

MEMORANDUM

TO: Board of Trustees

THROUGH: Kate Nelson, Interim Public Works Director

FROM: Hudson Klein, Principal Engineer

SUBJECT: Review and discuss the Total Project Cost for completion of Phase 2 of the Effluent Export Pipeline including the negotiated schedule of values, risk reserve, contingency, and administration/inspection requirements prepared for Guaranteed Maximum Price (GMP)2; 2023/2024 Capital Improvement Project; Fund: Utilities; Division: Sewer; Project #2524SS1010 and provide direction on finalizing the CMAR contract for GMP2. (Requesting Staff Member: Interim Director of Public Works Kate Nelson)

RELATED STRATEGIC PLAN BUDGET INITIATIVE(S):

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 venues, facilities, and services.

- Budgeted Initiatives C - Work with CMAR and design consultants to finalize design and begin construction of the Effluent Export Pipeline Project.
- Budgeted Initiatives D - Allocate capital expenditures to maintain services and facilities.

RELATED DISTRICT POLICIES, PRACTICES, RESOLUTIONS OR ORDINANCES

Board Policies 12.1.0 Multi-year Capital Planning; 13.2.0 Capital Planning Capital Expenditures; 21.1.0 Purchasing Policy for Public Works Contracts

DATE: October 25, 2023

I. RECOMMENDATION

That the Board of Trustees makes a motion to:

1. Approve Granite Construction as the CMAR for the Construction of GMP2.
2. Direct Staff to finalize a contract for the completion of Phase 2 of the Effluent Export Pipeline with Granite Construction as CMAR under GMP2 at the Nov. 8, 2022 Board of Trustees meeting.

II. BACKGROUND

On August 30, 2023, Staff presented a report to the Board summarizing the estimated total project cost for Phase 2 of the Effluent Export Pipeline inclusive of all design, administration and construction costs from GMP1 and the 100% Opinion of Probable Construction Cost (OPCC) for GMP2 following initial contract negotiations with Granite Construction, Construction Manager at Risk (CMAR). The OPCC was prepared in July 2023 and at that time, Staff were engaged in application processes for financial assistance from the US Army Corps of Engineers (USACE) under Section 595 of the Water Resources Development Act. Therefore, the July 2023 OPCC did not include a competitive subcontractor bidding process as the USACE requires completion of a formal project environmental assessment process prior to solicitation of public bids.

The July 2023 OPCC included a GMP2 construction cost estimate of \$39.8M, a risk reserve of \$7.5M, and \$2.85M in administrative and inspection costs (\$50.1M GMP2 total). Total project cost was estimated at \$64.1M, inclusive of \$14M for GMP1.

The revised total project cost is currently \$63.7M as outlined in the table below:

GMP1 Total Cost	\$14M (\$9.4M CMAR/\$1.5M Risk/\$3.2M Admin & Material Purchase)
GMP2 Direct/Construction Cost	\$40.2M
Risk Reserve (IVGID Controlled)	\$6.7M
Contract Contingency, Admin & Inspection	\$2.8M
TOTAL PROJECT COST	\$63.7M

The GMP2 project costs were developed by Granite and IVGID Staff following several project debrief meetings to review construction activity, safety practices, rock investigation, and lessons learned from GMP1. Final GMP2 cost figures were reviewed and negotiated during multiple cost-reconciliation, risk review, and project scheduling meetings with Granite personnel and IVGID Staff as well as two Trustees present for some of the review meetings.

Adjustments to unit rates, direct construction costs, and risk reserve incorporated increased productivity allowance, information from extensive investigation of existing rock formations (refer to Attachment A) along the GMP2 pipeline alignment, revised pressure testing methodology, CMAR project staffing utilization, formal material and subcontractor bids, and a reduction in the aggregate CMAR fee (refer to Section VI - Comments).

Once final pay applications and substantial completion for GMP1 is issued, Staff anticipates 'release' of remaining contingency, risk reserve (Attachment B), and unused administration and inspection fees. This is currently estimated at \$1M. Refer to Section IV -Financial Impact for additional description of the overall financial impact.

III. BID RESULTS

Granite completed subcontractor bid solicitation as part of the required CMAR process in September 2023; the bid results were opened in front of Staff on September 29 and October 3, 2023. The recommended selections were presented to Staff on October 3, 2023 and Staff agreed with the CMAR recommendations for subcontractor selection.

The selected subcontractor bid results are incorporated in the total project costs table presented in Section II - Background.

IV. FINANCIAL IMPACT AND BUDGET

The current total project cost estimate is \$63.7M; Staff anticipates a reduction to \$62.7M following the closeout of GMP1 and the 'release' of unused risk/contingency/admin budget. If the GMP2 risk reserve and contract contingency are not fully exhausted, there will be additional total project cost reductions realized at the completion of GMP2 and project closeout; for example, if half of the GMP2 risk reserve and contingency is used, the total project cost would be \$60.2M.

The total estimated funding needed to award GMP2 (inclusive of risk register), IVGID management, HDR, Inspection and Testing, Funding Administration, Contract Contingency, Start-up Design/Permitting is approximately **\$49,723,000**.

Funding currently available for the project is \$36.98M in remaining SRF Loan Funds, \$1.6M in EPA Community Grant Funds, and \$15.4M in Utility Funds, **totaling \$53,980,000**.

Staff continues to pursue Section 595 grant funding with the USACE for GMP2. Staff is currently awaiting the approved USACE amendment to the existing Project Partnership Agreement (PPA) for Effluent Pipeline project funding (Increment 2).

V. ALTERNATIVES

There are no advisable alternatives proposed by Staff at this time.

VI. COMMENTS

GMP2 includes an allowance for the previously agreed 14% CMAR fee. However, as part of GMP2 contract negotiations, Granite Construction recommended removal of the pipeline material purchase from direct pipe installation unit rate (subject to the 14% fee) and to instead apply a reduced 5% administration and handling fee to the material purchase. The result to the GMP2 overall CMAR fee was a net reduction from 14% to 12.7% (\$466k or 8% of total project CMAR fee).

VII. BUSINESS IMPACT/BENEFIT

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

VIII. ATTACHMENTS

1. ATTACHMENT A - Rock Investigation Summary
2. ATTACHMENT B - EEP GMP 2 Risk Register_

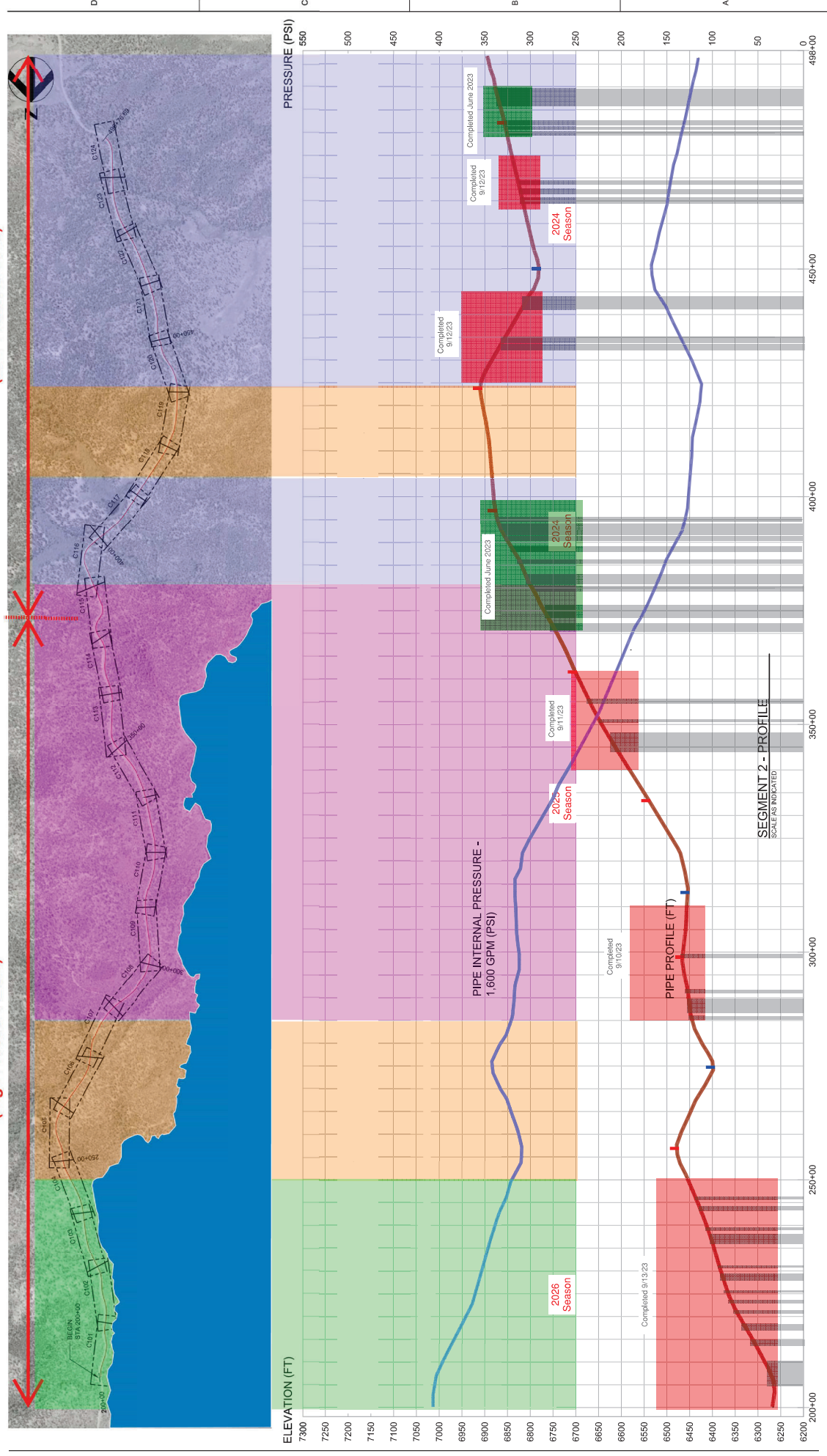
IX. DECISION POINTS NEEDED FROM THE BOARD OF TRUSTEES

That the Board of Trustess makes a motion to:

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Segment 3
(Low-Pressure Zone)

Segment 2
(High-Pressure Zone)



Anticipated Rock Area vs. Confirmed Rock Locations (thru 9/13/23)

- Indicates confirmed rock locations
- Horiz. Gridlines = 500LF (400+00 to 450+00 = 5,000LF)

All phasing is approximate and subject to change.



**IVGID Effluent Export Pipeline CMAR CONSTRUCTION
(GMP 2) DRAFT - Risk Register**

Item	Description Of Risk	Mitigation Strategy	Type of Risk	Probability	Quantitative Analysis				Comments
					Cost (\$)	Estimated Risk Amount	Time Impact (Working Days)	Estimated Time Impact	
3	New pipeline alignment conflicts with existing utilities and/or existing improvements. (i.e. existing IVGID effluent pipeline, NDOT crossings, fiber optic, etc)	GPR, Pothole, Design out, survey existing conditions, purchase additional fittings Coordinate with NDOT / adjacent contractors (i.e. new fiber line installation)	Cost & Schedule	20%	1,370,960.00 \$	274,192.00 \$	15	3	Conflict with existing pipeline alignment creating additional crossings or tie-in connection points. Encounter unknown culvert crossings or other utilities (Guardrail, Concrete Curb & Gutter, AC Curb Removal and Replacement)
6	Existing pipe discharge due to break or pipe failure (flooded trench, enviro release, etc) - outside of GC negligence	Emergency Response Plan, Repair parts on hand (in-stock) at local supply, etc. GC to make repairs and coordinate with IVGID operations throughout construction	Cost & Schedule	33%	796,500.00 \$	262,845.00 \$	15	4.95	Assume crew cost = \$20k/shift x 1 week x 3 seasons Traffic Control = \$11k/day x 1 week x 3 seasons GCs = \$48.5k x 1 week x 3 seasons Original Total = \$817,500

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Item	Description Of Risk	Mitigation Strategy	Type of Risk	Probability	Quantitative Analysis			Original Comments	Comments
					Cost (\$)	Estimated Risk Amount	Schedule Impacts (Working Days)		
7a	The exploratory rock drilling exploration from GMP 1 accounts for 15,500 of 24,000 LF of pipeline trench remaining to excavate. The unexplored length of 7,500 LF could still contain an unknown amount of unknown rock requiring rock breaking to install the pipe and appurtenances (i.e. Cathodic Protection anodes as shown in Corrosion Protection Details calling for installation minimum 5 to 10 feet horizontal distance from outside edge of pipeline and minimum 8 feet below the invert of the pipe).		Cost & Schedule	15%	Cost (\$) 2,418,000.00	Estimated Risk Amount 362,700.00			
7	Encounter hard rock that needs to be excavated in excess of what is included in budget which triggers T&M tracking and payment over 8-hours of hydraulic hammering at a given location. Anticipated hard rock that may trigger this could include bedrock and/or large non-excavatable boulders. One trigger would be in excess of 8 hours of hammering per week that affects the pipe crew's production. Another would be if production begins to be affected when the lay crew catches up to the hammer hoe and is unable to install additional pipe. Pipe crew is considered labor, equipment, hauling, and subcontractors necessary to complete typical pipe installation.	- Improved quantification of known hard rock locations (to identify LF of trench) via GPR line, followed up with pre-work package to include potholing (conventional or track-drilling). - Estimate includes Hammer Hoe attachment for nuisance rock - Rock-splitting to remove rock. - Correlate HDR PDR (June 2012) Rock excavation limits to current plan set	Cost & Schedule	85%	Cost (\$) 2,657,796.00	Estimated Risk Amount 2,259,126.60	Time Impact 35	Estimated Time Impact 29.75	

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					Cost Impacts (\$)		Schedule Impacts (Working Days)		
					Cost (\$)	Estimated Risk Amount	Time Impact	Estimated Time Impact	
9	This is risk associated with ground water in excess of what GC can pump with a 2" sump pump and discharge onsite. (Granite is considering this nuisance water). Triggered if Granite needs to apply for an NDEP dewatering permit (250 GPM and/or if water cannot be utilized in typical construction operations (i.e. moisture conditioning and dust control)).	Proper Permits & Dewatering Equip, coordinate with local agencies	Cost & Schedule	75% \$	\$ 100,000.00	\$ 75,000.00	4	3	Account for 500LF of overall pipeline length (near Bliss, Secret Creek, and Skunk Harbor)
12	Delay start of construction due to availability of materials, weather delay, permitting.	Identify & Order Early/Separate GMP	Cost & Schedule	66% \$	450,000.00	\$ 297,000.00	15	9.9	5 days of weather per season. \$11K/day TC x 5 days x 3 seasons = \$165,000 \$18.5K/day GCs x 5 days x 3 seasons = \$277,500 Total Cost = \$442,500 Currently carrying an additional 15 days of weather in GMP 2 CPM (5 days per season). These days are in addition.
13	Escalations for fuel surcharges on trucking and welded steel pipe buy going above the bid day percentage. Agreement currently being reviewed (10/11/23)	Order Early/Separate GMPs/Identify Stockpile storage location options At For Construction Design, GC includes Labor and Equipment (less fuel) escalations. Materials escalations to remain as Risk	Cost	50% \$	913,000.00	\$ 456,500.00	0	0	5% year-over-year. Original Total = \$1,000,000



**IVGID Effluent Export Pipeline CMAR CONSTRUCTION
(GMP 2) DRAFT - Risk Register**

Item	Description Of Risk	Mitigation Strategy	Type of Risk	Probability	Quantitative Analysis				Comments
					Cost (\$)	Estimated Risk Amount	Time Impact	Schedule impacts (Working Days)	
22	If NDOT right-of-way staging areas at Spooner Summit are not available for project use at time of construction.	Use IVGID property or other location outside of basin (i.e. bottom of US 50)	Cost	58%	\$ 3,340,200.00	\$ 1,937,316.00	0		Haul to dump hill site currently at \$2.93M. Haul to bottom of Spooner Summit in Carson City \$1.7M (most logical scenario, working on an agreement) w/14% markup included, Carson scenario = \$1.938,000
24	Emergency reponse - Wildfire / Traffic accident	Emergency Response Plan	Cost & Schedule	25%	\$ 1,221,000.00	\$ 305,250.00	66	16.5	GCs = \$18,500/day x 1 month x 3 seasons
25	Added requirement to modify traffic control plan/system to accommodate NDOT or reduce traffic risk	Add Pilot Car	Cost	20%	\$ 925,550.00	\$ 185,110.00		0	Pilot Car: 3 Seasons. Most likely time of season for need of pilot car is July/August during peak season.
27	Unforeseen Special Events (Races & Marathons not identified in contract)	Consult Stakeholders Early & Often	Cost & Schedule	30%	\$ 442,500.00	\$ 132,750.00	15	4.5	3 Seasons X 5 Days = 15 Days Traffic Control = \$11k/day x 15 days GCs = \$18.5k x 15 days
29	Unforeseen TRPA required remediation measures at staging yards and/or areas in project limits.		Cost	40%	\$ 100,000.00	\$ 40,000.00	0	0	Cost for potential need to permanently stabilize areas that Granite will need for staging and stockpiling. \$100k total remediation for all areas.
36	Material cost increases associated with BABA requirements per funding source.		Cost	40%	\$ 250,000.00	\$ 100,000.00	0	0	
Totals						\$ 6,687,789.60	282	71.60	

