

**AGENDA FOR A MEETING OF THE
ENGINEERING/EQUIPMENT COMMITTEE
OF THE VALLECITOS WATER DISTRICT
MONDAY, FEBRUARY 8, 2021 AT 3:00 P.M.
VIA TELECONFERENCE**

CALL TO ORDER - DIRECTOR ELITHARP

ITEM(S) FOR DISCUSSION

1. ASSET MANAGEMENT PIPELINE CONDITION ASSESSMENT PROGRAM
2. DUCTILE IRON PIPELINE CONDITION ASSESSMENT AWARD TO V&A CONSULTING
3. SAN MARCOS INTERCEPTOR CONSTRUCTION MANAGEMENT AMENDMENT

OTHER BUSINESS

PUBLIC COMMENT

Persons wishing to address a matter not on the Agenda may be heard at this time; however, no action will be taken until the matter is placed on a future agenda in accordance with Board policy. Public comments are limited to three minutes. A Request to Speak form is required to be submitted to the Executive Secretary prior to the start of the meeting, if possible. Public comment should start by stating name, address, and topic. The Board is not permitted during this time to enter into a dialogue with the speaker.

If you have any disability which would require accommodation in order to enable you to participate in this meeting, please call the Executive Secretary at 760.744.0460 ext. 264 at least 48 hours prior to the meeting.

AFFIDAVIT OF POSTING

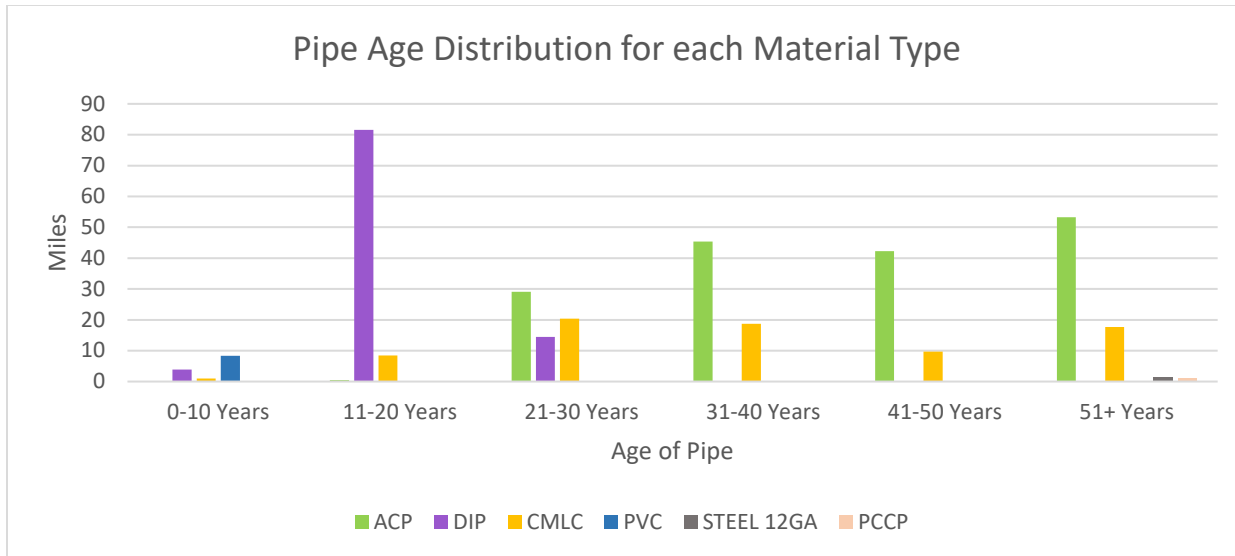
I, Diane Posvar, Executive Secretary of the Vallecitos Water District, hereby certify that I caused the posting of this Agenda in the outside display case at the District office, 201 Vallecitos de Oro, San Marcos, California by 3:00 p.m., Friday, February 5, 2021.

Diane Posvar

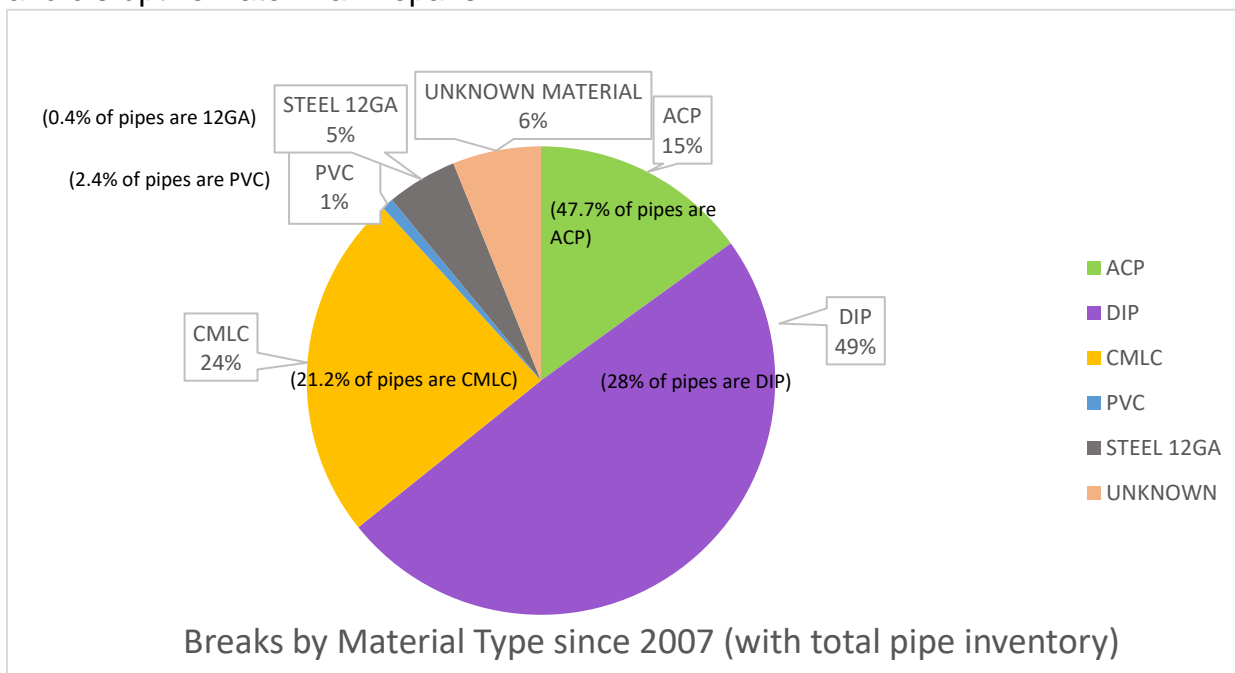
DATE: FEBRUARY 8, 2021
TO: ENGINEERING AND EQUIPMENT COMMITTEE
SUBJECT: DUCTILE IRON PIPE CONDITION ASSESSMENT PILOT PROJECT

BACKGROUND:

The District’s water distribution and transmission system consists of over 357 miles of water pipeline. The materials used for these pipes are Asbestos Cement (ACP), Ductile Iron (DIP), Cement Mortar-lined and Coated Steel (CMLC), Polyvinyl Chloride (PVC), Steel 12 Gauge (STEEL 12GA) and Prestressed Concrete Cylinder Steel (PCCP). Approximately 100 miles of the system is ductile iron pipe that varies in diameter from 6 to 27 inches, which was installed between 1972 and 2015.



The District maintains an average water main break per mile occurrence well below the AWWA industry standard. The District averages 18 breaks per year, the industry standard would allow for 54 breaks per year for a system of VWD’s size. While remaining below the standard, the District has begun to experience premature failure of the ductile iron pipe infrastructure leading to costly and disruptive water main repairs.



DISCUSSION:

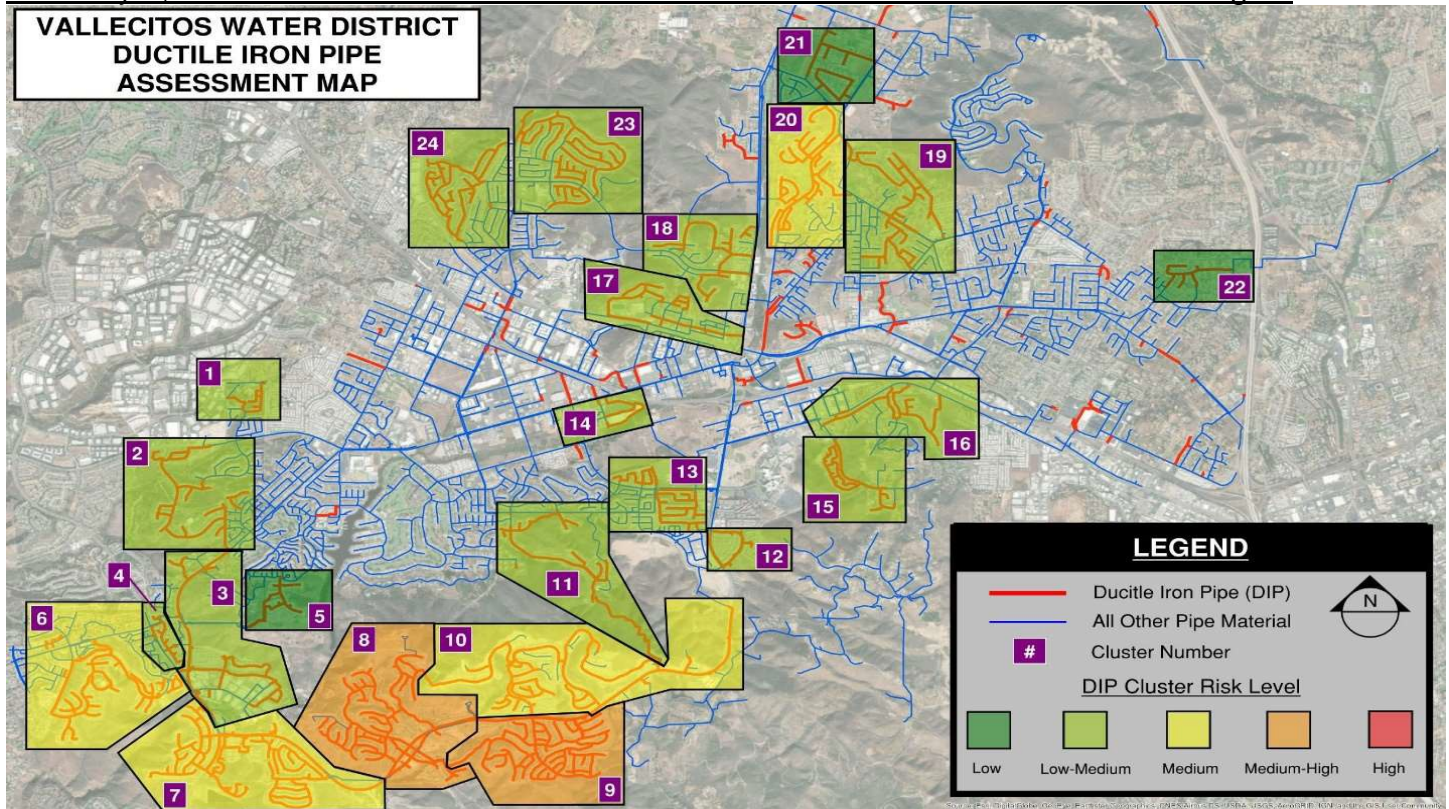
It is the District's goal to obtain quality condition assessment data to help make informed renewal, rehabilitation, and replacement decisions. To meet this goal, the District is implementing a phased, multi-year Ductile Iron Pipe Condition Assessment Program. This Program will use pipeline condition assessment technology in conjunction with the District's Asset Management Plan, to target specific areas in the water system for evaluation. The Asset Management Plan goal for condition assessment is to reduce costly line breaks, prioritize resource allocation, and reduce overall asset lifecycle costs.

The *Ductile Iron Pipe Condition Assessment Pilot Project* with V&A Consultants (V&A) will evaluate recommended assessment technologies to determine if the technology is successful at identifying pipes that should be prioritized for repair or replacement. The scope for the pilot testing includes Project Management, In-situ Soil Resistivity Testing, Soil Analysis, Leak Detection Survey, and delivery of a Technical Memorandum. V&A will coordinate, perform, and oversee the technology pilot testing and summarize the findings.

Previously, V&A performed a risk prioritization of the DIP system and completed an evaluation of condition assessment methodologies used in the industry. The next step is to pilot test various condition assessment technologies in a selected focus area to compare the quality of data and level of effort to determine the best method for detailed assessments as part of an annual program.

V&A has grouped the District's DIP system into twenty-five (25) Cluster Areas based on pipe location and pipe age and evaluated the risk of each Cluster Area. Condition assessment projects can focus on assessing pipes within a Cluster Area, starting with the Cluster Areas that are higher risk. This will lead to a condition assessment program that is both time-saving and cost-effective. The first pilot testing area has been identified as Cluster Areas 8 through 10, which includes approximately 25 miles of ductile iron pipe.

Soil corrosivity testing within the pilot area will be conducted along the pipeline alignments. Then the pilot test area will be investigated initially with manual sounding equipment. Sounding will take place at the distances required to comprehensively cover the area of investigation for the presence of leak noise based on the system pipe material, diameter, and pressure. When warranted, 3 noise loggers will be placed in a designated system area which are programmed to listen and record noise at night when listening conditions are optimal. If leak noise is indicated by the loggers, then the need for further investigation to determine the pipe condition will be documented.



FISCAL IMPACT:

The Ductile Iron Pipe Condition Assessment Program project is identified in the District’s fiscal year 2020/2021 budget. The approved Capital budget amount for the Ductile Iron Pipe Condition Assessment Program is \$605,000; \$534,598 will remain for future condition assessments as a part of this Program.

VWD Budget		\$ 605,000
Project Management and Planning	\$6,916	
Inspection Services	\$53,382	
Technical Memorandum	<u>\$10,104</u>	
Subtotal	\$ 70,402	
Remaining Budget		\$ 534,598

RECOMMENDATION:

Staff recommends that the Engineering and Equipment Committee recommends that the Board of Directors authorize the General Manager to enter into a professional engineering services agreement with V&A Consulting in the amount of \$70,402 for project management, oversight of inspection services, and evaluation of results of the *Ductile Iron Pipe Condition Assessment Pilot Project*.

DATE: FEBRUARY 17, 2021
TO: BOARD OF DIRECTORS
SUBJECT: CONSTRUCTION MANAGEMENT & INSPECTION AMENDMENT NO. 1
FOR THE SAN MARCOS INTERCEPTOR PROJECT, PHASE 2

BACKGROUND:

The San Marcos Interceptor Project consists of replacing the existing 1960's era 21-inch diameter sewer interceptor with approximately 12,200-feet of 42-inch diameter sewer pipeline between Twin Oaks Valley Road and Pacific Street. The project was identified in the 1991 Master Plan and initially approved in the District's 1999/2000 Budget. The project has been phased to correspond to City of San Marcos (City) initiated development of the Creek District, with the following portions completed:

- 2002 - portion behind the Creekside Marketplace from SR-78 to Grand Avenue.
- 2005 - experimental pipe-bursting section from Twin Oaks Valley Road to east of Johnston Lane.
- 2013 - Phase 1A from Grand Avenue to Via Vera Cruz.
- 2014 - Phase 1 from east of Johnston Lane to the south side of SR-78.

Phase 2, extending from Via Vera Cruz to Pacific Street, will complete the remaining 3,400-feet of the project corridor. This project has been identified in the CIP Master Plan as CIP SP-11.

DISCUSSION:

The Board of Directors approved a professional services agreement with Valley CM (VCM) as part of the San Marcos Interceptor Phase 2 Project for construction management and inspections (CM&I) services in the amount of \$493,614 on June 17, 2020. The original VCM scope of work for CM&I services was based on a 10-month construction duration.

Over the course of construction between 2020 to present, the District initiated night work authorization for the highly impacted areas of work in San Marcos Blvd between Pacific Street and Tamarisk Lane. Additional unforeseen underground utilities delayed the progress of construction approximately two months due to required pipeline and tunnel alignment redesign and approvals. An approximate 2-month construction delay and additional (night) shifts have required additional onsite inspections, testing, and coordination services.

Staff received Amendment No. 1 from VCM On January 24, 2021. Staff reviewed the amendment for content and completeness for additional inspections, testing, and coordination services. VCM's time and material not-to-exceed Amendment No. 1 fee is \$142,560.

VCM will perform the remaining CM&I services for the project including environmental biological monitoring and geotechnical engineering services. Staff will provide active project management services and inspection oversight services throughout construction.

FISCAL IMPACT:

The project is identified in the FY 20/21 Budget with a budget amount of \$8,500,000. The project funding sources are divided 29% from Sewer Replacement and 71% from Sewer Capacity funds. The total estimated cost and budget summary are as follows:

Budget	\$8,500,000
Construction	\$6,310,315
Change Order #1	\$ 259,654
Remaining 5% Contingency (Ord. 146)	\$ 55,862
Planning, Design, and Environmental (K/J)	\$ 484,195
Staff & Overhead: Planning, Design, ROW Acquisition, And Environmental Services	\$ 385,000
Bid and Construction Phase Services (K/J)	\$ 87,138
CM&I (VCM)	\$ 493,614
CM&I Amendment 1 (VCM)	\$ 142,560
Staff & Overhead: Construction Phase	\$ 264,222
Total	\$8,482,560
Budget Surplus	\$ 17,440

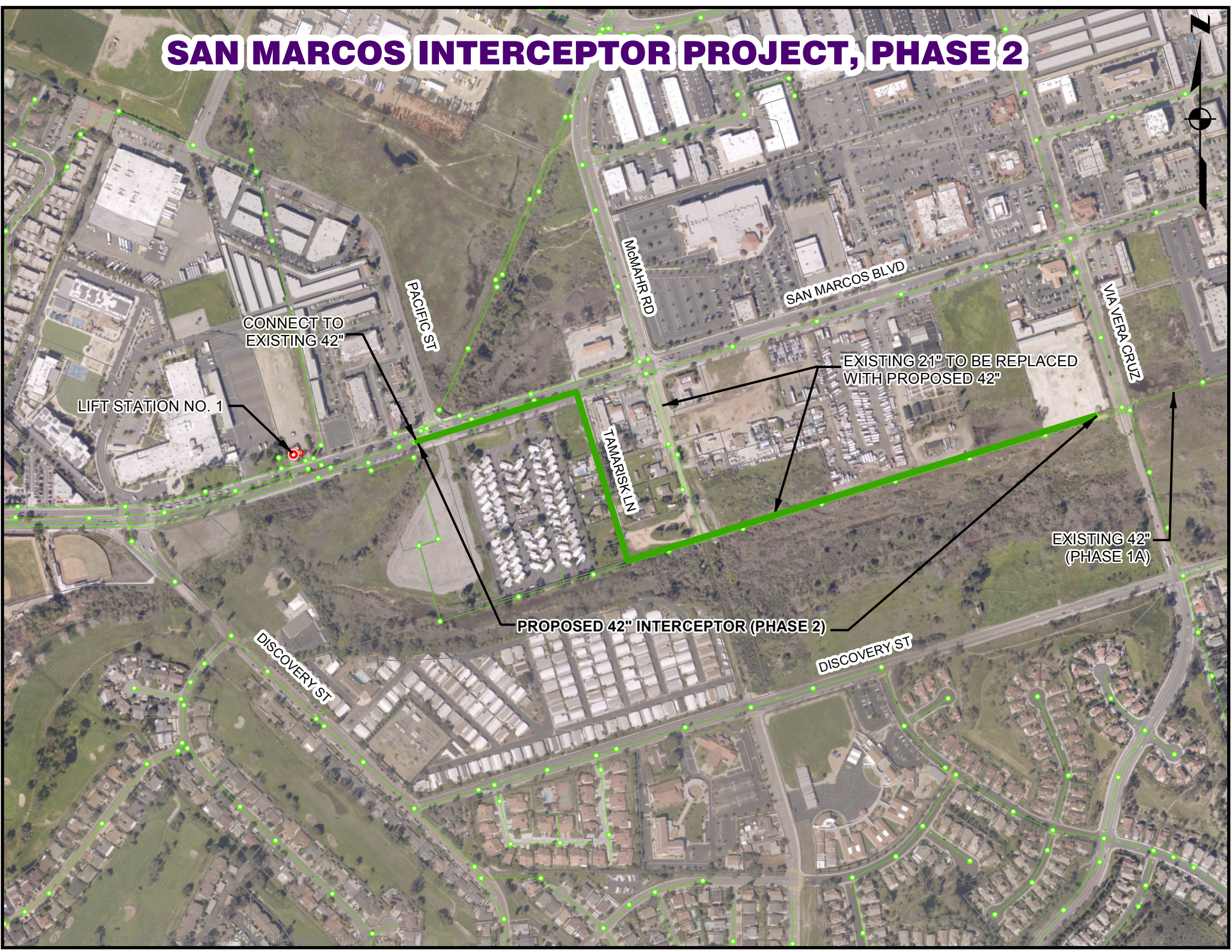
RECOMMENDATION:

Staff presented this item to the District's Engineering and Equipment Committee on February 8, 2021. The committee deliberated and agreed with staff recommendation after discussion. Staff recommends authorizing the General Manager to execute Amendment No. 1 for \$142,560 with VCM for additional construction management, inspection, and geotechnical engineering services for the San Marcos Interceptor Phase II Project.

ATTACHMENTS:

Plat/Aerial

SAN MARCOS INTERCEPTOR PROJECT, PHASE 2



CONNECT TO
EXISTING 42"

LIFT STATION NO. 1

PACIFIC ST

McMAHR RD

SAN MARCOS BLVD

VAVERA CRUZ

TAMARSK LN

EXISTING 21" TO BE REPLACED
WITH PROPOSED 42"

EXISTING 42"
(PHASE 1A)

PROPOSED 42" INTERCEPTOR (PHASE 2)

DISCOVERY ST

DISCOVERY ST