

## MEMORANDUM

**TO:** Board of Trustees

**THROUGH:** Indra Winquest  
Interim General Manager

**THROUGH:** Joseph J. Pomroy, P.E.  
Director of Public Works

**FROM:** Nathan Chorey, P.E.  
Engineering Manager

**SUBJECT:** Review, Discuss, and Possibly Authorize a Professional Services Agreement for the Effluent Export Project - Phase II – 2524SS1010 – Fund: Utility; Division: Sewer; Vendor: HDR Engineering, Inc. in the amount of \$161,634 for design services for the Effluent Export Pipeline Priority Project

**STRATEGIC PLAN:** Long Range Principle #5 – Assets and Infrastructure

**DATE:** February 11, 2020

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### **I. RECOMMENDATION**

That the Board of Trustees moves to:

1. Review, Discuss, and Possibly Authorize a Professional Services Agreement for the Effluent Export Project - Phase II – 2524SS1010 – Fund: Utility; Division: Sewer; Vendor: HDR Engineering, Inc. in the amount of \$161,634 for design services for the Effluent Export Pipeline Priority Project.
2. Authorize Staff to execute the contract documents.

### **II. DISTRICT STRATEGIC PLAN**

Long Range Principle #5 – Assets and Infrastructure – The District will practice perpetual asset renewal, replacement, and improvement to provide safe and superior long term utility services and recreation activities.

- The District will maintain, renew, expand, and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.
- The District will maintain, procure, and construct District assets to ensure safe and accessible operations for the public and the District's workforce.

### III. **BACKGROUND**

At the January 29, 2020 IVGID Board of Trustees Meeting, the Board made the following recommendation under Review, discuss and provide direction on the Effluent Export Project – Phase II – Fund: Utility; Division: Sewer; Project 2524SS1010.

Direct Staff to:

- Establish Effluent Export System Pond Lining Project
- Establish Effluent Export System Pipeline Project - Replace 5,067 linear feet of Segment 3 in SR-28
- Provide regular Effluent Export System Project Update in the General Manager Report

This memorandum is asking for Board authorization to enter into a design contract to accomplish the 2<sup>nd</sup> bullet, Establish Effluent Export System Pipeline Project - Replace 5,067 linear feet of Segment 3 in SR-28.

IVGID is a public utility that provides water and wastewater service for a year round population of about 9,000 residents in the communities of Incline Village and Crystal Bay on the north shore of Lake Tahoe. In 1970, a 21 mile pipeline was installed as part of the regional effort to protect Lake Tahoe's water quality by requiring all wastewater effluent to be exported out of the basin.

The original pipe, now 50 years old, is reaching the end of its useful life and ongoing corrosion has caused failure at multiple locations. Early phases of this project investigated the whole pipeline and prioritized the replacement schedule to maintain this critical infrastructure. Within the Tahoe Basin this pipe was divided into three segments. Segment 1 is the low pressure supply pipe to the pump station near Sand Harbor. Segment 2 is the welded steel high pressure discharge pipe exiting the pump station. Segment 3 is the remaining low pressure jointed steel transmission pipeline within the Tahoe Basin running south to Spooner Summit.

Phase 1 work replaced all four miles of Segment 1 pipe within NDOT right-of-way as well as two miles of Segment 3 pipeline that crosses through State Park lands at Spooner Lake. Another critical component of these projects was the elimination of two small wastewater treatment plants located at Sand Harbor and Memorial Point State Parks which are located next to Lake Tahoe. The wastewater is now pumped directly to IVGID for treatment at the regional plant. IVGID's original Spooner Pumping station was also completely renovated with improved emergency pumping capacity.

Overall, IVGID has been diligently pursuing the replacement of the effluent export pipeline since 2003 in the Lake Tahoe Basin. Total capital expenditures to date have been \$22.8 million over the last 16 years to replace the aging effluent export system. IVGID has received \$15.4 million in funding from the WRDA Section 595 program through a Project Cooperation Agreement with the United State Army Corps of Engineers.

The IVGID Board of Trustees has approved four consecutive years of 10% sewer rate increases (2011, 2012, 2013 and 2014), a 45% total increase to sewer rates, to accumulate the funds for this critical infrastructure replacement. The District is now collecting from the rate payers an additional \$2 million per year to fund this project.

#### Effluent Export Pipeline Priority Project

District staff provided a detailed Effluent Export Project update to the Board of Trustees on January 29, 2020. The Board packet from that meeting contains the scope of projects for pipeline replacement and rehabilitation and effluent pond lining, possible project schedules, potential partnering options for funding and the process to arrive at those decisions.

The immediate priority is to replace all of the remaining Segment 3 pipeline (12,385 linear feet) and to make immediate repairs to the Segment 2 pipeline (17,314 linear feet) to extend its life and mitigate a potential future leak site. The project timeline is to accomplish this over two or three construction seasons from 2021 to 2023. The two major scenarios presented to the Board on January 29 was what does the project look like with the effluent pipeline co-located with the Central Corridor SR-28 Multi-Use Path and what it looks like if the District proceeds without partnership. If the District entered into a partnering agreement with the Tahoe Transportation District for co-location, there would be 5067 linear feet of segment 3 export pipeline

that would still be installed in SR-28 because the proposed path makes substantial diversions from SR-28 that are not conducive to pipeline installation.

As discussed with the Board, whether co-location is chosen or not, the District can replace the 5,067 linear feet (lf) of export pipeline in SR-28 in 2021 to accomplish the project goals and priorities without impacting future decisions for co-locating. The 2021 priority will be to replace a total of 5,067 linear feet of Segment 3 export pipeline in State Route 28 located in Carson County, south of the Secret Harbor Parking Lot. The pipeline replacement is split into two priority sections, 3,957 lf and 1,110 lf.

The design scope of services for consideration will complete the design and permitting of the replacement/rehabilitation of 5,067 lf of segment 3 effluent export pipeline. HDR Engineering has been the design engineer of record for the Effluent Export Project since 2003. They have successfully accomplished planning, design and construction management of the projects. HDR Engineering in 2013 completed the predesign of the replacement of all remaining segment 2 and segment 3 in the Tahoe Basin including survey and base mapping and preliminary alignments.

The project is scheduled to complete design and permitting in 2020-21 with a scheduled advertisement for construction bids in February 2021. The design phase is schedule to take 9 to 10 months to complete. Staff is seeking Board authorization for this agreement. Staff will wait to issue notice to proceed until April 1, 2020 or upon approval of a Project Cooperation agreement with the US Army Corps of Engineers (USACE) under Section 595, whichever comes first. Beginning April 1, 2020, Staff will need to commence the design phase to provide adequate time for design and permitting by outside agencies so the project can be bid in February 2021 to meet a May 1, 2021 construction start date. It is expected that NDOT will only allow construction in the months of May, June, September and October based on traffic impacts and recent project constraints on SR-28. Costs incurred prior to executing a Project Cooperation Agreement with the USACE are typically not reimbursable.

#### **IV. BID RESULTS**

This item is not subject to competitive bidding within the meaning of Nevada Revised Statute (NRS) 332.115 as described in subsection (b) Professional Services.

Additionally, per NRS 625.530, selection of a professional engineer or registered architect to perform work on public works projects (where the complete project costs exceed \$35,000) is to be made solely on the basis of the competence and qualifications of the engineer or architect and not on the basis of competitive fees.

HDR Engineering has been the design engineer of record for the Effluent Export Project and has successfully completed multiple projects. HDR Engineering successfully completed the predesign phase of this project. HDR has completed base mapping, surveying and preliminary alignments for the replacement of Segment 2 and Segment 3 pipeline.

#### **V. FINANCIAL IMPACT AND BUDGET**

A total of \$2,000,000 is included in the 2019/2020 CIP budget under the Effluent Export Project Phase II. (see attached data sheet). The design scope of services is budgeted for \$161,634. Engineering Staff time will also be billed to the project to manage the design and bidding phase of the project.

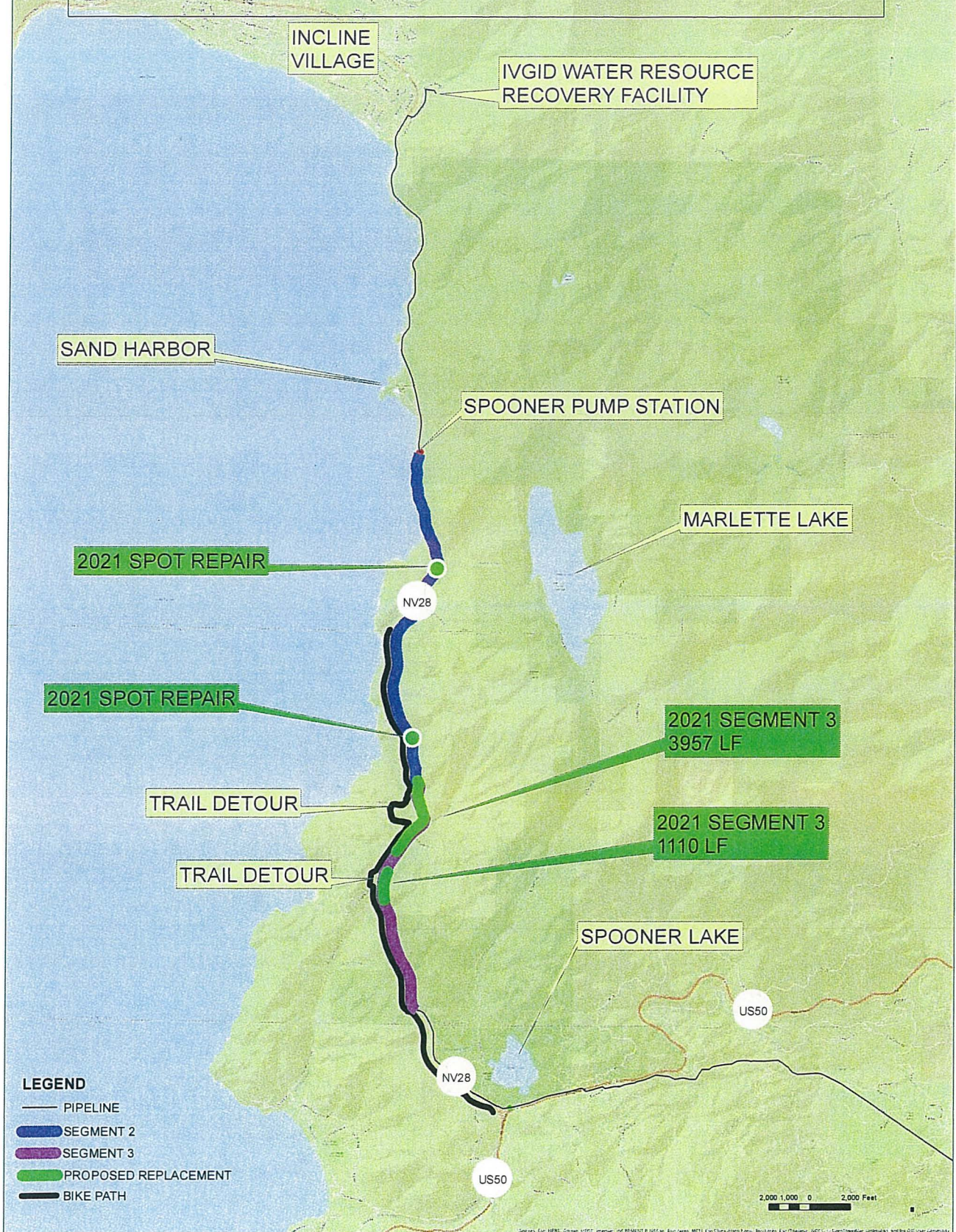
#### **VI. ALTERNATIVES**

None proposed.

#### **VII. BUSINESS IMPACT**

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.

# EFFLUENT EXPORT PIPELINE PLANNED PIPELINE REPLACEMENT 2021



## **EXHIBIT A SCOPE OF WORK**

### **Incline Village General Improvement District *Export Pipeline Replacement***

HDR will provide engineering design services for the following Export Pipeline segments:

- STA 373+14 to 412+71, 3,957 linear feet (LF)
- STA 422+00 to 433+00, 1,110 LF
- Two spot repairs at STA 253+89 and 361+22

Services will include evaluation of trenchless methods for pipeline rehabilitation and/or construction, Nevada Department of Transportation (NDOT) permitting, assistance with Tahoe Regional Planning Agency (TRPA) permitting, development of plans and specifications for construction, estimates of probable construction cost, and bid period services.

#### **Task 1 – Project Management**

The project management subtasks are briefly described below, and cover the design and bidding phases of the project.

##### **Subtask 1.1 – Project Management**

This subtask involves scheduling and communicating with staff, preparing monthly invoices, project filing, preparing a schedule, and coordinating the quality assurance effort.

##### **Subtask 1.2 – Quality Control**

HDR will institute and maintain a quality assurance/quality control (QA/QC) program for the work performed on this project. Senior technical staff, not involved in the project, will perform internal QA/QC of all project deliverables prior to submittal to the District.

##### **Subtask 1.3 – Meetings.**

HDR shall attend up to two meetings at the District's office during the design phase of the work. These meetings are expected to consist of the following:

- A two-hour kick-off meeting at the start of the work to discuss the project approach, schedule, scope, and District participation needs. Up to two HDR team members will attend the kick-off meeting.
- A review meeting, including with NDOT, following the submission and review of the 90% design submittal to discuss District and NDOT comments.

HDR shall also attend project progress conference calls with District staff to be held every two weeks throughout the duration of the project. These calls will be attended by HDR's project manager and other staff as needed.

*Deliverables:*

- *Monthly invoices*
- *QA/QC review comments will be incorporated into each submittal described below*
- *Meeting agenda and minutes*

## **Task 2 – Permitting**

The permitting subtasks are briefly described below, and cover the design and bidding phases of the project.

### **Subtask 2.1 – NDOT Permitting**

HDR shall coordinate with NDOT and shall prepare the Encroachment Permit Application and supporting documentation (e.g., drawings). Application shall be submitted and fees paid by the District.

### **Subtask 2.2 – TRPA Permitting**

HDR shall provide as-needed assistance to the District and coordination with TRPA for obtaining necessary TRPA permitting. Since the extent of required TRPA permitting is not known at this time, an allowance of 24 hours has been included for this task.

*Deliverables:*

- *Completed NDOT Encroachment Permit Application and supporting documents*
- *As-needed documents and/or figures for TRPA permitting assistance*

## **Task 3 – Design**

HDR shall prepare documents for bidding and construction of the work, including project drawings, technical specifications, and an Engineer's Opinion of Probable Construction Cost (OPCC). It is anticipated that current District standard Division 0 ("Front-end") documents will be provided by the District for inclusion in the Project Manual.

### **Subtask 3.1 – Basis of Design Submittal**

HDR shall prepare an evaluation of trenchless rehabilitation technologies as an alternative to replacement of the export pipeline. HDR shall summarize this evaluation in a Draft Basis of Design technical memorandum (TM), which will also include preliminary drawings, special details, a list of technical specifications, and a preliminary OPCC. HDR shall submit the Draft



Basis of Design TM to the District for review, and, upon receipt of consolidated comments, prepare a Final Basis of Design TM.

### **Subtask 3.2 – 90% Design Submittal**

HDR shall prepare a 90% Design Submittal consisting of a complete set of drawings, technical specifications, and OPCC, and shall submit the documents to the District for review.

### **Subtask 3.3 – Final Design Submittal**

HDR shall prepare a Final Design Submittal consisting of a complete set of construction documents incorporating District comments on the 90% submittal, and ready to advertise for bids.

#### *Assumptions:*

- *Reproduction and distribution of bid sets for contractors shall be by IVGID.*

#### *Deliverables:*

- *Basis of Design Submittal:*
  - *One digital PDF file of the Draft and Final Basis of Design TMs, preliminary drawings, and OPCC*
- *90% Design Submittal:*
  - *Three hard-copy sets of half-size (11" x 17") drawings, technical specifications and OPCC*
  - *One digital PDF file of the drawings, technical specifications, and OPCC*
- *Final Design Submittal:*
  - *Three hard-copy sets of stamped and sealed half-size drawings, technical specifications, and OPCC*
  - *One reproduction-ready set of stamped and sealed full-size drawings, technical specifications, and OPCC*
  - *One digital PDF file of the final drawings, technical specifications, and OPCC*

### **Task 4 – Bid Period Services**

HDR will attend the pre-bid meeting and support the District in answering questions or providing clarification as directed. The design team project manager will attend the pre-bid meeting.

HDR will assist IVGID in providing responses to written questions submitted by potential bidders. HDR will prepare up to one addendum as required. Plans and specifications will be modified as required.

*Assumptions:*

- *Reproduction and distribution of bid document addendum will be by the District*

*Deliverables:*

- *Up to one bid document addendum*

**TASKS NOT INCLUDED IN THE SCOPE OF WORK**

- Mapping, delineation, and geotechnical investigation of borrow sites
- Right-of-way permits for borrow sites or access routes
- Negotiations of right-of-way
- Staking services, records of survey, mapping, or monumentation of new rights-of-way, or easements
- Environmental delineation or survey (e.g., wetlands survey)
- Review and inspection of contractor's safety program, means, and methods
- Prevailing wage rate monitoring
- Warranty inspection
- Construction engineering services

**Table 1 - Estimated Work Effort and Cost**

Incline Village General Improvement District

2020 Export Pipeline Rehabilitation/Replacement

Task No.	Task Description	Principal/ QA/QC	Project Manager	Engr 1	Tranpo Engr	CADD Tech	Admin/ Clerical	Total HDR Labor Hours	Total HDR Labor (\$)	Total HDR Expenses (\$)	Total Cost (\$)
<b>Task 1 - Project Management and Quality Assurance/Quality Control (QA/QC)</b>											
1.1	Project Management		40				24	64	\$15,742	\$100	\$15,842
1.2	QA/QC Program	2	2	2				6	\$1,492		\$1,492
1.3	Meetings (up to 2)		28	20			4	52	\$12,305	\$500	\$12,805
	<b>Subtotal Task 1</b>	<b>2</b>	<b>70</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>122</b>	<b>\$29,538</b>	<b>\$600</b>	<b>\$30,138</b>
<b>Task 2 - Permitting</b>											
2.1	NDOT Permitting		8	24	6			38	\$7,521		\$7,521
2.2	TRPA Permitting		8	16				24	\$4,914		\$4,914
	<b>Subtotal Task 2</b>	<b>0</b>	<b>16</b>	<b>40</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>\$12,435</b>	<b>\$0</b>	<b>\$12,435</b>
<b>Task 3 - Design</b>											
3.1	Basis of Design	3	16	32	8	16	4	79	\$16,006	\$150	\$16,156
3.2	90% Design	19	29	131	43	147	8	378	\$72,287	\$200	\$72,487
3.3	Final Design	5	7	33	11	37	8	100	\$18,885	\$200	\$19,085
	<b>Subtotal Task 3</b>	<b>27</b>	<b>53</b>	<b>196</b>	<b>62</b>	<b>200</b>	<b>20</b>	<b>557</b>	<b>\$107,177</b>	<b>\$550</b>	<b>\$107,727</b>
<b>Task 4 - Bid Period Services</b>											
4.1	Prebid Meeting		8	8				16	\$3,706	\$250	\$3,956
4.2	Bid Period Assistance (up to 1 addenda)		8	16		12	2	38	\$7,377		\$7,377
	<b>Subtotal Task 4</b>	<b>0</b>	<b>16</b>	<b>24</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>54</b>	<b>\$11,083</b>	<b>\$250</b>	<b>\$11,333</b>
<b>COLUMN TOTALS</b>		<b>29</b>	<b>155</b>	<b>282</b>	<b>68</b>	<b>212</b>	<b>50</b>	<b>795</b>	<b>\$160,234</b>	<b>\$1,400</b>	<b>\$161,634</b>

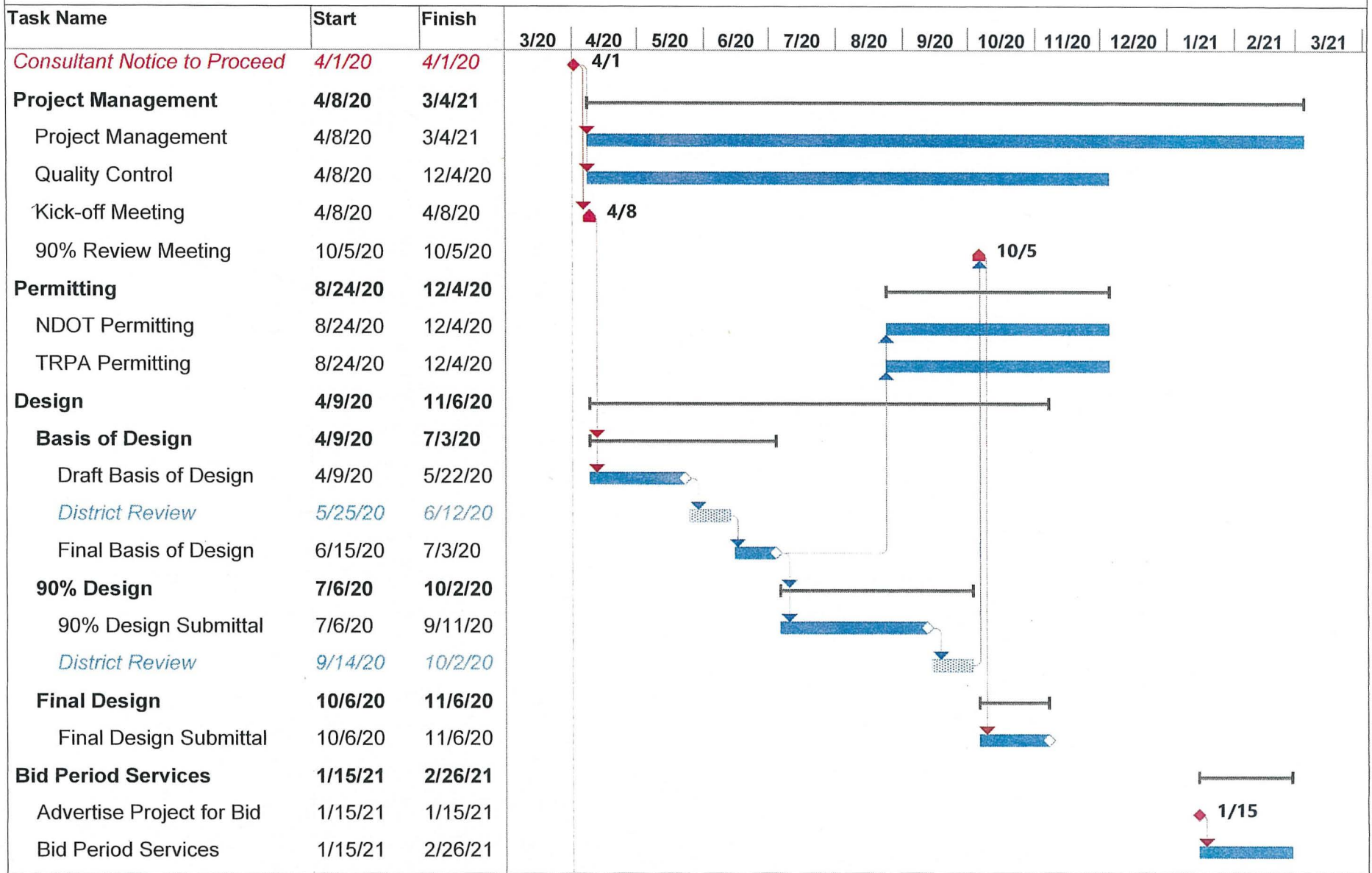
**Table 2 - Preliminary List of Drawings**

Incline Village General Improvement District

2020 Export Pipeline Rehabilitation/Replacement

No.	Sheet No.	Drawing Description
<b>General</b>		
1	G1	Cover Sheet
2	G2	Sheet List and Location Maps
3	G3	General Abbreviations
4	G4	General Legend and Symbols
5	G5	General Details - 1
6	G6	General Details - 2
7	G7	General Details - 3
8	G8	General Details - 4
<b>Environmental</b>		
9	EC1	Best Management Practices Notes and Details
10	EC2	Best Management Practices Details
<b>Civil</b>		
11	C1	Key Plan
12	C2	Plan and Profile - 1
13	C3	Plan and Profile - 2
14	C4	Plan and Profile - 3
15	C5	Plan and Profile - 4
16	C6	Plan and Profile - 5
<b>Traffic Control</b>		
17	T1	Traffic Control Key Plan
18	T2	Traffic Control Details
19	T3	Construction Staging/Traffic Control - 1
20	T4	Construction Staging/Traffic Control - 2
21	T5	Construction Staging/Traffic Control - 3
22	T6	Construction Staging/Traffic Control - 4
23	T7	Construction Staging/Traffic Control - 5

Figure 1 - Project Schedule



**Incline Village General Improvement District  
Effluent Export Pipeline Replacement**

Task		Summary		Review Period	
Milestone	◆	Meeting	▲		

20-10209559



## Project Summary

<b>Project Number:</b>	2524SS1010
<b>Title:</b>	Effluent Export Project - Phase II
<b>Project Type:</b>	B - Major Projects - Existing Facilities
<b>Division:</b>	24 - Transmission
<b>Budget Year:</b>	2020
<b>Finance Option:</b>	
<b>Asset Type:</b>	SS - Sewer System
<b>Active:</b>	Yes

<b>Project Description</b>				
The District currently owns, operates and maintains a 21-mile pipeline that exports treated wastewater out of the Lake Tahoe Basin. The Effluent Export system also includes the un-lined pond and 500,000 gallon steel reservoir at the Water Resource Recovery Facility, the Spooner Effluent Pumping Station and numerous valves, fittings and appurtenances located along the pipeline.				
<b>Project Internal Staff</b>				
The Engineering Department will manage all phases of this project.				
<b>Project Justification</b>				
The Effluent Export Phase II Project will replace all of the remaining Segment 3 pipeline (13,700 linear feet) and portions or all of Segment 2 pipeline (17,300 linear feet) pending results of final condition assessment and design. Segment 3 experienced significant leaks in 2009 and 2014 of this bell and spigot pipe. Subsequent investigations confirmed progressive corrosion, which determined that wholesale replacement was required. Segment 2 is undergoing additional condition assessment efforts, as it was constructed of more robust welded steel and has not had a history of failures. This analysis is focused on identifying segments with extended life remaining and segments that need to be addressed in near term. Final design will dictate whether Segment 2 work will be of limited scope or complete replacement.				
<b>Forecast</b>				
<b>Budget Year</b>	<b>Total Expense</b>	<b>Total Revenue</b>	<b>Difference</b>	
2020				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2021				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2022				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2023				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2024				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
	<b>10,000,000</b>	<b>0</b>	<b>10,000,000</b>	
<b>Year Identified</b>	<b>Start Date</b>	<b>Est. Completion Date</b>	<b>Manager</b>	<b>Project Partner</b>
2012	Jul 1, 2019	Jun 30, 2024	Engineering Manager	