M E M O R A N D U M

TO: Board of Trustees

THROUGH: Bobby Magee, District General Manager

FROM: Kate Nelson, Interim Director of Public Works

SUBJECT: Summary Presentation of the Utility Infrastructure Master Plans for Sewer and Water; Project: 2097DI2202 – Fund: Utilities; Division: Shared; Vendor: Dowl Engineering. (Requesting Staff Member: Interim Director of Public Works Kate Nelson)

RELATED FY 2023 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.
RELATED DISTRICT POLICIES, PRACTICES, RESOLUTIONS OR ORDINANCES	Board Policy 12.1.0 Multi-year Capital Planning

DATE: April 10, 2024

I. RECOMMENDATION

The Board Receive and File the Summary Report of the Utility Infrastructure Master Plan Preparation and Overall District Infrastructure Scoring from Dowl Engineering.

II. BACKGROUND

Prior to 2022, IVGID Public Works had no comprehensive utility infrastructure Master Plan prepared. In June 2022, Staff issued a request for proposals for a Utility Infrastructure Master Plan to include Water, Sewer, and Supervisory Control and Data Acquisition (SCADA - i.e. remote monitoring and control hardware and software). On October 12, 2022, the Board approved the agreement (Item G.1) with Farr West Engineering - now Dowl Engineering - for development of the Utility Infrastructure Master Plan for the District's water and sewer systems; note, the SCADA portion was removed from the scope and will be developed under a forthcoming separate project.

The original October 2022 agreement was amended in January 2024 to extend progressive deliverables and project completion dates and to add additional scope for fire hydrant flow-testing and water model calibration services. The 100% Master Plans were delivered in February 2024 following several review iterations between Dowl and Public Works Staff. The Master Plan meets contractual and operational requirements and has provided the anticipated outline for future improvements in line with the District Capital planning.

Luke Tipton, the Dowl Engineering Water & Wastewater Business Leader will provide an in-person summary presentation of the Master Plan development process and high level results. Refer to the slide presentation in ATTACHMENT A.

III. BID RESULTS

N/A.

IV. FINANCIAL IMPACT AND BUDGET

There are no financial impacts related to this report to the Board. The final Master Plan documents, Board report, and presentation tasks are included within the original scope of work of the agreement.

V. ALTERNATIVES

N/A.

VI. COMMENTS

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 - DOWL Master Plan BoardPresentation

IX. DECISION POINTS NEEDED FROM THE BOARD OF TRUSTEES

Utility Infrastructure Master Plans

Incline Village GID

PRESENTATION OUTLINE

01 Project Goals

02 Infrastructure Grading Criteria

03 Water System Overview

04 Sewer System Overview

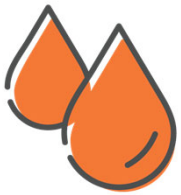
MASTER PLAN PROCESS

- Data Collection & Review
- Field Investigations
- Develop Hydraulic Models
  - Manhole Survey
  - Fire Hydrant Testing
- Identify Deficiencies
  - Capacity Analysis
  - Staff Interviews

MASTER PLAN PROCESS

- Document System Assets, Condition, and Performance
  - Data Review
  - Workshops with IVGID staff
  - 50%, 90%, and 100% draft reviews
- Develop CIP
  - Propose capital improvement projects
  - Develop project cost estimates

PROJECT GOALS



Develop calibrated hydraulic models for water and sewer systems.

Identify deficiencies within system components.

Document the water and sewer utility systems.

Develop CIP in coordination with IVGID Staff.

INFRASTRUCTURE GRADING CRITERIA

- Criteria from American Society of Civil Engineers (ASCE)
- System components graded on eight different criteria

Grade Scale	Definition
A	Exceptional, Fit for the Future
B	Good, Adequate for Now
C	Mediocre, Requires Attention
D	Poor, at Risk
F	Failing/Critical, Unfit for Purpose

WATER OVERVIEW

- Single Source (Lake Tahoe)
- Burnt Cedar Water Disinfection Plant
- 12 Booster Pump Stations
- 13 Storage Tanks
- Over 105 Miles of Pipe

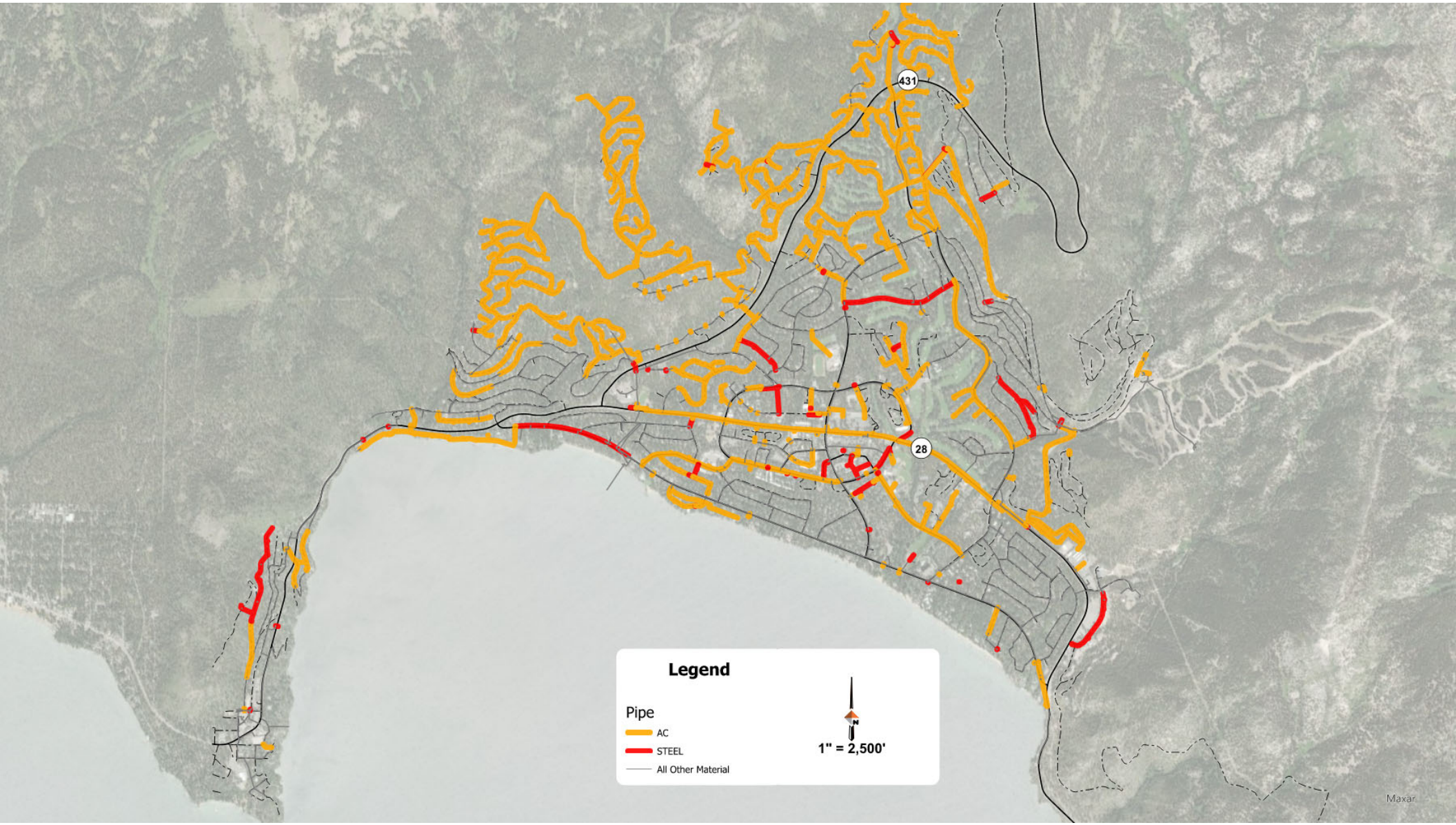
WATER SYSTEM GRADES

System Component	Capacity	Condition	Funding	Future Need	O & M	Health & Safety	Resilience	Innovation	Overall Grade
Burnt Cedar WDP	A	A-	A	A	A	A	A	A-	A-
Pump Stations	A	C	C	C-	B+	B	B	C	C+
Tanks	A	B-	B	B-	A-	A-	B+	B	B
Distribution	A-	C-	C-	D	B-	C+	C-	C	C
Overall System	**A-**	**C+**	**C+**	**C+**	**B+**	**B**	**B**	**C+**	**B-**

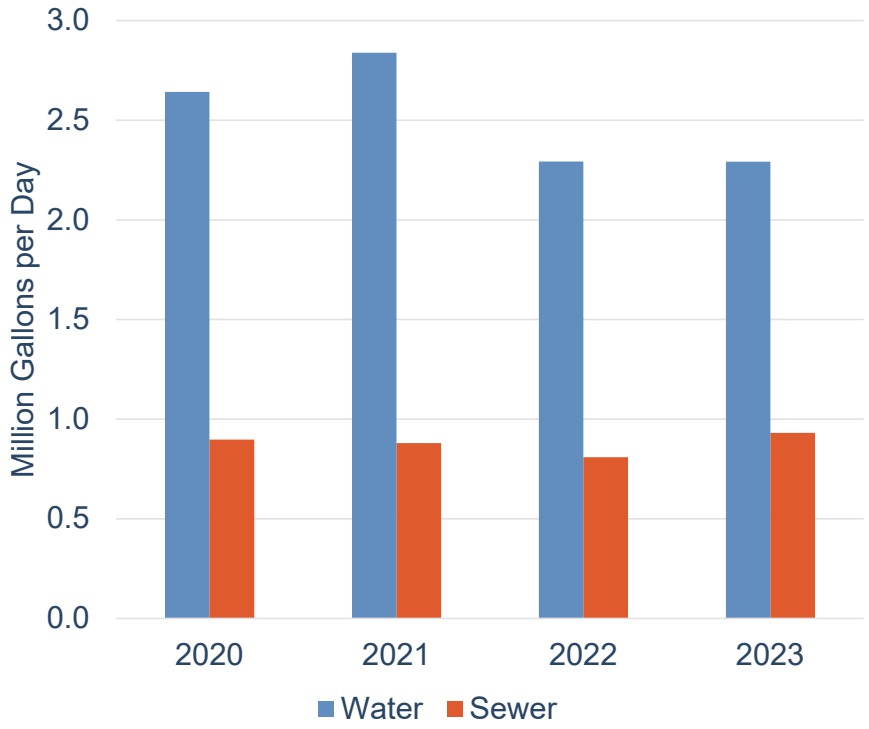
WATER SYSTEM GRADES

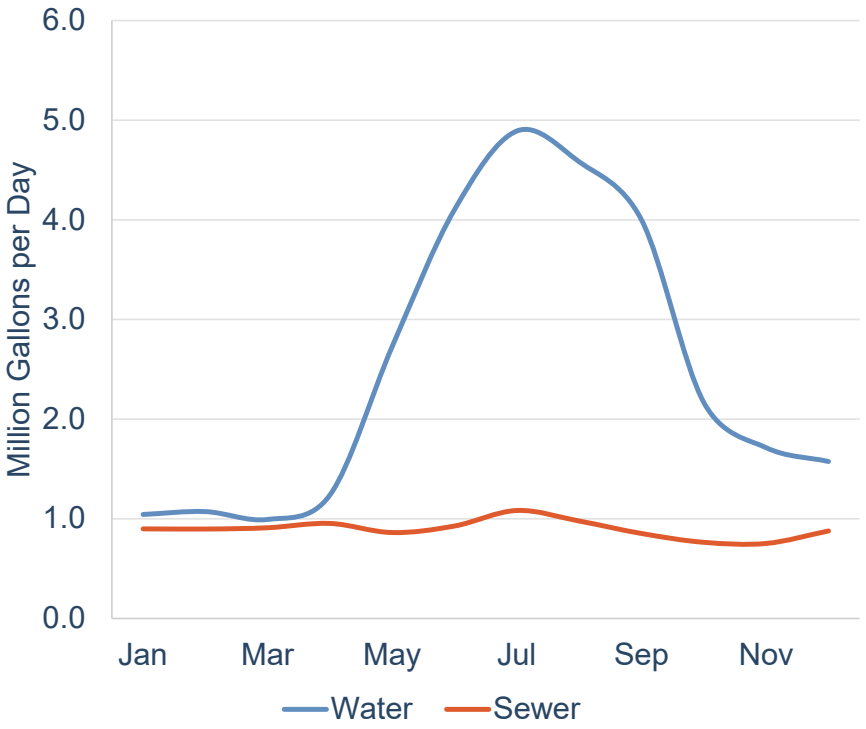
System Component	Grade
Burnt Cedar WDP	A-
Pump Stations	C+
Tanks	B
Distribution	C
Overall System	**B-**

- National Grade (2021): **C-**
- State of Nevada Grade (2018): **C-**


431
28
Legend
Pipe
AC
STEEL
All Other Material
1" = 2,500'
Maxar

WATER USAGE AND SEWER FLOWS





SEWER OVERVIEW

- 19 Sewersheds
- 1,840 Manholes
- 97 Miles of Gravity Main
- 11 Miles of Force Main
- 19 Lift Stations
- Water Resource Recovery Facility
- Effluent Export System

SEWER SYSTEM GRADES

System Component	Capacity	Condition	Funding	Future Need	O & M	Health & Safety	Resilience	Innovation	Overall Grade
Collections	A-	B	B	C+	B+	B	B+	B-	B
Lift Stations	B	C-	C	C-	B-	D	C-	C	C-
WRRF	B+	C-	C-	D+	C+	D	C-	C-	C-
Effluent Export	A	B	C-	C+	B-	C+	C-	B-	C+
Overall System	**B+**	**C+**	**C**	**C-**	**B-**	**C-**	**C**	**C**	**C+**

SEWER SYSTEM GRADES

System Component	Grade
Collection	B
Lift Stations	C-
WRRF	C-
Effluent Export	C+
Overall System	**C+**

- National Grade (2021): **D+**
- State of Nevada Grade (2018): **B-**


Secondary Clarifier Mechanism Replacement
Aeration System Improvements and Basin Lining
New Effluent Tank and Effluent Tank Rehab
Sludge Dewatering Improvements
Headworks System Improvements and Second Screen Installation
WAS Tank Improvements

QUESTIONS?