.97 /LF	2.08 /LF	40,889
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**10,922.22 SY**	5,765	384,908	410,282		45,375		840,566	**76.96 /SY**	**164.18 /SY**	1,793,161
						32.40.02.0008 Trench Paving	**10,922.22 SY**	5,765	384,908	410,282		45,375		840,566	**76.96 /SY**	**164.18 /SY**	1,793,161
						32.12 Paving	**10,922.22 SY**	6,667	397,662	433,032	105,945	63,338		999,977	**91.55 /SY**	**195.01 /SY**	2,129,916
						32.0 Exterior Improvements	**10,922.22 SY**	6,667	397,662	433,032	105,945	63,338		999,977	**91.55 /SY**	**195.01 /SY**	2,129,916
						06.0 Asphalt Trench Repair	**19,660.00 LF**	6,667	397,662	433,032	105,945	63,338		999,977	**50.86 /LF**	**108.34 /LF**	2,129,916
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	14.00 EA	392	24,678	35,000	-	3,629	-	63,307	4,521.96 /EA	9,895.02 /EA	138,530
						10" HDPE pipe, excav/backfill included	280.00 LF	134	10,846	3,080	-	6,121	-	20,047	71.60 /LF	155.88 /LF	43,648
						10" HDPE Ell, 45	56.00 ea	172	13,874	5,226	-	7,830	-	26,930	480.90 /ea	1,047.94 /ea	58,685
						10" HDPE tee	28.00 ea	125	10,067	5,521	-	5,681	-	21,269	759.60 /ea	1,657.56 /ea	46,412
						10" HDPE wye	28.00 ea	125	10,067	8,350	-	5,681	-	24,098	860.64 /ea	1,881.52 /ea	52,682
						10" HDPE flange	14.00 ea	34	2,706		-	638	-	3,343	238.82 /ea	515.33 /ea	7,215
						10" steel blind flange	56.00 ea	65	5,265		-	2,971	-	8,236	147.07 /ea	319.17 /ea	17,874
						10" Bolt & Gasket Kits, SS	140.00 ea	308	24,577	10,080	-	-	-	34,657	247.55 /ea	535.96 /ea	75,035
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	42.00 ea		-	301,896	-	-	-	301,896	7,188.00 /ea	15,932.04 /ea	669,146
						Install Pinch valve, iron body, Flgd, 10"	42.00 ea	168	13,406	-	-	-	-	13,406	319.18 /ea	684.32 /ea	28,742
						33.00.09.10 Buried Pipe, HDPE, 10"	**280.00 LF**	1,523	115,485	369,154		32,551		517,190	**1,847.11 /LF**	**4,064.17 /LF**	1,137,967
						33.00.09.0009 Access Way and Cleaning Structure Vaults	**14.00 EA**	1,523	115,485	369,154		32,551		517,190	**36,942.15 /EA**	**81,283.38 /EA**	1,137,967
						33.07 Buried Process Pipe, HDPE	**280.00 LF**	1,523	115,485	369,154		32,551		517,190	**1,847.11 /LF**	**4,064.17 /LF**	1,137,967
						33.0 Utilities	***1.00* LS**	1,523	115,485	369,154		32,551		517,190	**517,190.06 /LS**	**1,137,967.32 /LS**	1,137,967
						07.0 Access Way and Cleaning Structure Vaults	**14.00 EA**	1,523	115,485	369,154		32,551		517,190	**36,942.15 /EA**	**81,283.38 /EA**	1,137,967
	08.0					**Traffic Control**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	19,660.00 LF		-	-	491,500	-		491,500	25.00 /LF	53.60 /LF	1,053,765
						33.00.01.40 Buried Pipe, Traffic Control	**19,660.00 LF**				491,500			491,500	**25.00 /LF**	**53.60 /LF**	1,053,765
						33.00.01.0009 Traffic Control Allowance	**19,660.00 LF**				491,500			491,500	**25.00 /LF**	**53.60 /LF**	1,053,765
						33.89 Pipeline - Traffic Control	**19,660.00 LF**				491,500			491,500	**25.00 /LF**	**53.60 /LF**	1,053,765
						33.0 Utilities	***1.00* LS**				491,500			491,500	**491,500.00 /LS**	**1,053,764.83 /LS**	1,053,765
						08.0 Traffic Control	**19,660.00 LF**				491,500			491,500	**25.00 /LF**	**53.60 /LF**	1,053,765
	09.0					**Traffic Loop Replacement Allowance**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	16.00 EA		-	-	240,000	-		240,000	15,000.00 /EA	33,659.66 /EA	538,555
						26.00.99.00 Electrical, Other	**16.00 EA**				240,000			240,000	**15,000.00 /EA**	**33,659.66 /EA**	538,555
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**16.00 EA**				240,000			240,000	**15,000.00 /EA**	**33,659.66 /EA**	538,555
						26.10 Site Electrical	***1.00* LS**				240,000			240,000	**240,000.00 /LS**	**538,554.55 /LS**	538,555
						26.0 Electrical Work	***1.00* LS**				240,000			240,000	**240,000.00 /LS**	**538,554.55 /LS**	538,555
						09.0 Traffic Loop Replacement Allowance	**16.00 EA**				240,000			240,000	**15,000.00 /EA**	**33,659.66 /EA**	538,555
						01.0 Las V1rgenes Concentrate No. 2-3 Gray Line	***1.00* LS**	23,668	1,636,720	2,894,837	1,203,502	848,492	273,960	6,857,510	**6,857,510.07 /LS**	**14,915,410.84 /LS**	14,915,411

BID FORM SUMMARY

Project type: Water
Job Size: 19,660 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-3 Gray Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,636.720		23,668.220 hrs		83.251	10.97%	
Material	2,894.837				147.245	19.41%	
Subcontract	1,203,502				61.216	8.07%	
Equipment	848,492		15,480.010 hrs		43.158	5.69%	
Other	273,960				13.935	1.84%	
Subtotal Raw Costs	**6,857,511**	**6,857,511**			**348.805**	**45.98%**	**45.98%**
Material Sales & Use Tax - %	209,876			7.250 %	10.675	1.41%	
Construction Equip Tax - %	61,516			7.250 %	3.129	0.41%	
Total Taxes	**271,392**	**7,128,903**			**362.610**	**1.82%**	**47.80%**
Location Adj. Factor	776,859			11.800 %	39.515	5.21%	
Productivity Adjustment							
Subtotal Adj. Factors	**776,859**	**7,905,762**			**402.124**	**5.21%**	**53.00%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	60,000			25.000 %	3.052	0.40%	
Site/Civil I,OH&P	99,998			10.000 %	5.086	0.67%	
Buried Piping I,OH&P	842,630			15.000 %	42.860	5.65%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,002,628**	**8,908,390**			**453.123**	**6.72%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**8,908,390**			**453.123**		**59.73%**
Total Cost To Prime Contractor		**8,908,390**			**453.123**		**59.73%**
General Conditions	890.839			10.000 %	45.312	5.97%	
Mobilization/Demobilization	356,336			4.000 %	18.125	2.39%	
Subtotal Indirect Costs	**1,247,175**	**10,155,565**			**516.560**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,015,556			10.000 %	51.656	6.81%	
Prime Contractor Profit	507,778			5.000 %	25.828	3.40%	
Bonds & Insurance	253,432			2.170 %	12.891	1.70%	
Subtotal OH&P	**1,776,766**	**11,932,331**			**606.934**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**11,932,331**			**606.934**		**80.00%**
Design Contingency	2,983,082			25.000 %	151.734	20.00%	
Subtotal Contingency	**2,983,082**	**14,915,413**			**758.668**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**14,915,413**			**758.668**		**100.00%**
Total Prime Contractor Costs		**14,915,413**			**758.668**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**14,915,413**			**758.668**		**100.00%**
Total Contractor Costs w/ OFCI		**14,915,413**			**758.668**		**100.00%**
Total Construction Cost		**14,915,413**			**758.668**		**100.00%**
Total		***14,915,413***			***758.668***		

BID FORM SUMMARY

Project type: Water
Job Size: 19,660 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-3 Gray Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Amount	Total Cost/Unit	Grand Total Price	Grand Total Amount
01.0					**Las V1rgenes Concentrate No. 2-3 Gray Line**											
	01.0				10" HDPE Concentrate Line											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE	19,660.00 LF	13,801	1,000,314	1,836,058	351,756	681,424	271,140	4,140,692	210.62 /LF	459.21 /LF	9,028,072
					33.07 Buried Process Pipe, HDPE	**19,660.00 LF**	13,801	1,000,314	1,836,058	351,756	681,424	271,140	4,140,692	**210.62 /LF**	**459.21 /LF**	9,028,072
					33.0 Utilities	*1.00* LS	13,801	1,000,314	1,836,058	351,756	681,424	271,140	4,140,692	4,140,692.00 /LS	9,028,072.39 /LS	9,028,072
					01.0 10" HDPE Concentrate Line	19,660.00 LF	13,801	1,000,314	1,836,058	351,756	681,424	271,140	4,140,692	210.62 /LF	459.21 /LF	9,028,072
	02.0				Highway Crossings at 23											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0002	Crossing at Highway 23, 24" Casing with 10" Carrier	500.00 LF	1,335	96,272	226,698	5,300	60,015	2,820	391,106	782.21 /LF	1,717.95 /LF	858,976
					33.07 Buried Process Pipe, HDPE	**500.00 LF**	1,335	96,272	226,698	5,300	60,015	2,820	391,106	**782.21 /LF**	**1,717.95 /LF**	858,976
					33.0 Utilities	*1.00* LS	1,335	96,272	226,698	5,300	60,015	2,820	391,106	391,105.84 /LS	858,975.98 /LS	858,976
					02.0 Highway Crossings at 23	500.00 LF	1,335	96,272	226,698	5,300	60,015	2,820	391,106	782.21 /LF	1,717.95 /LF	858,976
	04.0				2" CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	6.00 EA	60	4,801	5,005	9,000	273		19,079	3,179.88 /EA	6,881.36 /EA	41,288
					33.07 Buried Process Pipe, HDPE	**150.00 LF**	60	4,801	5,005	9,000	273		19,079	**127.20 /LF**	**275.25 /LF**	41,288
					33.0 Utilities	*1.00* LS	60	4,801	5,005	9,000	273		19,079	19,079.26 /LS	41,288.14 /LS	41,288
					04.0 2" CARV Assembly	6.00 EA	60	4,801	5,005	9,000	273		19,079	3,179.88 /EA	6,881.36 /EA	41,288
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	7.00 EA	283	22,185	24,889		10,892		57,966	8,280.81 /EA	18,124.46 /EA	126,871
					33.07 Buried Process Pipe, HDPE	**175.00 LF**	283	22,185	24,889		10,892		57,966	**331.23 /LF**	**724.98 /LF**	126,871
					33.0 Utilities	*1.00* LS	283	22,185	24,889		10,892		57,966	57,965.67 /LS	126,871.21 /LS	126,871
					05.0 8" Blow Off Assembly	7.00 EA	283	22,185	24,889		10,892		57,966	8,280.81 /EA	18,124.46 /EA	126,871
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	10,922.00 Sy	901	12,754	22,750	105,945	17,962		159,411	14.60 /Sy	30.83 /Sy	336,756
				32.40.02.0008	Trench Paving	10,922.22 SY	5,765	384,908	410,282		45,375		840,566	76.96 /SY	164.18 /SY	1,793,161
					32.12 Paving	**10,922.22 SY**	6,667	397,662	433,032	105,945	63,338		999,977	**91.55 /SY**	**195.01 /SY**	2,129,916
					32.0 Exterior Improvements	10,922.22 SY	6,667	397,662	433,032	105,945	63,338		999,977	91.55 /SY	195.01 /SY	2,129,916
					06.0 Asphalt Trench Repair	19,660.00 LF	6,667	397,662	433,032	105,945	63,338		999,977	50.86 /LF	108.34 /LF	2,129,916
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	14.00 EA	1,523	115,485	369,154		32,551		517,190	36,942.15 /EA	81,283.38 /EA	1,137,967
					33.07 Buried Process Pipe, HDPE	**280.00 LF**	1,523	115,485	369,154		32,551		517,190	**1,847.11 /LF**	**4,064.17 /LF**	1,137,967
					33.0 Utilities	*1.00* LS	1,523	115,485	369,154		32,551		517,190	517,190.06 /LS	1,137,967.32 /LS	1,137,967
					07.0 Access Way and Cleaning Structure Vaults	14.00 EA	1,523	115,485	369,154		32,551		517,190	36,942.15 /EA	81,283.38 /EA	1,137,967
	08.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	19,660.00 LF				491,500			491,500	25.00 /LF	53.60 /LF	1,053,765
					33.89 Pipeline - Traffic Control	**19,660.00 LF**				491,500			491,500	**25.00 /LF**	**53.60 /LF**	1,053,765
					33.0 Utilities	*1.00* LS				491,500			491,500	491,500.00 /LS	1,053,764.83 /LS	1,053,765
					08.0 Traffic Control	19,660.00 LF				491,500			491,500	25.00 /LF	53.60 /LF	1,053,765
	09.0				Traffic Loop Replacement Allowance											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	16.00 EA				240,000			240,000	15,000.00 /EA	33,659.66 /EA	538,555
					26.10 Site Electrical	*1.00* LS				240,000			240,000	**240,000.00 /LS**	**538,554.55 /LS**	538,555
					26.0 Electrical Work	*1.00* LS				240,000			240,000	240,000.00 /LS	538,554.55 /LS	538,555
					09.0 Traffic Loop Replacement Allowance	16.00 EA				240,000			240,000	15,000.00 /EA	33,659.66 /EA	538,555
					01.0 Las V1rgenes Concentrate No. 2-3 Gray Line	***1.00*** **LS**	23,668	1,636,720	2,894,837	1,203,502	848,492	273,960	6,857,510	**6,857,510.07 /LS**	**14,915,410.84 /LS**	14,915,411

BID FORM SUMMARY

Project type: Water
Job Size: 19,660 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 2-3 Gray Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	1,636,720		23,668.220 hrs		83.251	10.97%	
Material	2,894,837				147.245	19.41%	
Subcontract	1,203,502				61.216	8.07%	
Equipment	848,492		15,480.010 hrs		43.158	5.69%	
Other	273,960				13.935	1.84%	
Subtotal Raw Costs	**6,857,511**	**6,857,511**			**348.805**	**45.98%**	**45.98%**
Material Sales & Use Tax - %	209,876			7.250 %	10.675	1.41%	
Construction Equip Tax - %	61,516			7.250 %	3.129	0.41%	
Total Taxes	**271,392**	**7,128,903**			**362.610**	**1.82%**	**47.80%**
Location Adj. Factor	776,859			11.800 %	39.515	5.21%	
Productivity Adjustment							
Subtotal Adj. Factors	**776,859**	**7,905,762**			**402.124**	**5.21%**	**53.00%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	60,000			25.000 %	3.052	0.40%	
Site/Civil I,OH&P	99,998			10.000 %	5.086	0.67%	
Buried Piping I,OH&P	842,630			15.000 %	42.860	5.65%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,002,628**	**8,908,390**			**453.123**	**6.72%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**8,908,390**			**453.123**		**59.73%**
Total Cost To Prime Contractor		**8,908,390**			**453.123**		**59.73%**
General Conditions	890,839			10.000 %	45.312	5.97%	
Mobilization/Demobilization	356,336			4.000 %	18.125	2.39%	
Subtotal Indirect Costs	**1,247,175**	**10,155,565**			**516.560**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,015,556			10.000 %	51.656	6.81%	
Prime Contractor Profit	507,778			5.000 %	25.828	3.40%	
Bonds & Insurance	253,432			2.170 %	12.891	1.70%	
Subtotal OH&P	**1,776,766**	**11,932,331**			**606.934**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**11,932,331**			**606.934**		**80.00%**
Design Contingency	2,983,082			25.000 %	151.734	20.00%	
Subtotal Contingency	**2,983,082**	**14,915,413**			**758.668**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**14,915,413**			**758.668**		**100.00%**
Total Prime Contractor Costs		**14,915,413**			**758.668**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**14,915,413**			**758.668**		**100.00%**
Total Contractor Costs w/ OFCI		**14,915,413**			**758.668**		**100.00%**
Total Construction Cost		**14,915,413**			**758.668**		**100.00%**
Total		***14,915,413***			***758.668***		

Reach 3

No. 3-1 Yellow Line

Summary

Detail

Work Activity

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow | Estimator: John DeWolf
Job Size: 30,000 Lf | Project Number: W9Y31200 | Rev/Date: Rev. #1 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Concentrate No. 3-1 Yellow Line***			
	01.0	**10" HDPE Concentrate Pipeline**	**30,000.00 LF**	**452.95 /LF**	**13,588,401**
	02.0	**Install Pipe Inside Future Bridge**	**160.00 LF**	**1,221.29 /LF**	**195,407**
	03.0	**Bore at Flood Channel 24" Casing with 10" Carrier**	**70.00 LF**	**1,322.66 /LF**	**92,586**
	04.0	**Attach to Bridge at Creek**	**100.00 LF**	**1,216.50 /LF**	**121,650**
	05.0	**8" Blow Off Assembly**	**8.00 EA**	**18,116.87 /EA**	**144,935**
	06.0	**Asphalt Trench Repair**	**26,900.00 LF**	**108.29 /LF**	**2,913,016**
	07.0	**Access Way and Cleaning Structure Vaults**	**21.00 EA**	**85,885.49 /EA**	**1,803,595**
	08.0	**Energy Dissipation Facility**	**3.00 EA**	**105,045.40 /EA**	**315,136**
	09.0	**CARV Assembly**	**8.00 EA**	**6,878.44 /EA**	**55,028**
	10.0	**Traffic Control**	**30,000.00 LF**	**53.58 /LF**	**1,607,295**
	11.0	**Replace Traffic Loops**	**9.00 EA**	**33,645.90 /EA**	**302,813**
	01.0 Las Virgenes Concentrate No. 3-1 Yellow Line		***1.00 LS***	***21,139,861.88 /LS***	***21,139,862***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	5,001,705		33,956.625 hrs		166.723	23.66%	
Material	9,078,318				302.611	42.94%	
Subcontract	3,650,034				121.668	17.27%	
Equipment	2,686,858		22,101.312 hrs		89.562	12.71%	
Other	722,947				24.098	3.42%	
Total Prime Contractor Costs	**21,139,862**	**21,139,862**			**704.662**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**21,139,862**			**704.662**		**100.00%**
Total		***21,139,862***			***704.662***		

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Concentrate No. 3-1 Yellow Line**											
	01.0					10" HDPE Concentrate Pipeline											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.00.09.0001		10" HDPE Pipeline											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Pipeline Existing Conditions	***200.00 lf***			**-**	**-**	**-**	**-**	***/lf***		***/lf***	
						Traffic Control, Labor per Day	140.00 day	**2,240**	**130,641**	**-**	**-**	**-**	**-**	933.15 /day	**130,641**	1,999.80 /day	**279,972**
						Trench Box, 8' x 24' x 10'	7.00 mo		**-**	**-**	**-**	**16,100**	**-**	2,300.00 /mo	**16,100**	5,095.79 /mo	**35,671**
						Dedicated Fire / Safety Monitor	600.00 hr	**600**	**34,993**	**-**	**-**	**-**	**-**	58.32 /hr	**34,993**	124.99 /hr	**74,993**
						25 tn Rough Terrain (per day)	150.00 day	**1,200**	**94,948**	**-**	**-**	**177,240**	**-**	1,814.58 /day	**272,188**	3,974.43 /day	**596,164**
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	21,884.59 CY	**2,400**	**164,933**	**-**	**-**	**113,281**	**-**	12.71 /CY	**278,214**	27.62 /CY	**604,442**
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	6,315.24 cy	**4,200**	**275,654**	**-**	**-**	**188,671**	**-**	73.52 /cy	**464,326**	159.73 /cy	**1,008,756**
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	15,536.51 cy	**2,400**	**180,910**	**-**	**-**	**215,531**	**-**	25.52 /cy	**396,441**	55.69 /cy	**865,224**
						Pipe zone material	6,315.24 cy		**-**	**176,827**	**-**	**-**	**-**	28.00 /cy	**176,827**	62.04 /cy	**391,770**
						Pipe bedding material	1,912.40 cy		**-**	**53,547**	**-**	**-**	**-**	28.00 /cy	**53,547**	62.04 /cy	**118,637**
						Haul spoils, offsite, 10 - 20 miles	23,800.00 cy		**-**	**-**	**357,000**	**-**	**-**	15.00 /cy	**357,000**	32.15 /cy	**765,073**
						Dump fees, trench spoils	23,800.00 cy		**-**	**-**	**-**	**-**	**357,000**	15.00 /cy	**357,000**	30.38 /cy	**722,947**
						10" HDPE pipe, excav/backfill not included	30,000.00 LF	**7,200**	**581,041**	**1,624,800**	**-**	**327,915**	**-**	84.46 /LF	**2,533,756**	185.72 /LF	**5,571,564**
						10" HDPE Ell, 90	3.00 ea	**10**	**776**	**572**	**-**	**438**	**-**	595.28 /ea	**1,786**	1,300.13 /ea	**3,900**
						10" HDPE Ell, 45	45.00 ea	**138**	**11,149**	**4,200**	**-**	**6,292**	**-**	480.90 /ea	**21,640**	1,047.50 /ea	**47,137**
						Field weld fusion joints, Subcontracted (S), 10"	1,596.00 ea		**-**	**-**	**144,358**	**-**	**-**	90.45 /ea	**144,358**	193.84 /ea	**309,368**
						CLSM, pipe encasement	15,536.51 cy		**-**	**932,191**	**-**	**-**	**-**	60.00 /cy	**932,191**	132.93 /cy	**2,065,325**
						Pipe Marking, Detection Tape	30,000.00 lf	**300**	**24,310**	**3,900**	**-**	**-**	**-**	0.94 /lf	**28,210**	2.02 /lf	**60,738**
						Pipe Marking, Copper Wire	30,000.00 lf	**300**	**24,310**	**6,600**	**-**	**-**	**-**	1.03 /lf	**30,910**	2.22 /lf	**66,720**
						33.00.09.10 Buried Pipe, HDPE, 10"	**30,000.00 LF**	**20,988**	**1,523,665**	**2,802,636**	**501,358**	**1,045,468**	**357,000**	**207.67 /LF**	**6,230,128**	**452.95 /LF**	**13,588,401**
						33.00.09.0001 10" HDPE Pipeline	**30,000.00 LF**	**20,988**	**1,523,665**	**2,802,636**	**501,358**	**1,045,468**	**357,000**	**207.67 /LF**	**6,230,128**	**452.95 /LF**	**13,588,401**
						33.07 Buried Process Pipe, HDPE	**30,000.00 LF**	**20,988**	**1,523,665**	**2,802,636**	**501,358**	**1,045,468**	**357,000**	**207.67 /LF**	**6,230,128**	**452.95 /LF**	**13,588,401**
						33.0 Utilities	**30,000.00 LF**	**20,988**	**1,523,665**	**2,802,636**	**501,358**	**1,045,468**	**357,000**	**207.67 /LF**	**6,230,128**	**452.95 /LF**	**13,588,401**
						01.0 10" HDPE Concentrate Pipeline	**30,000.00 LF**	**20,988**	**1,523,665**	**2,802,636**	**501,358**	**1,045,468**	**357,000**	**207.67 /LF**	**6,230,128**	**452.95 /LF**	**13,588,401**
	02.0					Install Pipe Inside Future Bridge											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.00.07.0002		Future Bridge Crossing Allowance											
					33.00.09.10	Buried Pipe, HDPE, 10"											
						Division 33 Allowance Support Pipe Inside Bridge	160.00 lf		**-**	**-**	**80,000**	**-**		500.00 /lf	**80,000**	1,071.53 /lf	**171,445**
						10" HDPE pipe, excav/backfill not included	160.00 LF	**18**	**1,420**	**8,640**	**-**	**802**	**-**	67.89 /LF	**10,862**	149.76 /LF	**23,962**
						33.00.09.10 Buried Pipe, HDPE, 10"	**160.00 LF**	**18**	**1,420**	**8,640**	**80,000**	**802**		**567.89 /LF**	**90,862**	**1,221.29 /LF**	**195,407**
						33.00.07.0002 Future Bridge Crossing Allowance	**160.00 LF**	**18**	**1,420**	**8,640**	**80,000**	**802**		**567.89 /LF**	**90,862**	**1,221.29 /LF**	**195,407**
						33.07 Buried Process Pipe, HDPE	**160.00 LF**	**18**	**1,420**	**8,640**	**80,000**	**802**		**567.89 /LF**	**90,862**	**1,221.29 /LF**	**195,407**
						33.0 Utilities	**160.00 LF**	**18**	**1,420**	**8,640**	**80,000**	**802**		**567.89 /LF**	**90,862**	**1,221.29 /LF**	**195,407**
						02.0 Install Pipe Inside Future Bridge	**160.00 LF**	**18**	**1,420**	**8,640**	**80,000**	**802**		**567.89 /LF**	**90,862**	**1,221.29 /LF**	**195,407**
	03.0					Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.60.02.0003		Bore at Flood Channel 24" Casing with 10" Carrier											
					33.60.02.36	Pipeline Specials, Jack and Bore, 24" x 10"											
						Horizontal boring, excavate bore pit	1.00 ea	**48**	**3,874**	**-**	**-**	**2,186**	**-**	6,059.71 /ea	**6,060**	13,144.84 /ea	**13,145**
						Horizontal boring, excavate receiving pit and connect to mainline pipe	1.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	3,029.85 /ea	**3,030**	6,572.37 /ea	**6,572**
						Horizontal boring, backfill bore pit	1.00 ea	**24**	**1,937**	**-**	**-**	**1,093**	**-**	3,029.85 /ea	**3,030**	6,572.40 /ea	**6,572**
						Horizontal boring, backfill receiving pit	1.00 ea	**12**	**968**	**-**	**-**	**547**	**-**	1,514.92 /ea	**1,515**	3,286.20 /ea	**3,286**
						Horizontal boring, roadwork, subcontract, 1/2" thick wall, 24" diameter casing	70.00 lf	**224**		**-**	**26,950**	**-**	**-**	385.00 /lf	**26,950**	825.08 /lf	**57,755**
						Horizontal boring, 24" diameter casing spacer	3.00 ea		**-**	**150**	**-**	**-**	**-**	50.00 /ea	**150**	110.79 /ea	**332**
						Horizontal boring, 24" diameter end seals	2.00 ea		**-**	**500**	**-**	**-**	**-**	250.00 /ea	**500**	553.88 /ea	**1,108**
						10" HDPE pipe, excav/backfill not included	70.00 LF	**8**	**621**	**770**	**-**	**351**	**-**	24.89 /LF	**1,742**	54.49 /LF	**3,815**
						33.60.02.36 Pipeline Specials, Jack and Bore, 24" x 10"	**70.00 LF**	**340**	**9,337**	**1,420**	**26,950**	**5,269**		**613.95 /LF**	**42,976**	**1,322.66 /LF**	**92,586**
						33.60.02.0003 Bore at Flood Channel 24" Casing with 10" Carrier	**70.00 LF**	**340**	**9,337**	**1,420**	**26,950**	**5,269**		**613.95 /LF**	**42,976**	**1,322.66 /LF**	**92,586**
						33.07 Buried Process Pipe, HDPE	**70.00 LF**	**340**	**9,337**	**1,420**	**26,950**	**5,269**		**613.95 /LF**	**42,976**	**1,322.66 /LF**	**92,586**
						33.0 Utilities	**70.00 LF**	**340**	**9,337**	**1,420**	**26,950**	**5,269**		**613.95 /LF**	**42,976**	**1,322.66 /LF**	**92,586**
						03.0 Bore at Flood Channel 24" Casing with 10" Carrier	**70.00 LF**	**340**	**9,337**	**1,420**	**26,950**	**5,269**		**613.95 /LF**	**42,976**	**1,322.66 /LF**	**92,586**
	04.0					Attach to Bridge at Creek											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.00.07.0004		Attache to Bridge at Creek Allowance											
					33.00.04.10	Buried Pipe, Ductile Iron, 10"											
						Division 33 Allowance Attach Pipe to Bridge	100.00 lf		**-**	**-**	**50,000**	**-**		500.00 /lf	**50,000**	1,071.53 /lf	**107,153**
						10" pipe, DI, RJ, excav/bkfill not included, 350#	100.00 LF	**21**	**1,695**	**3,948**	**-**	**956**	**-**	65.99 /LF	**6,599**	144.97 /LF	**14,497**
						33.00.04.10 Buried Pipe, Ductile Iron, 10"	**100.00 LF**	**21**	**1,695**	**3,948**	**50,000**	**956**		**565.99 /LF**	**56,599**	**1,216.50 /LF**	**121,650**
						33.00.07.0004 Attache to Bridge at Creek Allowance	**100.00 LF**	**21**	**1,695**	**3,948**	**50,000**	**956**		**565.99 /LF**	**56,599**	**1,216.50 /LF**	**121,650**
						33.07 Buried Process Pipe, HDPE	**100.00 LF**	**21**	**1,695**	**3,948**	**50,000**	**956**		**565.99 /LF**	**56,599**	**1,216.50 /LF**	**121,650**
						33.0 Utilities	**100.00 LF**	**21**	**1,695**	**3,948**	**50,000**	**956**		**565.99 /LF**	**56,599**	**1,216.50 /LF**	**121,650**
						04.0 Attach to Bridge at Creek	**100.00 LF**	**21**	**1,695**	**3,948**	**50,000**	**956**		**565.99 /LF**	**56,599**	**1,216.50 /LF**	**121,650**
	05.0					8" Blow Off Assembly											
		33.0				Utilities											
			33.07			Buried Process Pipe, HDPE											
				33.20.01.0004		8" Blow Off Assembly											
					33.20.01.08	Buried Valves, Gate Valves, 8"											
						8" pipe, DI, MJ, excav/bkfill included	200.00 LF	**96**	**7,747**	**10,442**	**-**	**4,372**	**-**	112.81 /LF	**22,561**	247.12 /LF	**49,425**
						8" DI, MJ, Ell, 90	8.00 ea	**24**	**1,937**	**2,750**	**-**	**1,093**	**-**	722.48 /ea	**5,780**	1,583.15 /ea	**12,665**
						8" DI, MJ, Ell, 45	8.00 ea	**24**	**1,937**	**2,350**	**-**	**1,093**	**-**	672.43 /ea	**5,379**	1,472.26 /ea	**11,778**
						8" DI, RJ, cap or plug	8.00 ea	**12**	**968**	**1,249**	**-**	**547**	**-**	345.52 /ea	**2,764**	756.74 /ea	**6,054**

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					33.20.01.08	**Buried Valves, Gate Valves, 8"**											
						10" HDPE tee	8.00 ea	36	2,876	1,577	-	1,623	-	759.60 /ea	6,077	1,656.87 /ea	13,255
						10" HDPE reducer	8.00 ea	23	1,879	1,564	-	1,060	-	562.93 /ea	4,503	1,230.18 /ea	9,841
						10" HDPE flange	8.00 ea	19	1,546		-	364	-	238.82 /ea	1,911	515.11 /ea	4,121
						Install gate valve, Flgd, DIP, 8"	8.00 ea	26	2,130	-	-	1,202	-	416.61 /ea	3,333	903.71 /ea	7,230
						Gate valve, iron body, dbl disk, Flgd, 250#, HWO, 8"	8.00 EA		-	4,952	-	-	-	619.00 /EA	4,952	1,371.43 /EA	10,971
						Valve accessory, extension stem	40.00 lf	4	319	200	-	-	-	12.98 /lf	519	28.18 /lf	1,127
						Valve accessory, stem couplings	8.00 set	3	211	160	-	-	-	46.33 /set	371	100.74 /set	806
						CI Valve Box & Cover, w/ Concrete Collar included	8.00 ea	24	1,937	1,200	-	1,093	-	528.73 /ea	4,230	1,153.89 /ea	9,231
						Meter Box	8.00 ea	32	1,866	2,000	-	-	-	483.29 /ea	3,866	1,053.84 /ea	8,431
						33.20.01.08 Buried Valves, Gate Valves, 8"	**8.00 EA**	323	25,354	28,445		12,448		8,280.81 /EA	66,246	18,116.87 /EA	144,935
						33.20.01.0004 8" Blow Off Assembly	**8.00 EA**	323	25,354	28,445		12,448		8,280.81 /EA	66,246	18,116.87 /EA	144,935
						33.07 Buried Process Pipe, HDPE	**200.00 LF**	323	25,354	28,445		12,448		331.23 /LF	66,246	724.67 /LF	144,935
						33.0 Utilities	**200.00 LF**	323	25,354	28,445		12,448		331.23 /LF	66,246	724.67 /LF	144,935
						05.0 8" Blow Off Assembly	**8.00 EA**	323	25,354	28,445		12,448		8,280.81 /EA	66,246	18,116.87 /EA	144,935
	06.0					**Asphalt Trench Repair**											
		32.0				**Exterior Improvements**											
			32.12			**Paving**											
				02.01.01.0007		**Demo Asphalt**											
					02.01.01.01	**General Site Demolition, Asphalt Pavement**											
						Saw Cutting, Ashpalt, 6" Depth	53,800.00 lf	828		-	107,600	-	-	2.00 /lf	107,600	4.19 /lf	225,213
						Asphalt Milling, 6" Depth	14,945.00 Sy	149		-	37,363	-	-	2.50 /Sy	37,363	5.23 /Sy	78,202
						Haul Site Demolition Spoils, 12 yd capacity, 35 miles RT, priced per cy	2,490.00 cy	256	17,449	-	-	24,575	-	16.88 /cy	42,024	36.04 /cy	89,741
						Dump Charges for Site Demolition Spoils, 12 yd tandem, priced per cy	2,490.00 cy		-	31,125	-	-	-	12.50 /cy	31,125	27.07 /cy	67,403
						02.01.01.01 General Site Demolition, Asphalt Pavement	**14,945.00 Sy**	1,233	17,449	31,125	144,963	24,575		14.59 /Sy	218,112	30.82 /Sy	460,559
						02.01.01.0007 Demo Asphalt	**14,945.00 Sy**	1,233	17,449	31,125	144,963	24,575		14.59 /Sy	218,112	30.82 /Sy	460,559
				32.40.02.0008		**Trench Paving**											
					32.40.02.00	**Site Improvements, Paving, Bituminous Asphalt**											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, over 10,000 S.Y.	14,944.44 SY	48	3,431	13,301	-	2,563	-	1.29 /SY	19,294	2.78 /SY	41,534
						Fog seal, sealcoating, prepare and clean surface for sealcoating	14,944.44 sy	42	2,537	-	-	594	-	0.21 /sy	3,132	0.44 /sy	6,598
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	14,944.44 sy	114	8,097	171,114	-	8,746	-	12.58 /sy	187,957	27.20 /sy	406,446
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	14,944.44 sy	7,608	507,969	358,667	-	47,116	-	61.14 /sy	913,751	129.94 /sy	1,941,955
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	26,900.00 LF	77	4,620	18,292	-	3,066	-	0.97 /LF	25,978	2.08 /LF	55,923
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	**14,944.44 SY**	7,889	526,655	561,373		62,085		76.96 /SY	1,150,113	164.10 /SY	2,452,457
						32.40.02.0008 Trench Paving	**14,944.44 SY**	7,889	526,655	561,373		62,085		76.96 /SY	1,150,113	164.10 /SY	2,452,457
						32.12 Paving	**14,944.44 SY**	9,122	544,104	592,498	144,963	86,660		91.55 /SY	1,368,225	194.92 /SY	2,913,016
						32.0 Exterior Improvements	**14,944.44 SY**	9,122	544,104	592,498	144,963	86,660		91.55 /SY	1,368,225	194.92 /SY	2,913,016
						06.0 Asphalt Trench Repair	**26,900.00 LF**	9,122	544,104	592,498	144,963	86,660		50.86 /LF	1,368,225	108.29 /LF	2,913,016
	07.0					**Access Way and Cleaning Structure Vaults**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0009		**Access Way and Cleaning Structure Vaults**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	21.00 EA	588	37,018	52,500	-	5,444	-	4,521.96 /EA	94,961	9,890.88 /EA	207,708
						10" HDPE pipe, excav/backfill included	420.00 LF	202	16,269	4,620	-	9,182	-	71.60 /LF	30,071	155.82 /LF	65,444
						10" HDPE Ell, 45	84.00 ea	258	20,811	7,840	-	11,745	-	480.90 /ea	40,396	1,047.50 /ea	87,990
						10" HDPE tee	42.00 ea	187	15,100	8,282	-	8,522	-	759.60 /ea	31,903	1,656.87 /ea	69,588
						10" HDPE wye	42.00 ea	187	15,100	12,525	-	8,522	-	860.64 /ea	36,147	1,880.73 /ea	78,991
						10" HDPE flange	210.00 ea	503	40,588		-	9,564	-	238.82 /ea	50,152	515.11 /ea	108,173
						10" steel blind flange	84.00 ea	98	7,897		-	4,457	-	147.07 /ea	12,354	319.04 /ea	26,799
						10" Bolt & Gasket Kits, SS	210.00 ea	462	36,866	15,120	-	-	-	247.55 /ea	51,986	535.74 /ea	112,505
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	63.00 ea		-	452,844	-	-	-	7,188.00 /ea	452,844	15,925.45 /ea	1,003,303
						Install Pinch valve, iron body, Flgd, 10"	63.00 ea	252	20,109	-	-	-	-	319.18 /ea	20,109	684.03 /ea	43,094
						33.00.09.10 Buried Pipe, HDPE, 10"	**420.00 LF**	2,737	209,757	553,731		57,435		1,954.58 /LF	820,922	4,294.27 /LF	1,803,595
						33.00.09.0009 Access Way and Cleaning Structure Vaults	**21.00 EA**	2,737	209,757	553,731		57,435		39,091.53 /EA	820,922	85,885.49 /EA	1,803,595
						33.07 Buried Process Pipe, HDPE	**420.00 LF**	2,737	209,757	553,731		57,435		1,954.58 /LF	820,922	4,294.27 /LF	1,803,595
						33.0 Utilities	**420.00 LF**	2,737	209,757	553,731		57,435		1,954.58 /LF	820,922	4,294.27 /LF	1,803,595
						07.0 Access Way and Cleaning Structure Vaults	**21.00 EA**	2,737	209,757	553,731		57,435		39,091.53 /EA	820,922	85,885.49 /EA	1,803,595
	08.0					**Energy Dissipation Facility**											
		33.0				**Utilities**											
			33.07			**Buried Process Pipe, HDPE**											
				33.00.09.0010		**Energy Dissipation Facility**											
					33.00.09.10	**Buried Pipe, HDPE, 10"**											
						Utility vaults, precast concrete, 6' x 10' x 6' high, i.d	3.00 EA	84	5,288	7,500	-	778	-	4,521.96 /EA	13,566	9,890.88 /EA	29,673
						10" HDPE pipe, excav/backfill included	60.00 LF	29	2,324	660	-	1,312	-	71.60 /LF	4,296	155.82 /LF	9,349
						10" HDPE Ell, 90	6.00 ea	19	1,552	1,144	-	876	-	595.28 /ea	3,572	1,300.14 /ea	7,801
						10" HDPE tee	6.00 ea	27	2,157	1,183	-	1,217	-	759.60 /ea	4,558	1,656.87 /ea	9,941
						10" HDPE flange	24.00 ea	57	4,639		-	1,093	-	238.82 /ea	5,732	515.11 /ea	12,363
						10" Bolt & Gasket Kits, SS	24.00 ea	53	4,213	1,728	-	-	-	247.55 /ea	5,941	535.74 /ea	12,858
						FURNISH Pinch valve, iron body, Flgd, EMO, 10"	9.00 ea		-	64,692	-	-	-	7,188.00 /ea	64,692	15,925.45 /ea	143,329
						Install Pinch valve, iron body, Flgd, 10"	9.00 ea	36	2,873	-	-	-	-	319.18 /ea	2,873	684.03 /ea	6,156
						PRV - Pressure Regulating Valve	3.00 ea	24	1,823	36,000	-	-	-	12,607.64 /ea	37,823	27,888.93 /ea	83,667
						33.00.09.10 Buried Pipe, HDPE, 10"	**60.00 LF**	329	24,869	112,907		5,276		2,384.19 /LF	143,051	5,252.27 /LF	315,136
						33.00.09.0010 Energy Dissipation Facility	**3.00 EA**	329	24,869	112,907		5,276		47,683.83 /EA	143,051	105,045.40 /EA	315,136
						33.07 Buried Process Pipe, HDPE	**60.00 LF**	329	24,869	112,907		5,276		2,384.19 /LF	143,051	5,252.27 /LF	315,136
						33.0 Utilities	**60.00 LF**	329	24,869	112,907		5,276		2,384.19 /LF	143,051	5,252.27 /LF	315,136
						08.0 Energy Dissipation Facility	**3.00 EA**	329	24,869	112,907		5,276		47,683.83 /EA	143,051	105,045.40 /EA	315,136
	09.0					**CARV Assembly**											
		33.0				**Utilities**											

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
			33.07			**Buried Process Pipe, HDPE**											
				33.20.08.0005		**2" CARV Assembly**											
					33.20.08.01	**Buried Valves, Air Valve Assembly, 1/2" to 3"**											
						Division 03 Allowance Can and Concrete Base	8.00 EA		-	-	12,000	-		1,500.00 /EA	12,000	3,214.59 /EA	25,717
						2" Corporation stop, thrd	8.00 ea	9	752		-	363	-	139.45 /ea	1,116	302.15 /ea	2,417
						Ball valve, bronze, screwed, 2"	8.00 ea	3	255	512	-	-	-	95.92 /ea	767	210.20 /ea	1,682
						2" copper pipe, K-soft	200.00 LF	14	1,117	2,116	-	-	-	16.17 /LF	3,234	35.42 /LF	7,083
						2" copper, ELL, 90	16.00 ea	10	830	205	-	-	-	64.71 /ea	1,035	139.60 /ea	2,234
						Install Air & Vacuum relief valve, 2"	8.00 ea	19	1,532	-	-	-	-	191.51 /ea	1,532	410.42 /ea	3,283
						FURNISH Air & Vacuum relief valve, iron body, 2"	8.00 ea		-	3,000	-	-	-	375.00 /ea	3,000	830.84 /ea	6,647
						Double Strap Saddle, 10" x 2"	8.00 ea	24	1,915	840	-	-	-	344.39 /ea	2,755	745.66 /ea	5,965
						33.20.08.01 Buried Valves, Air Valve Assembly, 1/2" to 3"	**8.00 EA**	**80**	**6,402**	**6,674**	**12,000**	**363**		**3,179.88 /EA**	**25,439**	**6,878.44 /EA**	**55,028**
						33.20.08.0005 2" CARV Assembly	**8.00 EA**	**80**	**6,402**	**6,674**	**12,000**	**363**		**3,179.88 /EA**	**25,439**	**6,878.44 /EA**	**55,028**
						33.07 Buried Process Pipe, HDPE	**200.00 LF**	**80**	**6,402**	**6,674**	**12,000**	**363**		**127.20 /LF**	**25,439**	**275.14 /LF**	**55,028**
						33.0 Utilities	**200.00 LF**	**80**	**6,402**	**6,674**	**12,000**	**363**		**127.20 /LF**	**25,439**	**275.14 /LF**	**55,028**
						09.0 CARV Assembly	**8.00 EA**	**80**	**6,402**	**6,674**	**12,000**	**363**		**3,179.88 /EA**	**25,439**	**6,878.44 /EA**	**55,028**
	10.0					**Traffic Control**											
		33.0				**Utilities**											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		**Traffic Control Allowance**											
					33.00.01.40	**Buried Pipe, Traffic Control**											
						Division 33 Allowance Traffic Control	30,000.00 LF		-	-	750,000	-		25.00 /LF	750,000	53.58 /LF	1,607,295
						33.00.01.40 Buried Pipe, Traffic Control	**30,000.00 LF**				**750,000**			**25.00 /LF**	**750,000**	**53.58 /LF**	**1,607,295**
						33.00.01.0009 Traffic Control Allowance	**30,000.00 LF**				**750,000**			**25.00 /LF**	**750,000**	**53.58 /LF**	**1,607,295**
						33.89 Pipeline - Traffic Control	**30,000.00 LF**				**750,000**			**25.00 /LF**	**750,000**	**53.58 /LF**	**1,607,295**
						33.0 Utilities	**30,000.00 LF**				**750,000**			**25.00 /LF**	**750,000**	**53.58 /LF**	**1,607,295**
						10.0 Traffic Control	**30,000.00 LF**				**750,000**			**25.00 /LF**	**750,000**	**53.58 /LF**	**1,607,295**
	11.0					**Replace Traffic Loops**											
		26.0				**Electrical Work**											
			26.10			**Site Electrical**											
				26.00.99.0005		**Replace Traffic Loops 3 Intersections**											
					26.00.99.00	**Electrical, Other**											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	9.00 EA		-	-	135,000	-		15,000.00 /EA	135,000	33,645.90 /EA	302,813
						26.00.99.00 Electrical, Other	**9.00 EA**				**135,000**			**15,000.00 /EA**	**135,000**	**33,645.90 /EA**	**302,813**
						26.00.99.0005 Replace Traffic Loops 3 Intersections	**9.00 EA**				**135,000**			**15,000.00 /EA**	**135,000**	**33,645.90 /EA**	**302,813**
						26.10 Site Electrical	***1.00* LS**				**135,000**			**135,000.00 /LS**	**135,000**	**302,813.13 /LS**	**302,813**
						26.0 Electrical Work	***1.00* LS**				**135,000**			**135,000.00 /LS**	**135,000**	**302,813.13 /LS**	**302,813**
						11.0 Replace Traffic Loops	**9.00 EA**				**135,000**			**15,000.00 /EA**	**135,000**	**33,645.90 /EA**	**302,813**
						01.0 Las Virgenes Concentrate No. 3-1 Yellow Line	***1.00* LS**	33,957	2,346,602	4,110,898	1,700,271	1,214,677	357,000	**9,729,448.45 /LS**	9,729,448	**21,139,861.88 /LS**	21,139,862

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,346,602		33,956.625 hrs		78.220	11.10%	
Material	4,110,898				137.030	19.45%	
Subcontract	1,700,271				56.676	8.04%	
Equipment	1,214,677		22,101.312 hrs		40.489	5.75%	
Other	357,000				11.900	1.69%	
Subtotal Raw Costs	**9,729,448**	**9,729,448**			**324.315**	**46.02%**	**46.02%**
Material Sales & Use Tax - %	298,040			7.250 %	9.935	1.41%	
Construction Equip Tax - %	88,064			7.250 %	2.935	0.42%	
Total Taxes	**386,104**	**10,115,552**			**337.185**	**1.83%**	**47.85%**
Location Adj. Factor	1,105,949			11.800 %	36.865	5.23%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,105,949**	**11,221,501**			**374.050**	**5.23%**	**53.08%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	33,750			25.000 %	1.125	0.16%	
Site/Civil I,OH&P	136,822			10.000 %	4.561	0.65%	
Buried Piping I,OH&P	1,233,934			15.000 %	41.131	5.84%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,404,506**	**12,626,007**			**420.867**	**6.64%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**12,626,007**			**420.867**		**59.73%**
Total Cost To Prime Contractor		**12,626,007**			**420.867**		**59.73%**
General Conditions	1,262,601			10.000 %	42.087	5.97%	
Mobilization/Demobilization	505,040			4.000 %	16.835	2.39%	
Subtotal Indirect Costs	**1,767,641**	**14,393,648**			**479.788**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,439,365			10.000 %	47.979	6.81%	
Prime Contractor Profit	719,682			5.000 %	23.989	3.40%	
Bonds & Insurance	359,194			2.170 %	11.973	1.70%	
Subtotal OH&P	**2,518,241**	**16,911,889**			**563.730**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**16,911,889**			**563.730**		**80.00%**
Design Contingency	4,227,972			25.000 %	140.932	20.00%	
Subtotal Contingency	**4,227,972**	**21,139,861**			**704.662**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**21,139,861**			**704.662**		**100.00%**
Total Prime Contractor Costs		**21,139,861**			**704.662**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**21,139,861**			**704.662**		**100.00%**
Total Contractor Costs w/ OFCI		**21,139,861**			**704.662**		**100.00%**
Total Construction Cost		**21,139,861**			**704.662**		**100.00%**
Total		***21,139,861***			***704.662***		

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Concentrate No. 3-1 Yellow Line**											
	01.0				10" HDPE Concentrate Pipeline											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0001	10" HDPE Pipeline	30,000.00 LF	20,988	1,523,665	2,802,636	501,358	1,045,468	357,000	207.67 /LF	6,230,128	452.95 /LF	13,588,401
					33.07 Buried Process Pipe, HDPE	**30,000.00 LF**	20,988	1,523,665	2,802,636	501,358	1,045,468	357,000	**207.67 /LF**	6,230,128	**452.95 /LF**	13,588,401
					33.0 Utilities	30,000.00 LF	20,988	1,523,665	2,802,636	501,358	1,045,468	357,000	207.67 /LF	6,230,128	452.95 /LF	13,588,401
					01.0 10" HDPE Concentrate Pipeline	30,000.00 LF	20,988	1,523,665	2,802,636	501,358	1,045,468	357,000	207.67 /LF	6,230,128	452.95 /LF	13,588,401
	02.0				Install Pipe Inside Future Bridge											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.07.0002	Future Bridge Crossing Allowance	160.00 LF	18	1,420	8,640	80,000	802		567.89 /LF	90,862	1,221.29 /LF	195,407
					33.07 Buried Process Pipe, HDPE	**160.00 LF**	18	1,420	8,640	80,000	802		**567.89 /LF**	90,862	**1,221.29 /LF**	195,407
					33.0 Utilities	160.00 LF	18	1,420	8,640	80,000	802		567.89 /LF	90,862	1,221.29 /LF	195,407
					02.0 Install Pipe Inside Future Bridge	160.00 LF	18	1,420	8,640	80,000	802		567.89 /LF	90,862	1,221.29 /LF	195,407
	03.0				Bore at Flood Channel 24" Casing with 10" Carrier											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.60.02.0003	Bore at Flood Channel 24" Casing with 10" Carrier	70.00 LF	340	9,337	1,420	26,950	5,269		613.95 /LF	42,976	1,322.66 /LF	92,586
					33.07 Buried Process Pipe, HDPE	**70.00 LF**	340	9,337	1,420	26,950	5,269		**613.95 /LF**	42,976	**1,322.66 /LF**	92,586
					33.0 Utilities	70.00 LF	340	9,337	1,420	26,950	5,269		613.95 /LF	42,976	1,322.66 /LF	92,586
					03.0 Bore at Flood Channel 24" Casing with 10" Carrier	70.00 LF	340	9,337	1,420	26,950	5,269		613.95 /LF	42,976	1,322.66 /LF	92,586
	04.0				Attach to Bridge at Creek											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.07.0004	Attache to Bridge at Creek Allowance	100.00 LF	21	1,695	3,948	50,000	956		565.99 /LF	56,599	1,216.50 /LF	121,650
					33.07 Buried Process Pipe, HDPE	**100.00 LF**	21	1,695	3,948	50,000	956		**565.99 /LF**	56,599	**1,216.50 /LF**	121,650
					33.0 Utilities	100.00 LF	21	1,695	3,948	50,000	956		565.99 /LF	56,599	1,216.50 /LF	121,650
					04.0 Attach to Bridge at Creek	100.00 LF	21	1,695	3,948	50,000	956		565.99 /LF	56,599	1,216.50 /LF	121,650
	05.0				8" Blow Off Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.01.0004	8" Blow Off Assembly	8.00 EA	323	25,354	28,445		12,448		8,280.81 /EA	66,246	18,116.87 /EA	144,935
					33.07 Buried Process Pipe, HDPE	**200.00 LF**	323	25,354	28,445		12,448		**331.23 /LF**	66,246	**724.67 /LF**	144,935
					33.0 Utilities	200.00 LF	323	25,354	28,445		12,448		331.23 /LF	66,246	724.67 /LF	144,935
					05.0 8" Blow Off Assembly	8.00 EA	323	25,354	28,445		12,448		8,280.81 /EA	66,246	18,116.87 /EA	144,935
	06.0				Asphalt Trench Repair											
		32.0			Exterior Improvements											
			32.12		Paving											
				02.01.01.0007	Demo Asphalt	14,945.00 Sy	1,233	17,449	31,125	144,963	24,575		14.59 /Sy	218,112	30.82 /Sy	460,559
				32.40.02.0008	Trench Paving	14,944.44 SY	7,889	526,655	561,373		62,085		76.96 /SY	1,150,113	164.10 /SY	2,452,457
					32.12 Paving	**14,944.44 SY**	9,122	544,104	592,498	144,963	86,660		**91.55 /SY**	1,368,225	**194.92 /SY**	2,913,016
					32.0 Exterior Improvements	14,944.44 SY	9,122	544,104	592,498	144,963	86,660		91.55 /SY	1,368,225	194.92 /SY	2,913,016
					06.0 Asphalt Trench Repair	26,900.00 LF	9,122	544,104	592,498	144,963	86,660		50.86 /LF	1,368,225	108.29 /LF	2,913,016
	07.0				Access Way and Cleaning Structure Vaults											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0009	Access Way and Cleaning Structure Vaults	21.00 EA	2,737	209,757	553,731		57,435		39,091.53 /EA	820,922	85,885.49 /EA	1,803,595
					33.07 Buried Process Pipe, HDPE	**420.00 LF**	2,737	209,757	553,731		57,435		**1,954.58 /LF**	820,922	**4,294.27 /LF**	1,803,595
					33.0 Utilities	420.00 LF	2,737	209,757	553,731		57,435		1,954.58 /LF	820,922	4,294.27 /LF	1,803,595
					07.0 Access Way and Cleaning Structure Vaults	21.00 EA	2,737	209,757	553,731		57,435		39,091.53 /EA	820,922	85,885.49 /EA	1,803,595
	08.0				Energy Dissipation Facility											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.00.09.0010	Energy Dissipation Facility	3.00 EA	329	24,869	112,907		5,276		47,683.83 /EA	143,051	105,045.40 /EA	315,136
					33.07 Buried Process Pipe, HDPE	**60.00 LF**	329	24,869	112,907		5,276		**2,384.19 /LF**	143,051	**5,252.27 /LF**	315,136
					33.0 Utilities	60.00 LF	329	24,869	112,907		5,276		2,384.19 /LF	143,051	5,252.27 /LF	315,136
					08.0 Energy Dissipation Facility	3.00 EA	329	24,869	112,907		5,276		47,683.83 /EA	143,051	105,045.40 /EA	315,136
	09.0				CARV Assembly											
		33.0			Utilities											
			33.07		Buried Process Pipe, HDPE											
				33.20.08.0005	2" CARV Assembly	8.00 EA	80	6,402	6,674	12,000	363		3,179.88 /EA	25,439	6,878.44 /EA	55,028
					33.07 Buried Process Pipe, HDPE	**200.00 LF**	80	6,402	6,674	12,000	363		**127.20 /LF**	25,439	**275.14 /LF**	55,028
					33.0 Utilities	200.00 LF	80	6,402	6,674	12,000	363		127.20 /LF	25,439	275.14 /LF	55,028
					09.0 CARV Assembly	8.00 EA	80	6,402	6,674	12,000	363		3,179.88 /EA	25,439	6,878.44 /EA	55,028
	10.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	30,000.00 LF				750,000			25.00 /LF	750,000	53.58 /LF	1,607,295
					33.89 Pipeline - Traffic Control	**30,000.00 LF**				750,000			**25.00 /LF**	750,000	**53.58 /LF**	1,607,295
					33.0 Utilities	30,000.00 LF				750,000			25.00 /LF	750,000	53.58 /LF	1,607,295
					10.0 Traffic Control	30,000.00 LF				750,000			25.00 /LF	750,000	53.58 /LF	1,607,295
	11.0				Replace Traffic Loops											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	9.00 EA				135,000			15,000.00 /EA	135,000	33,645.90 /EA	302,813

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
					26.10 Site Electrical	***1.00*** **LS**				135,000			135,000.00 /LS	135,000	302,813.13 /LS	302,813
					26.0 Electrical Work	***1.00*** **LS**				135,000			135,000.00 /LS	135,000	302,813.13 /LS	302,813
					11.0 Replace Traffic Loops	**9.00 EA**				135,000			15,000.00 /EA	135,000	33,645.90 /EA	302,813
					01.0 Las Virgenes Concentrate No. 3-1 Yellow Line	***1.00*** **LS**	33,957	2,346,602	4,110,898	1,700,271	1,214,677	357,000	9,729,448.45 /LS	9,729,448	21,139,861.88 /LS	21,139,862

BID FORM SUMMARY

Project type: Water
Job Size: 30,000 Lf
Duration:

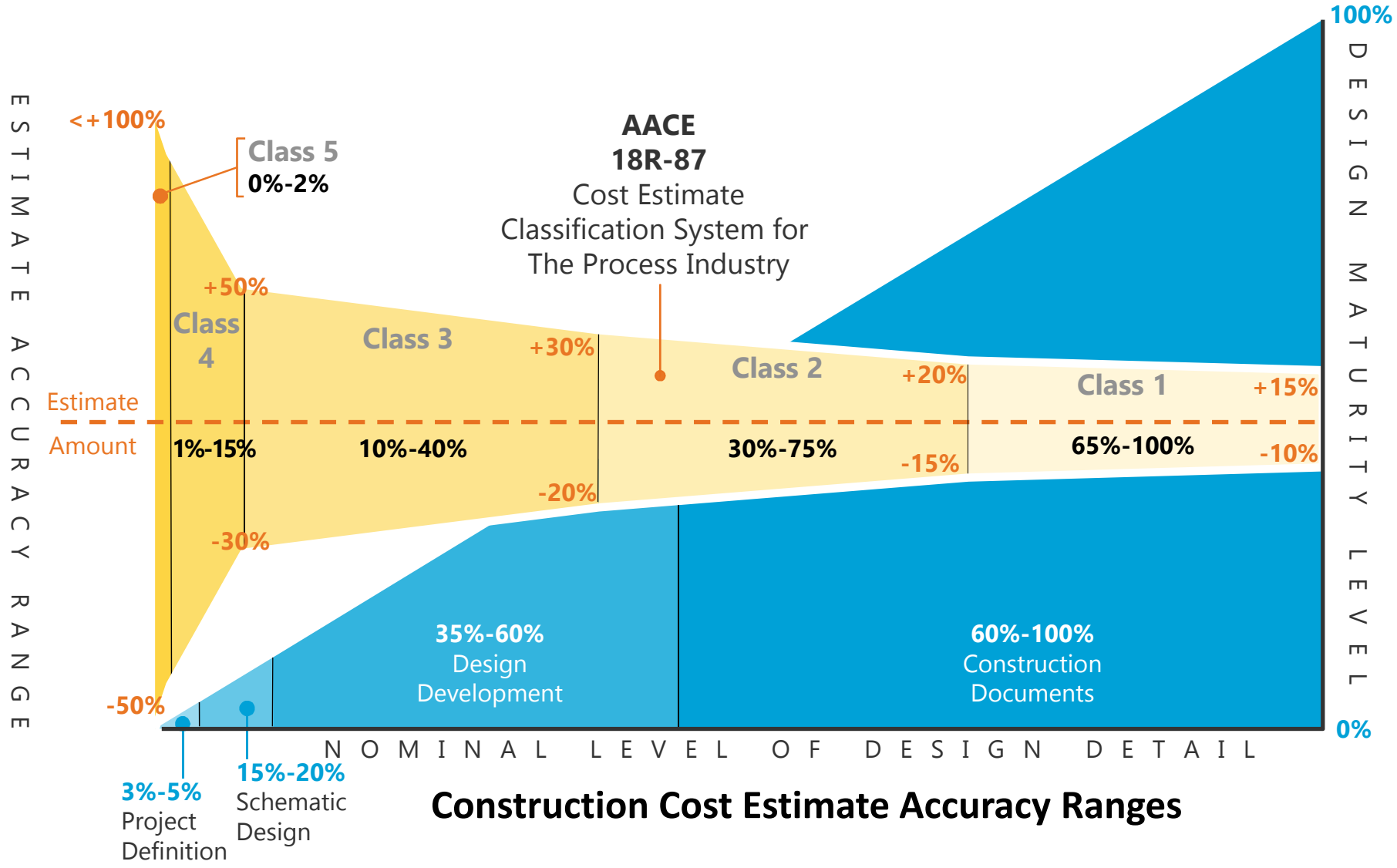
Project Name: W9Y31200 Las Virgenes Concentrate No. 3-1 Yellow Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: Rev. #1 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	2,346,602		33,956.625 hrs		78.220	11.10%	
Material	4,110,898				137.030	19.45%	
Subcontract	1,700,271				56.676	8.04%	
Equipment	1,214,677		22,101.312 hrs		40.489	5.75%	
Other	357,000				11.900	1.69%	
Subtotal Raw Costs	**9,729,448**	**9,729,448**			**324.315**	**46.02%**	**46.02%**
Material Sales & Use Tax - %	298,040			7.250 %	9.935	1.41%	
Construction Equip Tax - %	88,064			7.250 %	2.935	0.42%	
Total Taxes	**386,104**	**10,115,552**			**337.185**	**1.83%**	**47.85%**
Location Adj. Factor	1,105,949			11.800 %	36.865	5.23%	
Productivity Adjustment							
Subtotal Adj. Factors	**1,105,949**	**11,221,501**			**374.050**	**5.23%**	**53.08%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	33,750			25.000 %	1.125	0.16%	
Site/Civil I,OH&P	136,822			10.000 %	4.561	0.65%	
Buried Piping I,OH&P	1,233,934			15.000 %	41.131	5.84%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**1,404,506**	**12,626,007**			**420.867**	**6.64%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**12,626,007**			**420.867**		**59.73%**
Total Cost To Prime Contractor		**12,626,007**			**420.867**		**59.73%**
General Conditions	1,262,601			10.000 %	42.087	5.97%	
Mobilization/Demobilization	505,040			4.000 %	16.835	2.39%	
Subtotal Indirect Costs	**1,767,641**	**14,393,648**			**479.788**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	1,439,365			10.000 %	47.979	6.81%	
Prime Contractor Profit	719,682			5.000 %	23.989	3.40%	
Bonds & Insurance	359,194			2.170 %	11.973	1.70%	
Subtotal OH&P	**2,518,241**	**16,911,889**			**563.730**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**16,911,889**			**563.730**		**80.00%**
Design Contingency	4,227,972			25.000 %	140.932	20.00%	
Subtotal Contingency	**4,227,972**	**21,139,861**			**704.662**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**21,139,861**			**704.662**		**100.00%**
Total Prime Contractor Costs		**21,139,861**			**704.662**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**21,139,861**			**704.662**		**100.00%**
Total Contractor Costs w/ OFCI		**21,139,861**			**704.662**		**100.00%**
Total Construction Cost		**21,139,861**			**704.662**		**100.00%**
Total		***21,139,861***			***704.662***		

AACE Information



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	**0% to 2%**	**1% to 15%**	**10% to 40%**	**30% to 70%**	**50% to 100%**
END USAGE Typical Purpose of Estimate	**Concept Screening**	**Study or Feasibility**	**Budget Authorization, or Control**	**Control or Bid / Tender**	**Check Estimate or Bid / Tender**
METHODOLOGY Typical estimating method	**Capacity Factored, Parametric Models, Judgment, or Analogy**	**Equipment Factored or Parametric Models**	**Semi-Detailed Unit Costs with Assembly Level Line Items**	**Detailed Unit Cost with Forced Detailed Take-Off**	**Detailed Unit Cost with Detailed Take-Off**
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	**L: -20% to -50%** / **H: +30% to +100%**	**L: -15% to -30%** / **H: +20% to +50%**	**L: -10% to -20%** / **H: +10% to +30%**	**L: -5% to -15%** / **H: +5% to +20%**	**L: -3% to -10%** / **H: +3% to +15%**
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	**1**	**2 to 4**	**3 to 10**	**4 to 20**	**5 to 100**
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	**Class 5**	**Class 4**	**Class 3**	**Class 2**	**Class 1**
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete

Jacobs

Las Virgenes-Triunfo Residual Line Rev. #1

Agoura Hills CA.

Class 5

Prepared:
November 17, 2022

Jacobs

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Project Cost Estimate 1

Jacobs

Basis of Estimate

Jacobs

Basis of Estimate

1. Project Information

Client/Owner:	Las Virgenes-Triunfo
Project Manager:	Jennifer Phillips
Design Manager:	TBD
Architect:	TBD
Project Description:	Residual Pipeline Rev#1
Location:	Agoura Hills Ca.
Estimate Date:	November 17. 2022
Design Level:	Conceptual
Estimate Classification	Class 5
Estimate Number:	W9Y31200
Contracting Method:	Design, Bid, Build
Project Size:	5,570 lineal feet of 8” C-900 PVC 1 Package Duplex Lift Station
Construction Budget:	$2,336,000.00
Construction Start:	TBD
Construction Duration:	TBD

2. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer’s opinion of probable construction cost at the 10% level of design development.

3. General Project Description

This project is for the construction of a residuals pipeline as detailed in the estimate below in the city of Agoura Hills CA.

Jacobs

4. Overall Costs

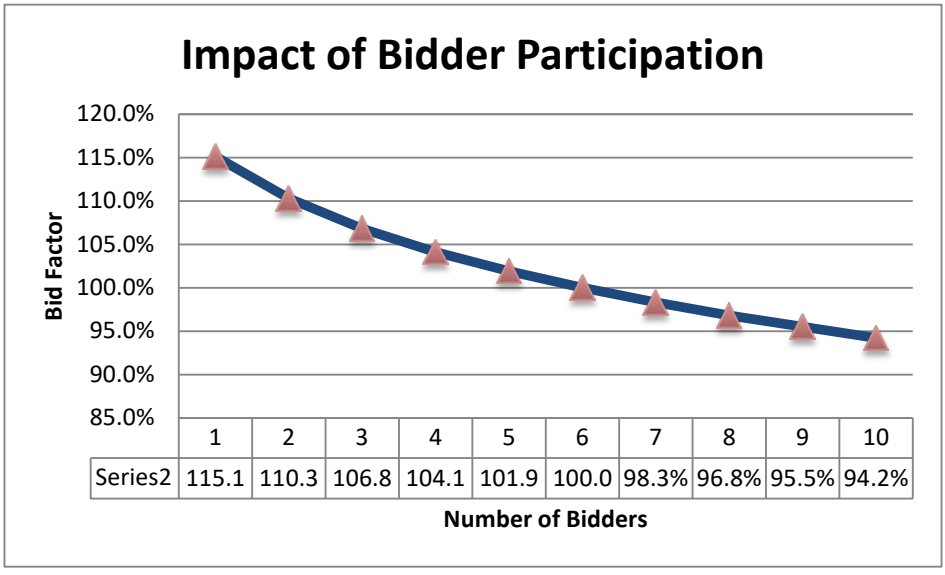
Low Range (-30%)	Estimated Costs [a]	High Range (+50%)
$1,635,000	**$2,336,000**	$3,504,000

5. General Qualifications

A. We recommend the Owner and/or designated representatives review the estimate in detail for items that may not be consistent with the program intent.

B. The final costs of the project will depend on actual labor and material costs, competitive market conditions, actual project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein.

C. This estimate is based upon a competitive bid contracting method with five to seven responsible bidders (see chart below for modifications due to number of responsible bidders). Any single source specification selection will have an increased impact on the overall cost.



No. Bidders	Bid Factor
1	115.1%
2	110.3%
3	106.8%
4	104.1%
5	101.9%
6	100.0%
7	98.3%
8	96.8%
9	95.5%
10	94.2%

Data Source: PACES 2007, Mark-ups Screen, Prime and Subcontractor Profit Calculation Factors

D. The estimate does not include impacts due to contracting methods other than “open” competitive procurement. Pricing is not valid for negotiated contracts.

E. Pricing is not valid for HUB Zone and “set-aside” contract award.

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6. Estimate Basis

A. Basis

- Other: Word documenting the scope of work with Google Earth KMZ files showing the approximate alignment of the pipeline.

B. Format

- This estimate is presented in CSI Masterformat 2004.
- The following Work Breakdown Structure (WBS) has been utilized to further segregate cost:
  - Area
  - Bid Item
  - Work Package
  - Trade Package
  - Work Activity
  - Unit Price

C. Labor Rates

Labor rates are based on local prevailing wages and are fully burdened to include both direct and indirect subcontract mark-ups. Labor Rates include base, fringes, payroll taxes and insurance, small tools, consumables, field supervision and field overhead as well as subcontractor overhead and profit. ENR CCI at the time of this estimate is 13575.17 for July 2022.

The estimate has been adjusted for local area labor rates, based upon 2022 RS Means National Average labor rates for the state of California. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index for Los Angeles CA. Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

D. Material Pricing

Materials pricing is based upon the national average as determined by RS Means or other data sources. Quotes on certain items may have been obtained and included in this estimate. Many quotes given for engineering estimates are budgetary and may not reflect actual contractor pricing.

E. Subcontracted Costs

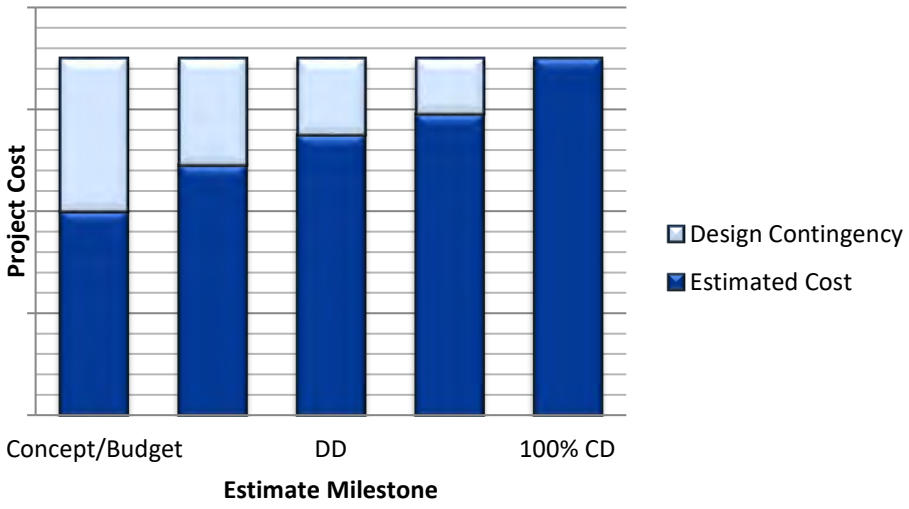
It is assumed that General Contractors will subcontract a portion of the work. Items listed in the cost estimate as subcontractor includes all anticipated markups that a general contractor would receive.

F. Construction Equipment Cost

Equipment items listed in this cost estimate are for the construction equipment necessary for the installation of the work. Equipment rates in this estimate are assumed to be 100% of 2022 Blue Book value. This is to account for contractor owned equipment or discounted rental equipment. A Location Adjustment Factor of 111.8 was used based on RS Means 2022 Site and Infrastructure City Cost Index Los Angeles CA..

G. Design Contingency

Design Contingency is considered to be owned by the project. At each milestone estimate, contingency (based on the level of design detail available) is applied against the total estimated construction cost, including General Conditions (when applicable). This risk-based contingency is intended to cover the cost associated with the further refinement of the design and details that are not completed on the plans. The design contingency is a function of the level of design at the time of the cost estimate development. As the design details increase at each milestone estimate, the contingency decreases until, at 100% design completion, the contingency is generally 0%. The following graph is a theoretical representation of this process.



Design Contingency is not intended to cover owner changes, nor does it address unforeseeable events such as labor strikes, natural disasters or extraordinary economic events.

A Design Contingency of 25% is included.

H. Market Adjustment Factor or Contingency

A market adjustment factor or contingency has been added to the estimate, to account for lack of potential bidders in a geographical area, based upon the amount of current workload by the general contractors or subcontractors.

A Market Adjustment Factor is not included.

I. Construction Contingency

Construction Contingency is a typical consideration on any Guaranteed Maximum Price (GMP) contract. It is often owned by the project but controlled by the owner. Meaning, the owner has approval rights as to whether this contingency fund is utilized. Its purpose is to cover purchasing gaps and omissions in the GMP bidding process and to cover unforeseen costs due to weather or scheduling conflicts. Typically, as part of a GMP, the unspent portion of the construction contingency is returned to the owner when the project is closed out.

A Construction Contingency is not included.

J. Owner's Contingency

Owner's Contingency is a recommended amount to cover the costs associated with unforeseen conditions during the construction phase such as unknown site conditions, schedule delays and trade coordination issues that may lead to change orders. This contingency is not meant for scope enhancements or for additions to the project. The suggested percentage for Owner's Contingency is based on Industry standards for the type and location of the project.

Owner's Contingency is not included in this estimate.

K. Escalation

The pricing presented herein is based on current market costs. An escalation rate is applied at the summary level of the estimate for costs associated with the following:

- Yearly merit raises for open shop contractors.
- Yearly renegotiation of union agreements.
- Material price increases (typically assessed quarterly).

Escalation is not intended to cover increases due to fluctuations in market conditions such as over saturation of projects during the anticipated bidding phase or temporary reductions in availability of manpower for selected labor pools.

Escalation is not included.

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7. Taxes

An 7.25% sales tax was added to all material costs within the estimate including process equipment.

8. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- Jacobs Historical Data
- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

9. Constructability Or Phase Comments

A Constructability Study was not conducted by estimating.

10. Project Allowances

01 - Allowances

Allowances are an allotted sum of money included for a particular system or scope of work for which sufficient detail is not available to determine a definitive cost. Allowances include project direct costs - including labor, material, equipment and any subcontractor costs.

1. An Allowance for the lift station of $5,200.00 is included.
2. An Allowance for Traffic Control of $25.00 per foot of pipeline is included.
3. An Allowance for the Replacement of Traffic Loops of $15,000.00 per intersection is included.

11. Major Assumptions

01 – General Requirements

1. Material that is to be excavated can be done with a standard excavator.
2. All backfill will be CLSM.
3. A Dump site for excavated spoils will be available within 20 miles of the project.
4. Traffic will be allowed to be detoured around the work site.
5. Manholes will be placed at approximately every 500 feet.

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12. General Exclusions:

- Professional fees, inspections and/or third-party testing
- Owner furnished items
- Hazardous waste removal and disposal
- Unforeseen sub-surface or existing conditions
- State/Local license, fees and/or permits
- Owner's contingency

13. Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The impacts of the COVID-19 pandemic on the construction industry are not known at this time and will likely have some impact on the costs presented herein. This situation should be monitored and costs adjusted as the impacts become realized and published by the leading industry sources.

While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends.

Estimate Summary

BID FORM SUMMARY

Project type: Water | Project Name: W9Y31200 Las Vergenes Risidual Line 8-31-22 | Estimator: John DeWolf
Job Size: 5,570 Lf | Project Number: W9Y31200 | Rev/Date: 8-31-22
Duration: | Design Stage: 5% | Estimate Class: 5

Area	Bid Item	Description	Takeoff Quantity	Grand Total Price	Grand Total with Markups
01.0		***Las Virgenes Residual Line***			
	01.0	**8" PVC C-900 Residual Line**	**5,570.00 LF**	**180.12 /LF**	**1,003,243**
	02.0	**Package Lift Station**	**1.00 EA**	**65,823.04 /EA**	**65,823**
	03.0	**Trench Paving**	**5,570.00 LF**	**162.11 /LF**	**902,968**
	04.0	**Traffic Control**	**5,570.00 LF**	**53.35 /LF**	**297,180**
	05.0	**Replace Traffic Loops**	**2.00 EA**	**33,512.25 /EA**	**67,024**
		01.0 Las Virgenes Residual Line	***1.00 LS***	***2,336,238.64 /LS***	***2,336,239***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	707,066		4,865.431 hrs		126.942	30.27%	
Material	977,956				175.576	41.86%	
Subcontract	424,073				76.135	18.15%	
Equipment	185,712		1,851.136 hrs		33.341	7.95%	
Other	41,432				7.438	1.77%	
Total Prime Contractor Costs	**2,336,239**	**2,336,239**			**419.432**	**100.00%**	**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Construction Cost		**2,336,239**			**419.432**		**100.00%**
Total		***2,336,239***			***419.432***		

Estimate Detail

BID FORM SUMMARY

Project type: Water
Job Size: 5,570 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Risidual Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0						**Las Virgenes Residual Line**											
	01.0					8" PVC C-900 Residual Line											
		33.0				Utilities											
			33.10			**Buried Piping**											
				33.00.07.0001		8" PVC C-900 Residual Line											
					33.00.07.08	Buried Pipe, PVC, 8"											
						Pipeline Existing Conditions	***200.00 lf***			-	-	-	-	***/lf***		***/lf***	
						Traffic Control, Labor per Day	28.00 day	448	26,128	-	-	-	-	933.15 /day	26,128	1,991.49 /day	55,762
						Trench Box, 8' x 24' x 10'	1.00 mo		-	-	-	2,300	-	2,300.00 /mo	2,300	5,075.29 /mo	5,075
						Dedicated Fire / Safety Monitor	112.00 hr	112	6,532	-	-	-	-	58.32 /hr	6,532	124.47 /hr	13,940
						Excav. pipe trench, w/ trench box, for 4" - 24" pipe	3,253.87 CY	94	6,485	-	-	8,908	-	4.73 /CY	15,393	10.29 /CY	33,496
						Backfill / Compact @ pipe zone, for 4" thru 24" pipe	1,034.85 cy	138	9,033	-	-	6,183	-	14.70 /cy	15,216	31.81 /cy	32,922
						Backfill / Compact above pipe zone, for 4" thru 24" pipe	2,189.46 cy	63	4,786	-	-	3,801	-	3.92 /cy	8,588	8.50 /cy	18,603
						Pipe zone material	1,034.85 cy		-	28,976	-	-	-	28.00 /cy	28,976	61.79 /cy	63,939
						Pipe bedding material	335.31 cy		-	9,389	-	-	-	28.00 /cy	9,389	61.79 /cy	20,718
						Haul spoils, offsite, 10 - 20 miles	1,370.16 cy		-	-	20,552	-	-	15.00 /cy	20,552	32.01 /cy	43,862
						Dump fees, trench spoils	1,370.00 cy		-	-	-	-	20,550	15.00 /cy	20,550	30.24 /cy	41,432
						8" DI, MJ, Ell, 90	2.00 ea	6	484	688	-	273	-	722.48 /ea	1,445	1,576.72 /ea	3,153
						8" DI, MJ, Ell, 45	6.00 ea	18	1,453	1,762	-	820	-	672.43 /ea	4,035	1,466.27 /ea	8,798
						8" DI, MJ, Ell, 22 1/2	4.00 ea	12	968	1,588	-	547	-	775.83 /ea	3,103	1,694.44 /ea	6,778
						8" DI, MJ, Ell, 11 1/4	4.00 ea	12	968	1,220	-	547	-	683.73 /ea	2,735	1,491.21 /ea	5,965
						FURNISH PVC water distribution pipe, C-900, class 150, DR 18, 8"	5,570.00 LF		-	56,424	-	-	-	10.13 /LF	56,424	22.35 /LF	124,508
						Install PVC water distribution pipe, excav/bkfill NOT included, 8"	5,570.00 lf	713	57,536	-	-	32,471	-	16.16 /lf	90,007	34.91 /lf	194,442
						CLSM, pipe encasement	2,189.46 cy		-	131,368	-	-	-	60.00 /cy	131,368	132.40 /cy	289,882
						Add for tie-in to existing (Adjust productivity)	2.00 ea	48	3,874	1,500	-	2,186	-	3,779.86 /ea	7,560	8,200.41 /ea	16,401
						Pipe Marking, ID Tape	5,570.00 lf	56	4,514	724	-	-	-	0.94 /lf	5,238	2.02 /lf	11,230
						Pipe Marking, Copper Wire	5,570.00 lf	56	4,514	1,225	-	-	-	1.03 /lf	5,739	2.21 /lf	12,337
						33.00.07.08 Buried Pipe, PVC, 8"	5,570.00 LF	1,776	127,275	234,864	20,552	58,035	20,550	82.81 /LF	461,276	180.12 /LF	1,003,243
						33.00.07.0001 8" PVC C-900 Residual Line	5,570.00 LF	1,776	127,275	234,864	20,552	58,035	20,550	82.81 /LF	461,276	180.12 /LF	1,003,243
						33.10 Buried Piping	***1.00*** **LS**	1,776	127,275	234,864	20,552	58,035	20,550	**461,276.32 /LS**	461,276	**1,003,242.88 /LS**	1,003,243
						33.0 Utilities	***1.00*** LS	1,776	127,275	234,864	20,552	58,035	20,550	461,276.32 /LS	461,276	1,003,242.88 /LS	1,003,243
						01.0 8" PVC C-900 Residual Line	5,570.00 LF	1,776	127,275	234,864	20,552	58,035	20,550	82.81 /LF	461,276	180.12 /LF	1,003,243
	02.0					Package Lift Station											
		33.0				Utilities											
			33.10			**Buried Piping**											
				33.10.99.0002		Package Lift Station											
					26.00.99.00	Electrical, Other Allowance											
						Division 26 Allowance	1.00 LS		-	-	7,500	-		7,500.00 /LS	7,500	16,006.10 /LS	16,006
						26.00.99.00 Electrical, Other Allowance	0.00				7,500			/EA	7,500	/EA	16,006
					33.00.07.03	Buried Pipe, PVC, 2-1/2" to 3"											
						3" PVC, Sch. 80, socket joint, pipe, excav/bkfill included	200.00 LF	80	6,541	1,515	-	1,896	-	49.76 /LF	9,952	107.43 /LF	21,486
						3" PVC, Sch. 80, socket joint, ELL, 90	1.00 ea	1	51	22	-	-	-	72.78 /ea	73	156.90 /ea	157
						33.00.07.03 Buried Pipe, PVC, 2-1/2" to 3"	200.00 LF	81	6,592	1,537		1,896		50.12 /LF	10,025	108.22 /LF	21,643
					33.00.07.04	Buried Pipe, PVC, 4"											
						4" pipe, PVC, SDR 35, B & S, excav/bkfill included	100.00 LF	40	3,271	76	-	948	-	42.95 /LF	4,295	92.39 /LF	9,239
						4" PVC, SDR 35, B & S, Ell, 45	1.00 ea	1	71	18	-	34	-	123.66 /ea	124	267.71 /ea	268
						4" PVC, SDR 35, B & S, wye	1.00 ea	1	105	48	-	51	-	203.10 /ea	203	440.59 /ea	441
						4" PVC, SDR 35, B & S, plug	1.00 ea	0	37	9	-	18	-	63.56 /ea	64	137.58 /ea	138
						CI Valve Box & Cover, w/ Concrete Collar included	1.00 ea	3	242	150	-	137	-	528.73 /ea	529	1,149.17 /ea	1,149
						33.00.07.04 Buried Pipe, PVC, 4"	100.00 LF	46	3,725	301		1,187		52.14 /LF	5,214	112.35 /LF	11,235
					33.10.99.01	Buried Pipe Specials, Other											
						Packaged Utility Lift Stations, packaged sewage lift station,	1.00 EA	24	1,940	5,500	-	300	-	7,740.26 /EA	7,740	16,939.37 /EA	16,939
						33.10.99.01 Buried Pipe Specials, Other	0.00	24	1,940	5,500		300		/LF	7,740	/LF	16,939
						33.10.99.0002 Package Lift Station	300.00 LF	150	12,258	7,338	7,500	3,383		101.60 /LF	30,479	219.41 /LF	65,823
						33.10 Buried Piping	***1.00*** **LS**	150	12,258	7,338	7,500	3,383		**30,478.56 /LS**	30,479	**65,823.04 /LS**	65,823
						33.0 Utilities	***1.00*** LS	150	12,258	7,338	7,500	3,383		30,478.56 /LS	30,479	65,823.04 /LS	65,823
						02.0 Package Lift Station	1.00 EA	150	12,258	7,338	7,500	3,383		30,478.56 /EA	30,479	65,823.04 /EA	65,823
	03.0					Trench Paving											
		32.0				Exterior Improvements											
			32.12			**Paving**											
				32.40.02.0003		Trench Paving											
					32.40.02.00	Site Improvements, Paving, Bituminous Asphalt											
						Fog seal, seal coating, coal tar pitch emulsion, 2 coat, 1000 to 10,000 S.Y.	5,570.00 SY	30	2,131	4,957	-	1,592	-	1.56 /SY	8,681	3.33 /SY	18,566
						Fog seal, sealcoating, prepare and clean surface for sealcoating	5,570.00 sy	16	946	-	-	222	-	0.21 /sy	1,167	0.44 /sy	2,449
						Base course drainage layers, aggregate base course for roadways and large paved areas, bank run gravel, spread and compacted, 12" deep	5,570.00 sy	42	3,018	59,321	-	3,260	-	11.78 /sy	65,598	25.36 /sy	141,254
						Plant-mix asphalt paving, for highways and large paved areas, pavement replacement over trench, 6" thick, no hauling included	5,570.00 sy	2,836	189,327	133,680	-	17,561	-	61.14 /sy	340,568	129.40 /sy	720,759
						Painted pavement markings, thermoplastic, white or yellow, 6" wide, less than 6000 L.F.	5,570.00 LF	16	957	7,687	-	635	-	1.67 /LF	9,278	3.58 /LF	19,940
						32.40.02.00 Site Improvements, Paving, Bituminous Asphalt	5,570.00 SY	2,939	196,379	205,644		23,269		76.35 /SY	425,292	162.11 /SY	902,968
						32.40.02.0003 Trench Paving	5,570.00 SY	2,939	196,379	205,644		23,269		76.35 /SY	425,292	162.11 /SY	902,968
						32.12 Paving	**5,570.00 SY**	2,939	196,379	205,644		23,269		**76.35 /SY**	425,292	**162.11 /SY**	902,968
						32.0 Exterior Improvements	5,570.00 SY	2,939	196,379	205,644		23,269		76.35 /SY	425,292	162.11 /SY	902,968
						03.0 Trench Paving	5,570.00 LF	2,939	196,379	205,644		23,269		76.35 /LF	425,292	162.11 /LF	902,968
	04.0					Traffic Control											
		33.0				Utilities											
			33.89			**Pipeline - Traffic Control**											
				33.00.01.0009		Traffic Control Allowance											
					33.00.01.40	Buried Pipe, Traffic Control											
						Division 33 Allowance Traffic Control	5,570.00 LF		-	-	139,250	-		25.00 /LF	139,250	53.35 /LF	297,180

BID FORM SUMMARY

Project type: Water
Job Size: 5,570 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Risidual Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Unit Price	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
						33.00.01.40 Buried Pipe, Traffic Control	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
						33.00.01.0009 Traffic Control Allowance	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
						33.89 Pipeline - Traffic Control	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
						33.0 Utilities	1.00 LS				139,250			139,250.00 /LS	139,250	297,180.29 /LS	297,180
						04.0 Traffic Control	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
	05.0					Replace Traffic Loops											
		26.0				Electrical Work											
			26.10			Site Electrical											
				26.00.99.0005		Replace Traffic Loops 3 Intersections											
					26.00.99.00	Electrical, Other Allowance											
						Division 26 Allowance Replace Traffic Loops at 3 Intersections	2.00 EA		-	-	30,000	-		15,000.00 /EA	30,000	33,512.25 /EA	67,024
						26.00.99.00 Electrical, Other Allowance	2.00 EA				30,000			15,000.00 /EA	30,000	33,512.25 /EA	67,024
						26.00.99.0005 Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,512.25 /EA	67,024
						26.10 Site Electrical	1.00 LS				30,000			30,000.00 /LS	30,000	67,024.49 /LS	67,024
						26.0 Electrical Work	1.00 LS				30,000			30,000.00 /LS	30,000	67,024.49 /LS	67,024
						05.0 Replace Traffic Loops	2.00 EA				30,000			15,000.00 /EA	30,000	33,512.25 /EA	67,024
						01.0 Las Virgenes Residual Line	**1.00 LS**	4,865	335,911	447,846	197,302	84,687	20,550	**1,086,296.72 /LS**	1,086,297	**2,336,238.64 /LS**	2,336,239

BID FORM SUMMARY

Project type: Water
Job Size: 5,570 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Risidual Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	335,911		4,865.431 hrs		60.307	14.38%	
Material	447,846				80.403	19.17%	
Subcontract	197,302				35.422	8.45%	
Equipment	84,687		1,851.136 hrs		15.204	3.62%	
Other	20,550				3.689	0.88%	
Subtotal Raw Costs	**1,086,296**	**1,086,296**			**195.026**	**46.50%**	**46.50%**
Material Sales & Use Tax - %	32,469			7.250 %	5.829	1.39%	
Construction Equip Tax - %	6,140			7.250 %	1.102	0.26%	
Total Taxes	**38,609**	**1,124,905**			**201.958**	**1.65%**	**48.15%**
Location Adj. Factor	125,758			11.800 %	22.578	5.38%	
Productivity Adjustment							
Subtotal Adj. Factors	**125,758**	**1,250,663**			**224.536**	**5.38%**	**53.53%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	1.346	0.32%	
Site/Civil I,OH&P	42,529			10.000 %	7.635	1.82%	
Buried Piping I,OH&P	94,651			15.000 %	16.993	4.05%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**144,680**	**1,395,343**			**250.510**	**6.19%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**1,395,343**			**250.510**		**59.73%**
Total Cost To Prime Contractor		**1,395,343**			**250.510**		**59.73%**
General Conditions	139,534			10.000 %	25.051	5.97%	
Mobilization/Demobilization	55,814			4.000 %	10.020	2.39%	
Subtotal Indirect Costs	**195,348**	**1,590,691**			**285.582**	**8.36%**	**68.09%**
Prime Contractor Home OfficeOH	159,069			10.000 %	28.558	6.81%	
Prime Contractor Profit	79,535			5.000 %	14.279	3.40%	
Bonds & Insurance	39,696			2.170 %	7.127	1.70%	
Subtotal OH&P	**278,300**	**1,868,991**			**335.546**	**11.91%**	**80.00%**
Contractor MU on Mech OFCI							
Contractor MU on Elec OFCI							
Total MU on OFCI Equip		**1,868,991**			**335.546**		**80.00%**
Design Contingency	467,248			25.000 %	83.886	20.00%	
Subtotal Contingency	**467,248**	**2,336,239**			**419.432**	**20.00%**	**100.00%**
Escalation							
Subtotal Escalation		**2,336,239**			**419.432**		**100.00%**
Total Prime Contractor Costs		**2,336,239**			**419.432**		**100.00%**
Mech Owner-Provided Equip							
Elec Owner-Provided Equip							
Total Owner-Provided Equipment		**2,336,239**			**419.432**		**100.00%**
Total Contractor Costs w/ OFCI		**2,336,239**			**419.432**		**100.00%**
Total Construction Cost		**2,336,239**			**419.432**		**100.00%**
Total		***2,336,239***			***419.432***		

Work Activity Estimate

BID FORM SUMMARY

Project type: Water
Job Size: 5,570 Lf
Duration:

Project Name: W9Y31200 Las Vergenes Risidual Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-31-22
Estimate Class: 5

Area	Bid Item	Work Pkg	Trade Pkg	WorkActiv	Description	Takeoff Quantity	Labor Hours	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Grand Total Price	Grand Total Amount
01.0					**Las Virgenes Residual Line**											
	01.0				8" PVC C-900 Residual Line											
		33.0			Utilities											
			33.10		Buried Piping											
				33.00.07.0001	8" PVC C-900 Residual Line	5,570.00 LF	1,776	127,275	234,864	20,552	58,035	20,550	82.81 /LF	461,276	180.12 /LF	1,003,243
					33.10 Buried Piping	*1.00* LS	1,776	127,275	234,864	20,552	58,035	20,550	461,276.32 /LS	461,276	1,003,242.88 /LS	1,003,243
					33.0 Utilities	*1.00* LS	1,776	127,275	234,864	20,552	58,035	20,550	461,276.32 /LS	461,276	1,003,242.88 /LS	1,003,243
					01.0 8" PVC C-900 Residual Line	5,570.00 LF	1,776	127,275	234,864	20,552	58,035	20,550	82.81 /LF	461,276	180.12 /LF	1,003,243
	02.0				Package Lift Station											
		33.0			Utilities											
			33.10		Buried Piping											
				33.10.99.0002	Package Lift Station	300.00 LF	150	12,258	7,338	7,500	3,383		101.60 /LF	30,479	219.41 /LF	65,823
					33.10 Buried Piping	*1.00* LS	150	12,258	7,338	7,500	3,383		30,478.56 /LS	30,479	65,823.04 /LS	65,823
					33.0 Utilities	*1.00* LS	150	12,258	7,338	7,500	3,383		30,478.56 /LS	30,479	65,823.04 /LS	65,823
					02.0 Package Lift Station	1.00 EA	150	12,258	7,338	7,500	3,383		30,478.56 /EA	30,479	65,823.04 /EA	65,823
	03.0				Trench Paving											
		32.0			Exterior Improvements											
			32.12		Paving											
				32.40.02.0003	Trench Paving	5,570.00 SY	2,939	196,379	205,644		23,269		76.35 /SY	425,292	162.11 /SY	902,968
					32.12 Paving	5,570.00 SY	2,939	196,379	205,644		23,269		76.35 /SY	425,292	162.11 /SY	902,968
					32.0 Exterior Improvements	5,570.00 SY	2,939	196,379	205,644		23,269		76.35 /SY	425,292	162.11 /SY	902,968
					03.0 Trench Paving	5,570.00 LF	2,939	196,379	205,644		23,269		76.35 /LF	425,292	162.11 /LF	902,968
	04.0				Traffic Control											
		33.0			Utilities											
			33.89		Pipeline - Traffic Control											
				33.00.01.0009	Traffic Control Allowance	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
					33.89 Pipeline - Traffic Control	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
					33.0 Utilities	*1.00* LS				139,250			139,250.00 /LS	139,250	297,180.29 /LS	297,180
					04.0 Traffic Control	5,570.00 LF				139,250			25.00 /LF	139,250	53.35 /LF	297,180
	05.0				Replace Traffic Loops											
		26.0			Electrical Work											
			26.10		Site Electrical											
				26.00.99.0005	Replace Traffic Loops 3 Intersections	2.00 EA				30,000			15,000.00 /EA	30,000	33,512.25 /EA	67,024
					26.10 Site Electrical	*1.00* LS				30,000			30,000.00 /LS	30,000	67,024.49 /LS	67,024
					26.0 Electrical Work	*1.00* LS				30,000			30,000.00 /LS	30,000	67,024.49 /LS	67,024
					05.0 Replace Traffic Loops	2.00 EA				30,000			15,000.00 /EA	30,000	33,512.25 /EA	67,024
					01.0 Las Virgenes Residual Line	*1.00* LS	4,865	335,911	447,846	197,302	84,687	20,550	**1,086,296.72 /LS**	1,086,297	**2,336,238.64 /LS**	2,336,239

BID FORM SUMMARY

Project type: Water
Job Size: 5,570 Lf
Duration:

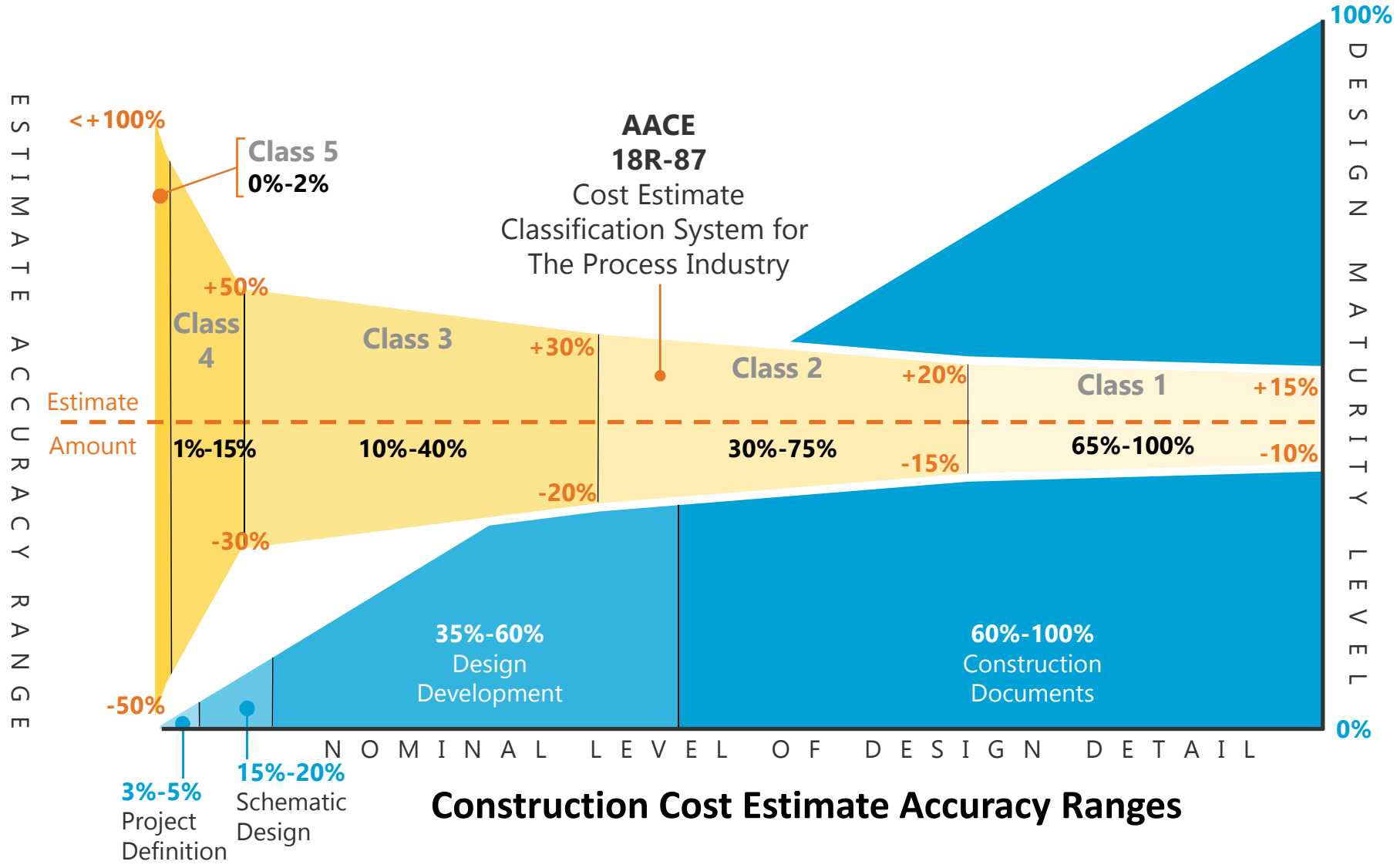
Project Name: W9Y31200 Las Vergenes Risidual Line 8-31-22
Project Number: W9Y31200
Design Stage: 5%

Estimator: John DeWolf
Rev/Date: 8-31-22
Estimate Class: 5

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost / Unit	% of Total	
Labor	335,911		4,865.431 hrs		60.307	14.38%	
Material	447,846				80.403	19.17%	
Subcontract	197,302				35.422	8.45%	
Equipment	84,687		1,851.136 hrs		15.204	3.62%	
Other	20,550				3.689	0.88%	
Subtotal Raw Costs	**1,086,296**	**1,086,296**			**195.026**	**46.50%**	**46.50%**
Material Sales & Use Tax - %	32,469			7.250 %	5.829	1.39%	
Construction Equip Tax - %	6,140			7.250 %	1.102	0.26%	
Total Taxes	**38,609**	**1,124,905**			**201.958**	**1.65%**	**48.15%**
Location Adj. Factor	125,758			11.800 %	22.578	5.38%	
Productivity Adjustment							
Subtotal Adj. Factors	**125,758**	**1,250,663**			**224.536**	**5.38%**	**53.53%**
Existing Conditions I,OH&P				15.000 %			
Concrete Work I,OH&P				15.000 %			
Masonry Work I,OH&P				15.000 %			
Metals Work I,OH&P				15.000 %			
Architectural (Div 6-12)I,OH&P				15.000 %			
Special Construction I,OH&P				15.000 %			
Conveying Equipment I,OH&P				15.000 %			
Mechanical Work I,OH&P				20.000 %			
Electrical Work I,OH&P	7,500			25.000 %	1.346	0.32%	
Site/Civil I,OH&P	42,529			10.000 %	7.635	1.82%	
Buried Piping I,OH&P	94,651			15.000 %	16.993	4.05%	
Tank Construction I,OH&P				20.000 %			
Process Piping I,OH&P				25.000 %			
Instruments & Controls I,OH&P				18.000 %			
Material Handling I,OH&P				10.000 %			
Process Equipment I,OH&P				15.000 %			
Subtotal Subcontractor I,OH&P	**144,680**	**1,395,343**			**250.510**	**6.19%**	**59.73%**
Contractor Contingency							
Subtotal Contingency		**1,395,343**			**250.510**		**59.73%**
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Total Construction Cost		**2,336,239**			**419.432**		**100.00%**
Total		***2,336,239***			***419.432***		

AACE Information



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	**0% to 2%**	**1% to 15%**	**10% to 40%**	**30% to 70%**	**50% to 100%**
END USAGE Typical Purpose of Estimate	**Concept Screening**	**Study or Feasibility**	**Budget Authorization, or Control**	**Control or Bid / Tender**	**Check Estimate or Bid / Tender**
METHODOLOGY Typical estimating method	**Capacity Factored, Parametric Models, Judgment, or Analogy**	**Equipment Factored or Parametric Models**	**Semi-Detailed Unit Costs with Assembly Level Line Items**	**Detailed Unit Cost with Forced Detailed Take-Off**	**Detailed Unit Cost with Detailed Take-Off**
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	**L: -20% to -50%** / **H: +30% to +100%**	**L: -15% to -30%** / **H: +20% to +50%**	**L: -10% to -20%** / **H: +10% to +30%**	**L: -5% to -15%** / **H: +5% to +20%**	**L: -3% to -10%** / **H: +3% to +15%**
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	**1**	**2 to 4**	**3 to 10**	**4 to 20**	**5 to 100**
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	**Class 5**	**Class 4**	**Class 3**	**Class 2**	**Class 1**
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete

Appendix C
Conceptual Alignment Drawings



PLAN
1"=800'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

Woodard & Curran

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REV	DESCRIPTION	DATE

DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX
\\woodardcurran.net\shared\Projects\0011150.00 Jacobs LVMWD Program Management\wip\Task 4D Major Pipeline Alignment\CAD\0011150.00-SW_Selected.dwg, Sep 22, 2022 - 3:32pm JANKETELL

SOURCE WATER ALIGNMENT
KEYMAP

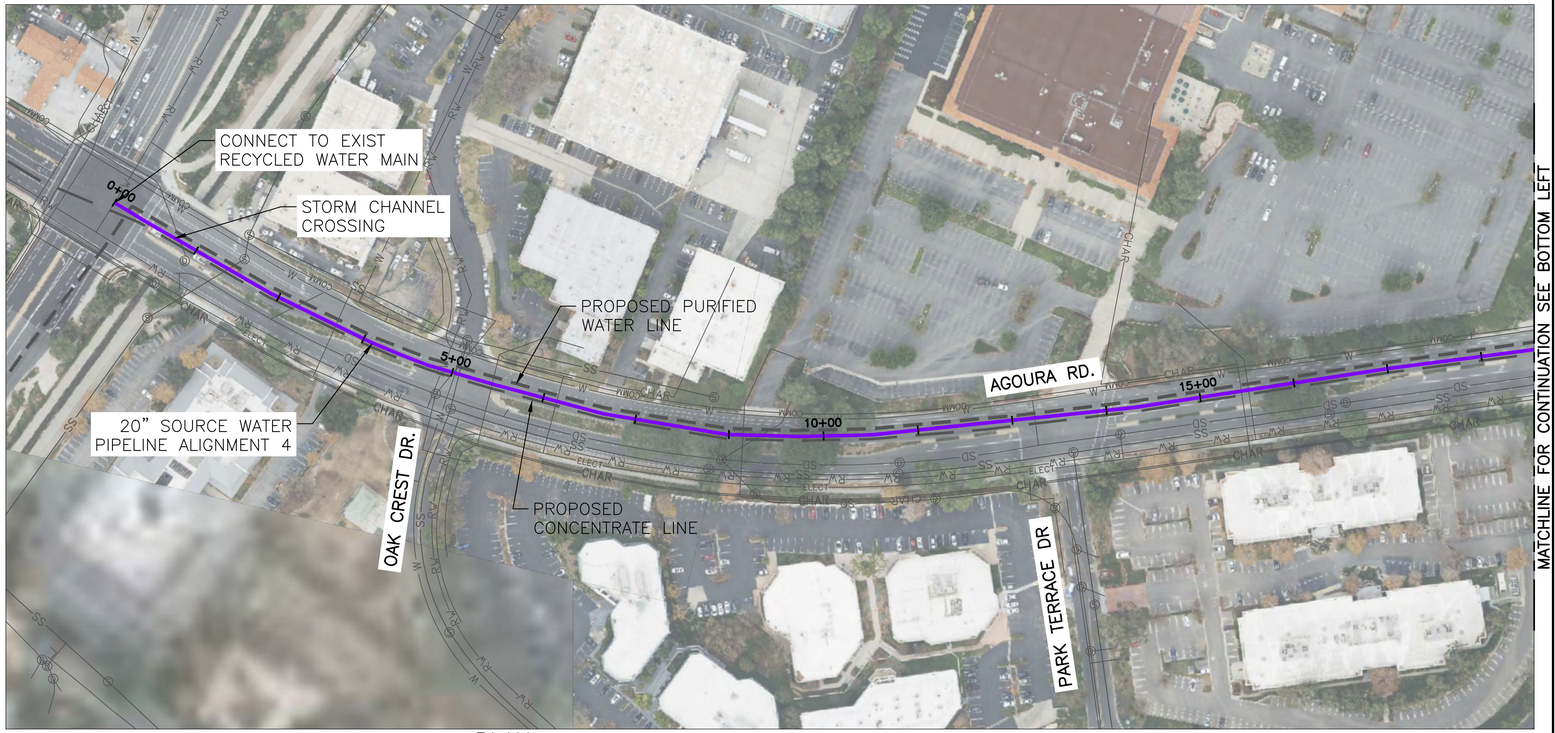
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	1 OF XX

SW P-0

SCALE: 1"=100'
0 100 200 300
SCALE IN FEET



PLAN
1"=100'



PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE TOP RIGHT

MATCHLINE FOR CONTINUATION SEE BOTTOM LEFT

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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REV	DESCRIPTION	DATE
DESIGNED BY: XXX	CHECKED BY: XXX	
DRAWN BY: XXX	001150.00-SW_SELECTED.dwg	

SOURCE WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	AUGUST 2022
SCALE:	AS NOTED
SHEET:	2 OF XX

SW P-1

\\woodardcurran.net\shared\Projects\0011150.00 Jacobs LVMWD Program Management\wip\Task 4D Major Pipeline Alignment\CAD\0011150.00-SW_Selected.dwg, Sep 21, 2022 - 11:22am JANKETELL



PLAN
1"=800'

NOT FOR CONSTRUCTION

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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REV	DESCRIPTION	DATE
DESIGNED BY: XXX	CHECKED BY: XXX	
DRAWN BY: XXX	0011150.00PW_SELECTED.dwg	

PURIFIED WATER ALIGNMENT
KEY MAP

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	1 OF 4

PW P-0

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PLAN
1"=100'



PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

MATCHLINE FOR CONTINUATION SEE DWG P-2

MATCHLINE FOR CONTINUATION SEE TOP LEFT

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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PURIFIED WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	2 OF 4

PW P-1

NOT FOR CONSTRUCTION

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PLAN
1"=100'



PLAN
1"=100'

NOT FOR CONSTRUCTION

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PURIFIED WATER ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	3 OF 4

PW P-2

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MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

EXISTING 40–FOOT JPA EASEMENT THROUGH TRIUNFO CANYON, LOCATION TO BE VERIFIED

ALTERNATE ALIGNMENT ALONG EXISTING TRAIL

20" PURIFIED WATER PIPELINE

PUBLIC RIGHT–OF–WAY

TRIUNFO CANYON RD.

TRIUNFO CREEK

BRIDGE CROSSING, HANG PIPE UNDER CONCRETE DECK BETWEEN GIRDERS

LINDERO CANYON RD.

TRIUNFO CREEK PARK (MOUNTAINS RECREATION AND CONSERVATION AUTHORITY)

BYPASS VALVE VAULT

TO TRUNK SEWER

TO STORM DRAIN AND TRIUNFO CREEK

N

SCALE: 1"=100'

0 100 200 300

SCALE IN FEET

PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE DWG P–2

LVMWD PARCEL BOUNDARY

ALIGNMENT 2–2 – TRENCHLESS INSTALLATION, APPROXIMATE LOCATION OF INSERTION/EXTRACTION PIT

ALIGNMENT LOCATED ALONG CUT SIDE HALF OF EXISTING TRAIL

PUBLIC RIGHT–OF–WAY

20" PURIFIED WATER PIPELINE ALIGNMENT 2–1

ALIGNMENT 2–2 APPROXIMATE ALIGNMENT

EXISTING 40–FOOT JPA EASEMENT THROUGH TRIUNFO CANYON, LOCATION TO BE VERIFIED

ALTERNATE ALIGNMENT ALONG EXISTING TRAIL

ALIGNMENT 2–2 – TRENCHLESS INSTALLATION, APPROXIMATE LOCATION OF INSERTION/EXTRACTION PIT

TRIUNFO CREEK PARK (MOUNTAINS RECREATION AND CONSERVATION AUTHORITY)

LAS VIRGENES RESERVOIR

CONNECT TO LAS VIRGENES RESERVOIR DISCHARGE FACILITIES

PLAN
1"=100'

MATCHLINE FOR CONTINUATION SEE TOP LEFT

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LAS VIRGENES-TRIUNFO
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PURIFIED WATER ALIGNMENT

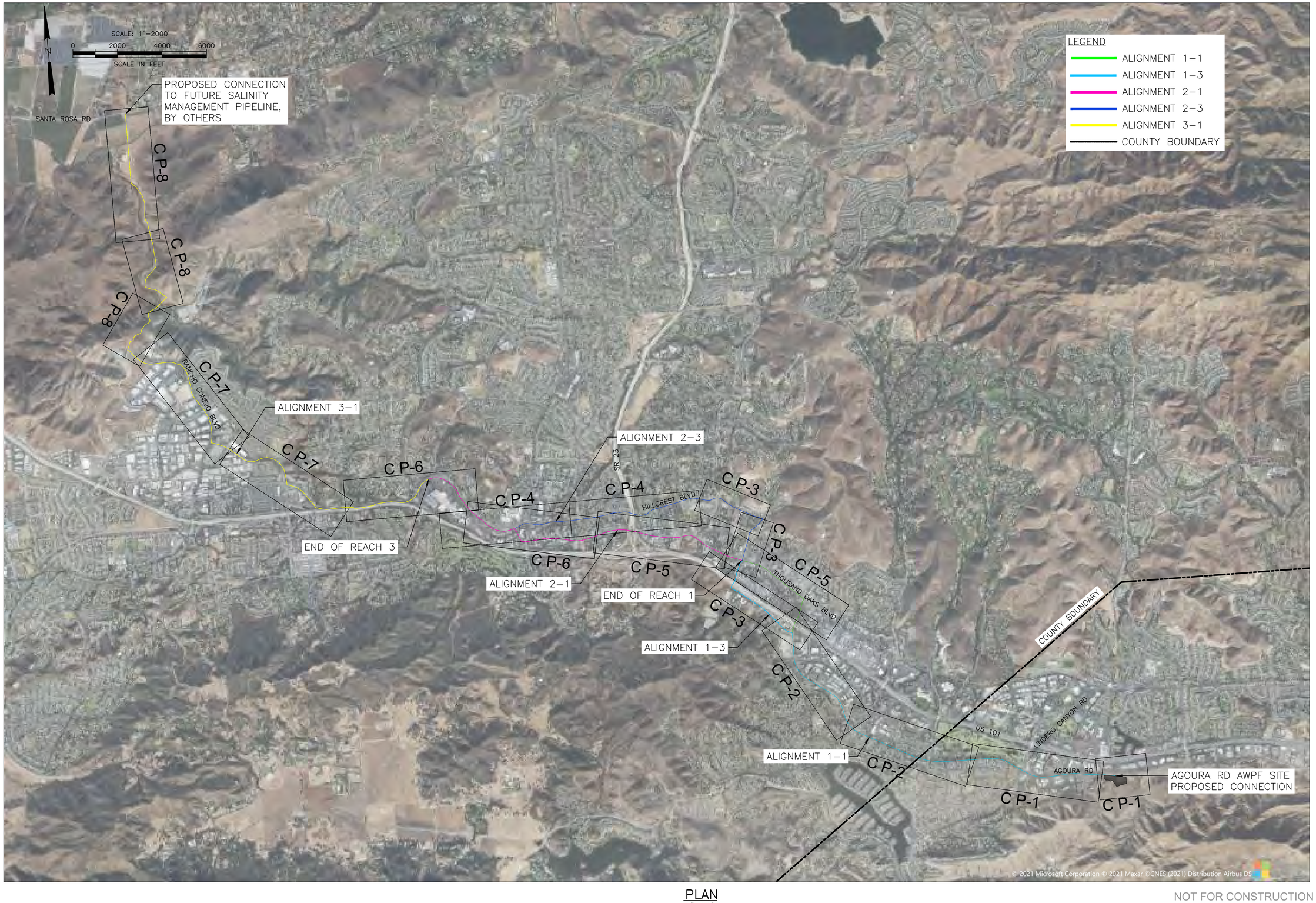
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	AS NOTED
SHEET:	4 OF 4

PW P-3

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PLAN
1"=200'

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CONCENTRATE PIPELINE ALTERNATIVES KEY MAP

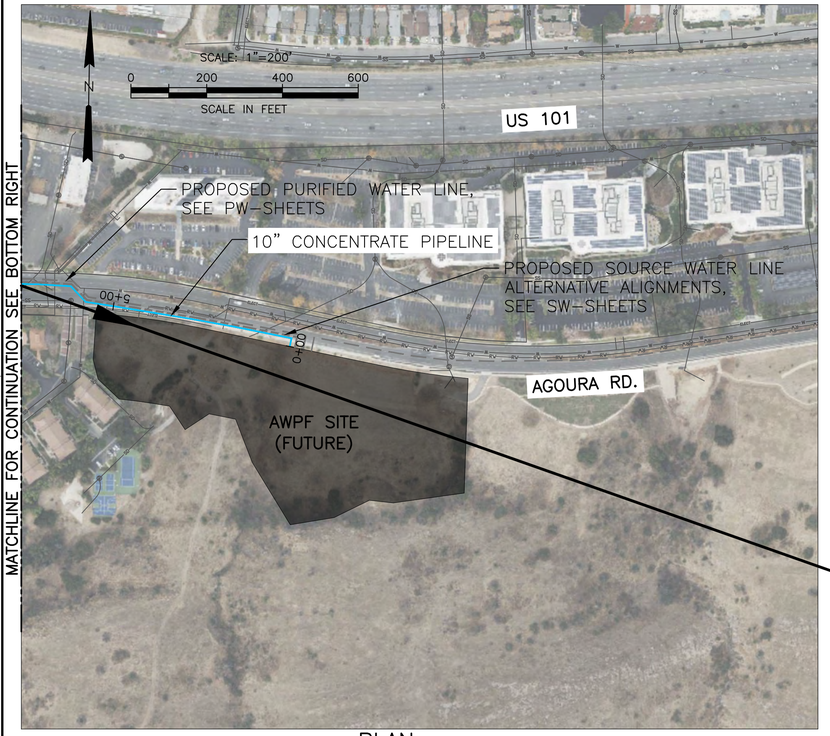
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	XXX
SHEET:	---- OF XX

P-0

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PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	XXX
SHEET:	---- OF XX

C P-1

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SCALE: 1"=200'

0 200 400 600

SCALE IN FEET

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

MATCHLINE FOR CONTINUATION SEE DWG C1 P-1

HAMPSHIRE RD.

WESTLAKE BLVD

AGOURA RD.

10" CONCENTRATE PIPELINE

VENTURA COUNTY
(CITY OF THOUSAND OAKS)

LOS ANGELES COUNTY
(CITY OF WESTLAKE VILLAGE)

LAKEVIEW CANYON RD.

AGOURA RD.

125+00 120+00 115+00 110+00 105+00 100+00 95+00 90+00 85+00 80+00 75+00 70+00

PLAN
1"=200'

MATCHLINE
SAME POINT

ALIGNMENT 1-1,
SEE SHEET C P-5
FOR CONTINUATION

OPEN CUT, BURIED, ENCASED
CROSSING AT US 101 OVERPASS

US 101

MATCHLINE FOR CONTINUATION SEE DWG C P-3

WILLOW LN.

HAMPSHIRE RD.

TOWNSGATE RD.

LAKEFIELD RD.

10" CONCENTRATE PIPELINE

HAMPSHIRE RD.

185+00 180+00 175+00 170+00 165+00 160+00 155+00 150+00 145+00 140+00 135+00 130+00

ALIGNMENT 1-3,
SEE SHEET C P-3
FOR CONTINUATION

MATCHLINE FOR CONTINUATION SEE TOP LEFT

PLAN
1"=200'

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LAS VIRGENES-TRIUNFO
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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO: 0011150.00
DATE: JANUARY 2022
SCALE: XXX
SHEET: ---- OF XX

C P-2

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SCALE: 1"=200'

0 200 400 600

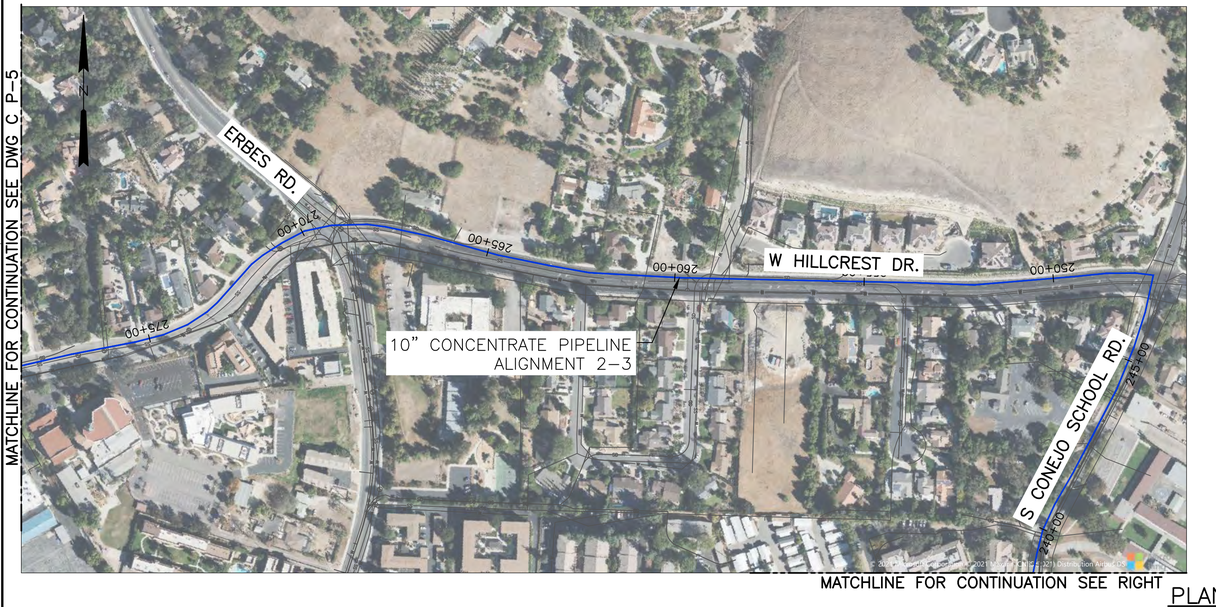
SCALE IN FEET

N

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT



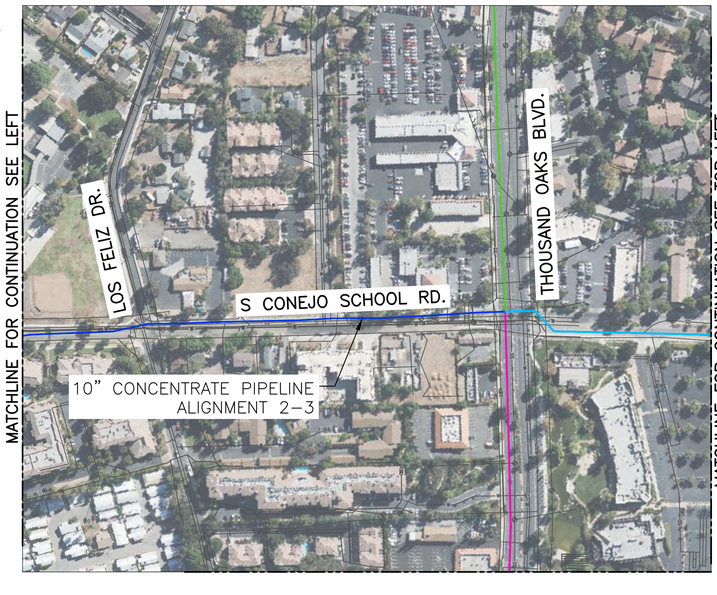
PLAN
1"=200'



MATCHLINE FOR CONTINUATION SEE C P–5

MATCHLINE FOR CONTINUATION SEE RIGHT

PLAN
1"=200'



MATCHLINE FOR CONTINUATION SEE LEFT

MATCHLINE FOR CONTINUATION SEE TOP LEFT

NOT FOR CONSTRUCTION

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LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	XXX
SHEET:	---- OF XX

C P-3

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SCALE: 1"=200'

0 200 400 600

SCALE IN FEET

N



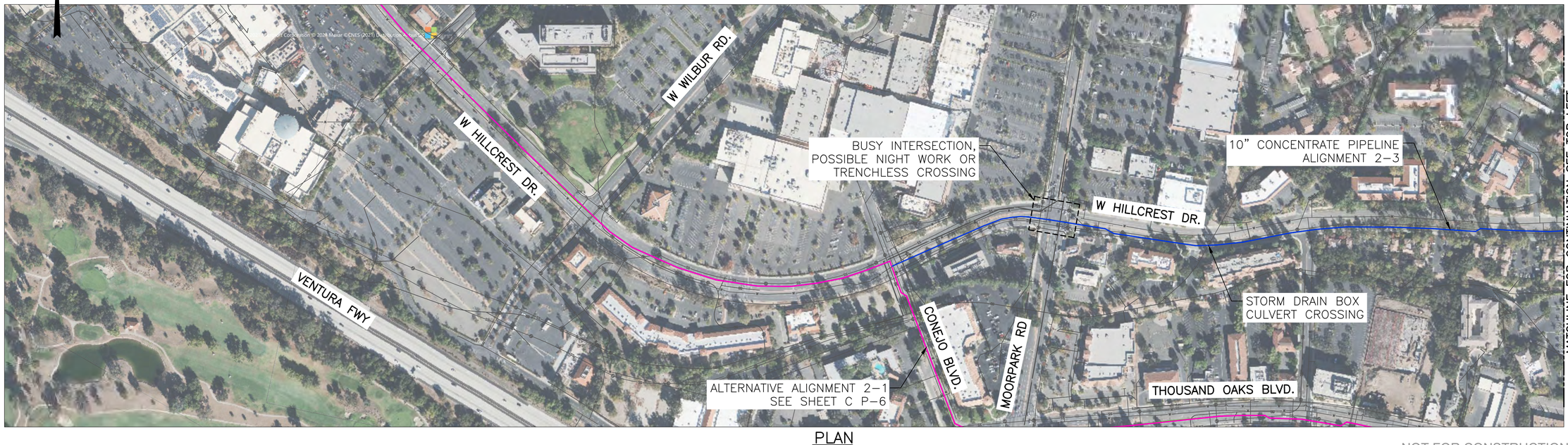
MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

MATCHLINE FOR CONTINUATION SEE DWG C3 P-1

PLAN
1"=200'

N

MATCHLINE FOR CONTINUATION SEE DWG C P-6



MATCHLINE FOR CONTINUATION SEE TOP LEFT

PLAN
1"=200'

NOT FOR CONSTRUCTION

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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	XXX
SHEET:	---- OF XX

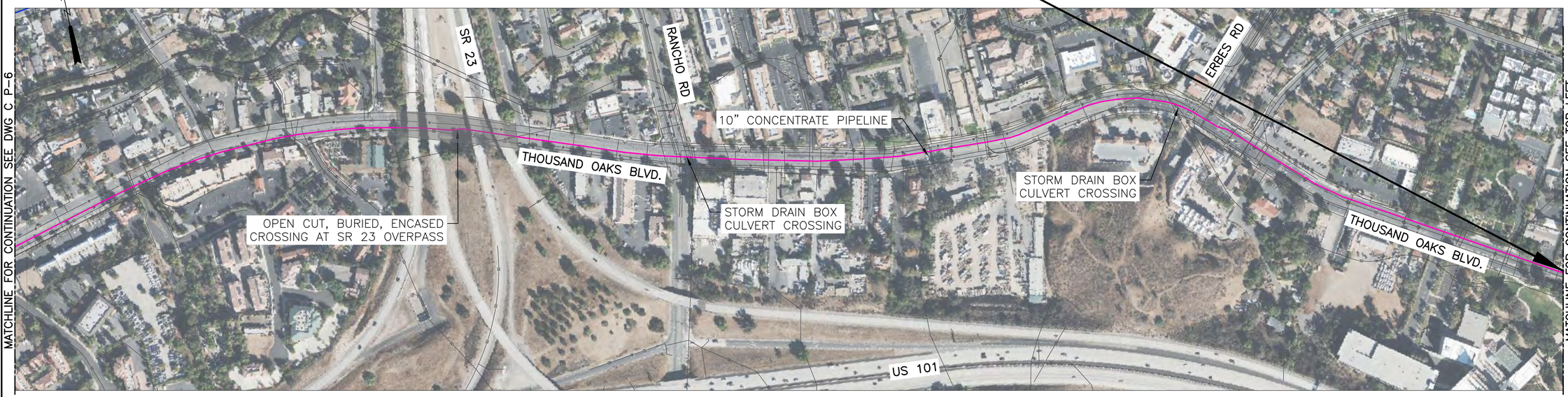
C P-4

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PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

NOT FOR CONSTRUCTION

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LAS VIRGENES-TRIUNFO
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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
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C P-5

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PLAN
1"=200'

MATCHLINE FOR CONTINUATION SEE BOTTOM RIGHT

MATCHLINE FOR CONTINUATION SEE DWG C P-5

MATCHLINE
SAME POINT



PLAN
1"=200'

MATCHLINE FOR CONTINUATION SEE TOP LEFT

NOT FOR CONSTRUCTION

MATCHLINE FOR CONTINUATION SEE DWG C P-7

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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
SCALE:	XXX
SHEET:	---- OF XX

C P-6



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

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LAS VIRGENES-TRIUNFO
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CONCENTRATE ALIGNMENT

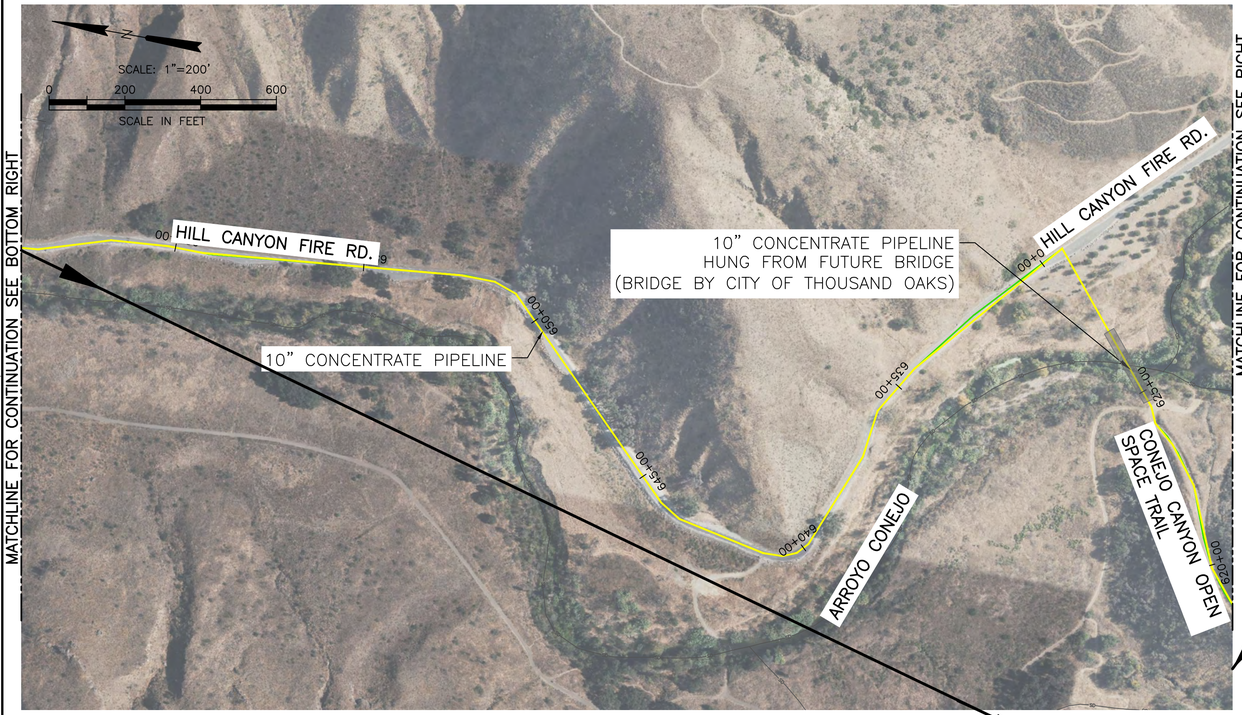
PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	JANUARY 2022
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C P-7

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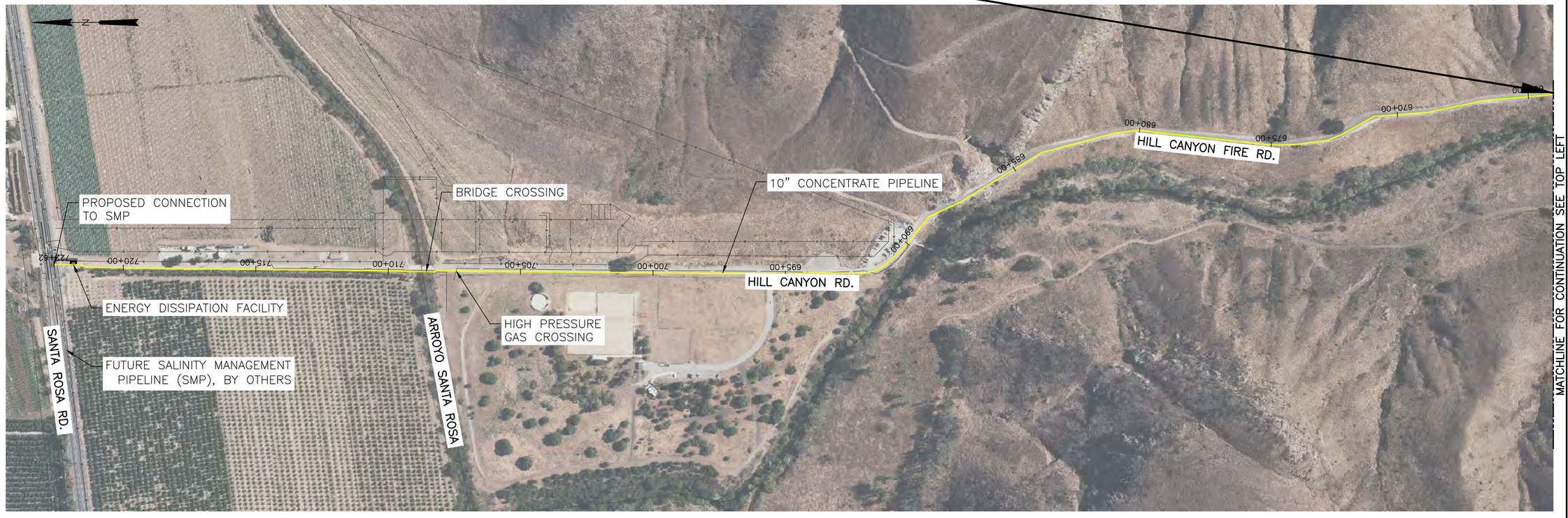


PLAN
1"=200'



PLAN
1"=200'

MATCHLINE
SAME POINT



PLAN
1"=200'

NOT FOR CONSTRUCTION

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CONCENTRATE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
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SCALE:	XXX
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C P-8

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PLAN
1"=400'

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RESIDUALS LINE KEY MAP

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	AUGUST 2022
SCALE:	AS NOTED
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R P-0

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PLAN
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RESIDUALS LINE ALIGNMENT

PURE WATER PROJECT
LAS VIRGENES - TRIUNFO

MAJOR PIPELINE
ALIGNMENT STUDY

JOB NO:	0011150.00
DATE:	AUGUST 2022
SCALE:	AS NOTED
SHEET:	2 OF XX

R P-1

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Appendix D
CMWD SMP Rules and Regulations (Ordinance No. 19)

ORDINANCE NO. 19

AN ORDINANCE OF CALLEGUAS MUNICIPAL WATER DISTRICT COVERING THE RULES AND REGULATIONS FOR USE OF THE SALINITY MANAGEMENT PIPELINE

WHEREAS, Calleguas Municipal Water District (the "District") is a public agency and special district created in 1953 by a vote of the electorate and organized pursuant to the Municipal Water District Act of 1911, as amended; and

WHEREAS, the District has constructed the Salinity Management Pipeline (the "SMP") for the purposes of facilitating the development of local water supplies to enhance water supply reliability, protecting the Las Posas Aquifer Storage and Recovery wellfield from salts intrusion, and assisting in bringing the Las Posas Basin to safe yield; and

WHEREAS, the District is committed to operating and maintaining the SMP for its long-term water quality and water supply benefits to the District's purveyors, the basin, and others; and

WHEREAS, the Board of Directors finds that these requirements are for the purpose of meeting operation and construction expenses and complying with permit conditions for protection of the environment, and are therefore exempt from requirements of the California Environmental Quality Act;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE CALLEGUAS MUNICIPAL WATER DISTRICT AS FOLLOWS:

SECTION 1. AUTHORITY. That, subject to all applicable provisions of the Municipal Water District Act of 1911, as amended, the following rules, regulations, and rate structures governing the use of the SMP are hereby adopted and shall become effective on the date adopted by the Board of Directors.

SECTION 2. DEFINITIONS.

A. "Board of Directors" or "Board" shall refer to the Board of Directors of the Calleguas Municipal Water District.

B. "Brine" is concentrate produced by the membrane treatment process of Groundwater, Potable Water, or Recycled Water.

C. "California Ocean Plan" shall be the version of the Water Quality Control Plan, Ocean Waters of California, currently adopted by the State Water Resources Control Board.

D. "Discharger" is any person or entity that discharges to the SMP.

E. “District” shall mean the Calleguas Municipal Water District, duly organized under and by virtue of the Municipal Water District Act of 1911, as amended.

F. “General Manager” shall refer to the General Manager of the Calleguas Municipal Water District.

G. “Groundwater” is water extracted from within geologic deposits beneath the earth's surface, typically via a well.

H. “High Flow Charge” is a charge applied when a Discharger’s discharge at a given Service Connection exceeds the established maximum rated flow capacity of that particular Service Connection.

I. “Low Flow Charge” is a charge applied when a Discharger’s discharge at a given Service Connection is less than one (1) foot per second of velocity and above zero through the meter of that particular Service Connection.

J. “Non-Brine” is any flow that is an allowable discharge to the SMP, but is not Brine.

K. “Outfall Discharge Permit” means and refers to the Waste Discharge Requirements for Calleguas Municipal Water District, Regional Salinity Management Pipeline, Oxnard (National Pollutant Discharge Elimination System No. CA0046521, CI-9404) and its renewals and successor permits, each as may be modified or amended from time to time.

L. “Potable Water” is water that is suitable for human consumption delivered through a public water system, as defined by the State Water Resources Control Board Division of Drinking Water (“SWRCB DDW”).

M. “Recycled Water” is disinfected tertiary recycled water, as defined by the SWRCB DDW.

N. “Service Connection” shall mean all pipes, valves, meters, instrumentation, and other necessary or usual appurtenances required for operation, measurement, and sampling of discharge to the SMP by a Discharger.

SECTION 3. GENERAL REQUIREMENTS.

A. Allowable Discharges.

i. Only the following may be discharged to the SMP:

- Recycled Water

- Groundwater
- Potable Water
- Brine from the membrane treatment of any of the above.

ii. Dischargers shall not be allowed to discharge to or through the SMP any surface water, irrigation runoff, stormwater runoff, or any other substances which are not expressly permitted under the Outfall Discharge Permit.

B. Termination or Suspension of Service. The District reserves the right, at any time and from time to time, to suspend or terminate operation of the SMP, or any portion thereof, and/or suspend or discontinue service to a Discharger, for violation of this Ordinance, any agreement related to the SMP or discharge connection, or any reason that prevents the District from operating the SMP legally or safely.

C. Access. Discharger shall allow the District access to Discharger's sites and facilities as may be requested by the District from time to time in order for the District's employees, contractors and agents, to confirm compliance with this Ordinance, the Outfall Discharge Permit, California Ocean Plan, and any agreement entered into with the District concerning the SMP.

D. Additional Studies. Discharger shall pay for and timely perform all additional studies and prepare all additional reports required of a Discharger pursuant to the Outfall Discharge Permit. Discharger shall also reasonably cooperate with the District if the District elects from time to time to conduct or participate in any other studies relating to the operation of the SMP.

E. Surge. Discharger shall install, operate, and at all times properly maintain surge protection facilities necessary to prevent its discharge from causing hydraulic transients in the SMP in a manner and timeframe acceptable to the District.

F. Documents and Reports. Discharger shall provide such documents, reports and information regarding Discharger's discharges and participation in the SMP as may be requested by the District in a manner and timeframe acceptable to the District.

SECTION 4. MODIFICATIONS AND AMENDMENTS.

A. This Ordinance and the Outfall Discharge Permit shall be posted on the website the District maintains at http://smp.calleguas.com (the "Website"). The District reserves the right to amend, modify or change the terms of this Ordinance from time to time and the Outfall Discharge Permit is also subject to amendment, modification or change from time to time.

B. The District shall provide written notice ("Notice of Ordinance Change") to Discharger if the District adopts any amendment, modification or change to this Ordinance, and an updated version of this Ordinance shall be posted on the Website. Such amendment, modification or change to this Ordinance shall take effect 30 days from the date of the Notice of Ordinance Change. If Discharger objects to the amendment, modification or change, Discharger may terminate its participation in the SMP by delivering written notice to the District within the 30 day notice period.

C. Within 7 days of receiving notice of any proposed change to the Outfall Discharge Permit, the District shall provide Discharger with written notice of the proposed change (the "Notice of Permit Change") and, if possible, the proposed effective date of such change. If Discharger objects to the proposed change, Discharger may terminate its participation in the SMP by delivering written notice to the District within 30 days from the date of the Notice of Permit Change or prior to the proposed effective date of the change, whichever is earlier.

D. Discharger's failure to deliver timely notice of termination and/or Discharger's continued use of the Service Connection after receipt of a Notice of Ordinance Change or Notice of Permit Change shall constitute Discharger's consent to such amendments, modifications or changes to those instruments.

SECTION 5. RATES AND CHARGES.

A. Each Discharger shall be obligated to pay for all discharges made by the Discharger to the SMP at the appropriate rate as established from time to time by the Board of Directors. Rates per acre-foot of discharge to the SMP shall be established for Brine and Non-Brine.

B. The billing rate for discharge by a Discharger that is not within the established District service area shall be 150% of the rate for discharge of Brine or Non-Brine, as appropriate.

C. When a Discharger's discharge exceeds the established maximum flow capacity of that particular Service Connection, a High Flow Charge calculated at one hundred and fifty percent (150%) of rated maximum capacity of the Service Connection will be assessed for each tenth of an hour of operation over the established maximum flow capacity.

D. When a Discharger's discharge flow velocity at a given Service Connection is below one (1) foot per second through the meter of that particular Service Connection and above zero, a Low Flow Charge calculated at 10% of the rated maximum capacity of the Service Connection will be assessed for each tenth of an hour of operation below this important accuracy value.

E. Each Discharger shall be obliged to pay for the operations, maintenance, replacement, and repair costs for each of its Service Connections, including, but not limited to, labor, parts, and water quality sampling and analysis. These costs will be calculated and incorporated into the rates and charges established from time to time by the Board of Directors. The District will bill the Discharger monthly for these costs.

F. The Board of Directors shall have the absolute and sole authority to change the rates specified in this Ordinance, implement new rates, and/or pass through any charges imposed on the District as set forth in Section 9.E. The Board of Directors shall make every reasonable effort to provide sixty (60) days advance notice to all Dischargers of such rate changes.

SECTION 6. BILLING. The billing period shall run from the first calendar day of the month through the last calendar day of the month. As soon after the billing period as practicable, the District will mail or deliver to each Discharger a statement of its bill for the preceding month. All bills or charges shall be due and payable immediately upon receipt. The following conditions also apply:

A. Delinquencies/Penalties. A bill shall be delinquent if not paid by the last business day of the month in which it was mailed to Discharger. Delinquent bills are subject to a penalty of one percent (1%) of the outstanding balance which shall be added thereto and charged to and collected from the Discharger on a monthly basis, including the previous month's penalty. If full payment is not received in the District Office within sixty (60) days after such bill has become delinquent, the District may pursue all remedies and take any action it deems appropriate, including, but not limited to, suspension or termination of service. Notice of suspension or termination of service for non-payment will be given to the delinquent Discharger by registered mail at least ten (10) days prior to the date such action will take effect.

B. Cash Deposit. Whenever any Discharger fails to pay its bills, the Board of Directors may require as a condition for future service a cash deposit, in an amount determined by the Board, to guarantee the prompt payment of the account in the future. The Board of Directors shall have full power to determine whether or not such deposit shall be made and the amount thereof, and the time when the requirement for deposit by any Discharger shall be discontinued.

C. Application of Deposit. If a Discharger who has made such deposit fails to pay its delinquent bill or bills, including all added penalties, within thirty (30) days after delinquency, the District may apply the deposit to the Discharger's account and discontinue service to the Discharger until such time as the balance due, less the applied deposit, has been fully paid and a new deposit in the amount determined by the District under Subsection B has been fully restored by the Discharger.

SECTION 7. AVAILABILITY OF SERVICE.

A. Emergency Interruptions. The District shall have the right to suspend, interrupt, or terminate SMP service without prior notice to Discharger in the event of an emergency, as determined by the District in its sole discretion.

B. Interruption of Service for Cause. In addition to all other rights and remedies of the District as provided in this Ordinance and any agreement entered into with a Discharger relating to the SMP, the District may indefinitely suspend or terminate a Discharger's access to and use of the SMP if the District determines that Discharger has violated any term of this Ordinance or any agreement with the District related to the SMP. The District shall use reasonable efforts to provide Discharger with prior notice of the violation and the decision to suspend or terminate service; provided, however that if the District determines that the nature of the violation is such that providing such prior notice would have an adverse impact on the District or on operation of the SMP, no prior notice shall be required.

C. Other Interruptions of Service. The District may interrupt a Discharger's service and/or operation of the SMP at any time and from time to time as the District deems necessary to facilitate routine maintenance, internal inspection, rehabilitation, and improvement projects on the SMP or other District facilities. Except in cases of emergency, as determined by the District, notice of such interruption of service shall be given to each affected Discharger in advance of such interruption. The SMP has no redundancy and may be out of service for indeterminate periods of time for planned maintenance or for unplanned repairs.

D. No Liability. The District shall not be liable to any Discharger or any other person or entity for any loss, liability, damage, claim, or other consequences, including without limitation lost profits or income, resulting from the suspension, interruption, or termination of service and/or Discharger's access to and use of the SMP. Each Discharger is solely responsible for adopting, implementing, and maintaining all necessary contingency plans and preventive measures to minimize or avoid any adverse consequences in anticipation of such events.

E. Priority of Service. In the event of capacity constraints, Brine discharges will have priority over Non-Brine discharges.

SECTION 8. SERVICE CONNECTIONS.

A. Application for Service Connection. Any person or entity wishing to discharge into the SMP at a particular location shall submit a written application for a Service Connection to the District on a form provided by the District. The decision whether to approve the application shall be solely within the discretion of the District. If the application is approved, the proposed Discharger shall enter into an Agreement for Construction and Use of Salinity Management Pipeline Discharge Service Connection in the form provided by the District. No person or entity shall discharge into the SMP or otherwise use the SMP unless and until the requirements of this provision have been met.

B. Ownership of Facilities. The Service Connections installed hereunder shall be and become the property of the District downstream from the upstream flange of the isolation valve which is located upstream of the flow meter. The Discharger will own, operate and maintain any facilities upstream of the isolation valve. The District will operate, maintain, repair, and replace the Service Connection at the Discharger's expense when the District determines that such Service Connection has been rendered unserviceable through normal wear and tear.

C. Operation of Valves. Shutoff valves at Service Connections or on pipelines belonging to the District shall not be operated by the Discharger without the District's prior written consent. Authorized consent may only be granted by the District's General Manager or Manager of Operations and Maintenance, or a duly appointed designee of either of them.

D. Tampering. It shall be unlawful for any person to meddle, tamper with, or operate any District facilities, including, but not limited to, Service Connections, pipelines or valves without the District's prior written consent. Authorized consent may only be granted by the District's General Manager or Manager of Operations and Maintenance, or a duly appointed designee of either of them. It is unlawful for any person to tap, break or damage any District pipeline, Service Connection or appurtenances, or any other equipment of the District.

E. Access and Use of District Facilities. Dischargers shall not enter District facilities, including buildings, cabinets, and vaults, nor use District facilities to support or house Discharger equipment without prior written approval from the District.

F. Communication. Dischargers are to promptly report to the District's Operations Center at (805) 579-7137 any leaks, failures of equipment, security breaches, and other matters which come to their attention and require timely response of the District's staff. All requests for routine operational assistance may be directed to the District's Operations Center or to the appropriate District supervisor. Inquiries about policies and procedures, general information, and coordination for project planning should be directed to the

Manager of Operations and Maintenance. Requests to initiate new service or modify the rated capacity of existing Service Connections must be made in writing and submitted to the General Manager.

G. District Equipment as Billing Meter. The District's equipment shall be used as the primary billing meter to calculate flow rates, accumulate discharge quantities, and determine the occurrence and duration of High and Low Flow Charge penalty periods. Discharger metering data shall only be considered by the District when the District determines that its own equipment is inoperable.

H. Metering Equipment Standards. The District's established standard for metering equipment used for Discharger billing of discharges to the SMP shall be an ultrasonic meter. The meter shall be configured to provide an input to a device which calculates rate of flow and accumulated discharge.

I. Meter Testing. The District shall calibrate and test all metering components a minimum of once annually to confirm accuracy of plus or minus two percent (±2.0%). A Discharger may request to have a Service Connection meter tested by the District whenever the Discharger suspects inaccuracy. The Discharger affected shall have the right to witness any such test. In the event that such test shall disclose an error exceeding plus or minor two percent (±2.0%), an adjustment shall be made in metered charges to the Discharger affected, covering the known or estimated extent and period of duration of such error up to a six-month period. If such test shall disclose an error exceeding plus or minus two percent (±2.0%), the expenses of such test shall be borne by the District; otherwise, such expenses shall be borne by the Discharger requesting such test.

J. District Provided Controls. The District will install and maintain flow rate signals, valve open and close control inputs, and rate-of-flow controls at Service Connections for the Discharger. All District supplied signals and controls are provided as a courtesy to the Discharger. It is the responsibility of the Discharger to control their own system and maintain operations within the rated capacity of their Service Connection(s), and any reliance upon District equipment is done solely at the risk of the Discharger. The inaccuracy or failure of District provided flow signals and controls does not constitute cause to avoid payment of High or Low Flow Charges, nor to dispute the metered totals. The District reserves the right to remove controls if it so desires.

K. Hydraulic Transients. Dischargers shall operate their systems in a way that does not cause hydraulic transients or pressure changes at Service Connections. The District reserves the right, in its sole discretion, to terminate a Discharger's service, access and use of the SMP should the Discharger fail to properly maintain and operate their surge protection equipment. A Discharger shall be financially responsible for all repairs to District facilities which result from the Discharger's operations.

L. Service Connection Initial Startup

i. The Discharger shall provide written notice of initial startup to the District's Manager of Operations and Maintenance via e-mail at least 5 calendar days in advance of initial startup. Prior to commencing discharge, the Discharger shall be capable of demonstrating that its discharge complies with the effluent limitations in the Outfall Discharge Permit, including chlorine residual.

ii. The Discharger shall submit and have the District's written approval of the following information prior to providing notification of initial startup:

a. A written plan describing how the Discharger will achieve and maintain compliance with the effluent limitations in the Outfall Discharge Permit, including chlorine residual.

b. A written plan describing the monitoring and recordkeeping protocols the Discharger has established to demonstrate compliance with the Outfall Discharge Permit.

It is the Discharger's responsibility to submit these plans to allow sufficient time for review and any required resubmittal prior to initial startup. The District will review and provide comments on each plan within 14 calendar days of receipt.

iii. Costs incurred by the District supporting the Discharger's initial startup, including standby time, may be charged to the Discharger in accordance with Paragraph 5.E.

M. Subsequent Service Connection Startup

i. If the Discharger's Service Connection ceases discharging for more than 14 calendar days, the Discharger shall provide written notice of subsequent startup to the District's Manager of Operations and Maintenance via e-mail at least 5 calendar days in advance of resumption of discharge. Prior to commencing discharge, the Discharger shall be capable of demonstrating that its discharge complies with the effluent limitations in the Outfall Discharge Permit, including chlorine residual.

ii. If the Discharger has modified its treatment processes or source of discharge, the Discharger shall submit and have the District's written approval of revised versions of the plans in Paragraphs 8.L.ii.a. and 8.L.ii.b. prior to providing notification of subsequent startup.

iii. Costs incurred by the District supporting the Discharger's subsequent startup, including standby time, may be charged to the Discharger in accordance with Paragraph 5.E.

SECTION 9. WATER QUALITY.

A. Discharger shall ensure that all of its discharges shall at all times comply with all water quality and other requirements of the Outfall Discharge Permit and California Ocean Plan. Compliance shall be achieved for the Discharger's discharge only, without consideration for mixing with other SMP flows.

B. The District may from time to time, without notice, perform sampling of discharges at Discharger's Service Connection and at the outfall for the SMP to determine whether discharges are in compliance with this Ordinance and the Outfall Discharge Permit. Discharger consents to such sampling and agrees that the District may rely upon such sampling for purposes of determining Discharger's compliance with this Ordinance and the requirements of the Outfall Discharge Permit and California Ocean Plan. Sampling and laboratory analysis costs for each Discharger's Service Connection shall be assessed to that Discharger.

C. If a Service Connection discharges flows from more than one source, the District shall have access to a sampling location for each individual source. The sampling location does not need to be located at the Service Connection.

D. Discharger may request permission, in writing, from the District to conduct some or all of its own sampling and analysis. The District may choose to grant or deny permission at its discretion. Any such permission shall be granted in writing and the Discharger shall abide by any terms and conditions included in the permission.

E. The District reserves the right to immediately suspend or discontinue service for water quality violations.

F. Discharger will reimburse the District for any fines, penalties, or charges levied against the District due to the failure of the Discharger to comply with the discharge requirements.

G. If the Discharger is aware that it fails to comply with one or more water quality standards, as required by the Outfall Discharge Permit, the Discharger shall notify the Manager of Operations & Maintenance in writing within 24 hours of learning of the non-compliance. The written notification shall include the constituent(s) of non-compliance, the reason(s) for non-compliance, and the date and time the Discharger became aware of the non-compliance. The Discharger shall perform, at its own expense, any monitoring and studies required by the District as a result of the non-compliance.

SECTION 10. COMPLIANCE.

A. In addition to all of Discharger's duties and obligations specified in this Ordinance, Discharger shall at all times comply with all laws, rules, regulations, ordinances, and all orders of government and regulatory authorities having jurisdiction, applicable to Discharger's participation in the SMP, including without limitation its ownership, operation and maintenance of all property and facilities of or relating to the Connection and the SMP.

SECTION 11. INDEMNITY.

A. Discharger shall hold harmless, defend, and indemnify the District and its directors, officers, managers, agents, and employees (collectively referred to herein as the "District") from and against any and all liabilities, losses, damages, expenses, claims, lawsuits and other legal proceedings, judgments, settlements, fines, penalties, assessments, attorney's fees and costs (including without limitation costs and fees of litigation and administrative proceedings) of every kind and nature whatsoever, including, but not limited to, injury to or death of any person; damage to or destruction of property of any person or entity; violation of any law, water right, property right, statute, rule, regulation, ordinance or any order or judgment relating to the adjudication of water rights; violation of the requirements of the California Sustainable Groundwater Management Act; or violation of any order of a government or regulatory agency having jurisdiction (individually a "Claim" and collectively "Claims") that arise from or relate to any of the following:

    i. Negligent acts, errors, or omissions of Discharger, its owners, officers, directors, managers, employees, agents and/or contractors in connection with the Service Connection and/or the SMP.

    ii. Recklessness or willful misconduct of Discharger, its owners, officers, directors, managers, employees, agents and/or contractors in connection with the Service Connection and/or the SMP.

    iii. The type and quality of all discharges by Discharger, including without limitation any Claim arising from or relating to the failure of Discharger, and/or the failure of Discharger's discharges, to comply with the requirements of this Ordinance, the Outfall Discharge Permit, and/or any agreement entered into between the District and Discharger with respect to the Service Connection and/or the SMP.

    iv. Discharger's operation of any of its facilities or the acts or omissions of any of its owners, officers, directors, managers, employees, agents and/or contractors.

v. Any activity under Discharger's exclusive control.

vi. Discharger's failure to comply with (a) any requirement of the Outfall Discharge Permit or California Ocean Plan, (b) any term of this Ordinance, and/or (c) any term of any agreement between Discharger and the District relating to the Service Connection and/or the SMP.

vii. Discharger's diversion, production and/or use of water that supplies any facility discharging through the Service Connection, including but not limited to groundwater supplying a desalter or wastewater supplying a treatment plant.

B. The District shall hold harmless, defend, and indemnify the Discharger and its directors, officers, managers, agents and employees (collectively referred to herein as the "Discharger") from and against any and all liability, loss, damage, expense, claim, judgment, settlement, fine, penalty, assessment, attorney's fees and costs (including without limitation costs and fees of litigation) of every kind and nature whatsoever, including, but not limited to, injury to or death of any person, damage to or destruction of property of any person or entity, or violation of any law, statute, rule, regulation, ordinance or any order of a government or regulatory agency having jurisdiction (individually a "Claim" and collectively "Claims") to the extent such Claim is caused by any of the following:

i. Negligent acts, errors, or omissions of the District, its owners, officers, directors, managers, employees, agents and/or contractors in the design, construction, or repair of the Service Connection or the SMP. The Discharger acknowledges and agrees that for purposes of the District's obligation to indemnify hereunder, the "Service Connection" and the "SMP" refer only to the portion of those facilities that were designed and/or constructed by the District or the District's contractors.

ii. Recklessness or willful misconduct of the District, its owners, officers, directors, managers, employees, agents and/or contractors with respect to the District's operation of the SMP.

iii. Any activity under the District's exclusive control.

iv. The District's failure to comply with (a) the District's sampling, reporting, and inspection obligations under the Outfall Discharge Permit or California Ocean Plan, (b) the District's obligations under this Ordinance, and/or (c) the District's obligations under its agreement with the Discharger relating to the Service Connection and the SMP.

C. Any assertion of negligence, breach, or violation of law by the party to be indemnified hereunder (the "Indemnified Party") shall not relieve the party required to indemnify (the "Indemnifying Party") from its obligation to indemnify. However, the Indemnifying Party shall not be obligated to indemnify the Indemnified Party for that portion of any Claim determined by the trier of fact to have been caused by the negligence or willful misconduct of the Indemnified Party.

D. Upon request of the Indemnified Party, the Indemnifying Party shall defend, at its sole cost and expense, any and all allegations, claims, demands, suits, and all other legal proceedings of every kind that may be brought or instituted against the Indemnified Party, arising from or relating to a Claim for which the Indemnified Party is entitled to indemnification pursuant to this paragraph 11. The Indemnified Party shall have the right, but not the obligation, to approve any counsel retained under this paragraph, provided however that such approval shall not be unreasonably withheld. Without limiting its obligations under this paragraph, the Indemnifying Party agrees that the Indemnified Party has the right to participate in the defense of any matters that relate to the Indemnified Party, or any of them, and that no action, claim, or suit shall be settled without the Indemnified Party's consent, such consent not to be unreasonably withheld. If, at any time, the Indemnified Party makes a good faith determination that a conflict exists with respect to its interests and the interests of the Indemnifying Party, then the Indemnified Party may retain independent counsel of its own choosing whose reasonable fees shall be paid by the Indemnifying Party.

E. Nothing in this Agreement shall constitute a waiver or limitation of any rights that a party may have under applicable law, including any right to implied indemnity. The Indemnifying Party's obligation to indemnify shall not be limited or restricted to insurance proceeds, if any, received by the Indemnified Party.

SECTION 12. LEGAL CHALLENGES. If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The Board of Directors hereby declares that it would have passed this Ordinance by section, subsection, sentence, clause or phrase thereof, irrespective of the fact that any one or more other sections, subsections, sentences, clauses, or phrases be declared invalid or unconstitutional.

SECTION 13. ADMINISTRATION. All SMP service shall be in accordance with these rules and regulations unless otherwise approved by the Board of Directors. These rules and regulations may be amended, modified, changed or repealed by the Board of Directors by resolution or ordinance.

SECTION 14. NOTICES. All notices and communications from agencies to the District relating to the SMP or the administration of these rules and regulations by the District shall be addressed to the General Manager of the District, 2100 Olsen Road, Thousand Oaks, California 91360.

SECTION 15. EFFECTIVE DATE AND SUNSET. This Ordinance shall supersede and replace the previously adopted Ordinance No. 19 and shall become effective at 12:01 a.m. on February 18, 2018. This Ordinance shall not have a sunset date.

ADOPTED, SIGNED, AND APPROVED this 17th day of January, 2018.

Thomas L. Slosson, President
Board of Directors

On motion by Director Quady, and seconded by Director Blois, the foregoing ordinance is adopted upon this 17th day of January, 2018, by the following vote:

AYES: Blois, Quady, Waters, Santamaria, Slosson

NAYS: None

ABSTAIN: None

ABSENT: None

I HEREBY CERTIFY that the foregoing Ordinance was adopted at a regular meeting of the Board of Directors of Calleguas Municipal Water District held on January 17, 2018.

ATTEST:

Andy Waters, Secretary
Board of Directors