



# TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance



PLATINUM LEVEL

President – Bill Mayer • Vice-President – Bill Pease • Director – Kevin Graves • Director – Robert Leete • Director – Bryon Gutow

**NOTICE OF THE REGULAR MEETING  
OF THE WATER AND WASTEWATER COMMITTEE  
OF THE TOWN OF DISCOVERY BAY  
Wednesday, August 5, 2020  
STANDING WATER AND WASTEWATER COMMITTEE REGULAR MEETING  
5:30 P.M. – 6:30 P.M.**

**NOTICE  
Coronavirus COVID-19**

In accordance with the Governor's Executive Order N-33-20, and for the period in which the Order remains in effect, the Town of Discovery Bay Community Services District Committee Chambers will be closed to the public.

To accommodate the public during this period of time that the Committee's Chambers are closed to the public, the Town of Discovery Bay Community Services District Committee Members have arranged for members of the public to observe and address the meeting telephonically.

**TO ATTEND BY TELECONFERENCE:  
Toll-Free Dial-In Number: (866) 848-2216  
CONFERENCE ID **5193676302#****

Download Agenda Packet and Materials at [www.todb.ca.gov/](http://www.todb.ca.gov/)

**Water and Wastewater Committee Board Members**

*Chair Bill Pease  
Vice-Chair Bill Mayer*

- A. ROLL CALL**
1. Call business meeting to order 5:30 p.m.
  2. Roll Call.
- B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)**  
During Public Comments, the public may address the Committee on any issue within the District's jurisdiction which is not on the Agenda. The public may comment on any item on the Agenda at the time the item is before the Committee for consideration by filling out a comment form. The public will be called to comment in the order the comment forms are received. Any person wishing to speak will have 3 minutes to make their comment. There will be no dialog between the Committee and the commenter as the law strictly limits the ability of Committee members to discuss matters not on the agenda. We ask that you refrain from personal attacks during comment, and that you address all comments to the Committee only. Any clarifying questions from the Committee must go through the Chair. Comments from the public do not necessarily reflect the viewpoint of the Committee members.
- C. DRAFT MINUTES TO BE APPROVED**
1. July 1, 2020 Regular Water and Wastewater Committee DRAFT meeting minutes.
- D. PRESENTATIONS**
1. Water and wastewater update coming before the Board tonight. - Please see [documents](#) attached to the Regular Board Meeting.

**E. DISCUSSION ITEMS**

1. Discussion Regarding Laguna/Willow Lake and Marina Underwater Crossing Repairs.
2. Discussion Regarding Monitoring Well.
3. Discussion and Provide Feedback on Scope of Work Luhdorff & Scalmanini to Perform Engineering Services for Pipeline Replacement Projects in the Amount of \$121,032.
4. Discussion and Provide Feedback on Scope of Work for Luhdorff & Scalmanini to Perform Engineering and Inspection Services for Filter Maintenance at Willow Lake and Newport Drive Water Treatment Plants in the Amount of \$68,545.
5. Discussion and Provide Feedback on Scope of Work for Luhdorff & Scalmanini to Perform Engineering and Inspection Services for Well 1B Rehabilitation in the Amount of \$37,000.

**F. FUTURE DISCUSSION/AGENDA ITEMS**

**G. ADJOURNMENT**

1. Adjourn to the next Standing Water and Wastewater Committee meeting at the Community Center located at 1601 Discovery Bay Boulevard.

"This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Town of Discovery Bay, at (925) 634-1131, during regular business hours, at least forty-eight hours prior to the time of the meeting."

"Materials related to an item on the Agenda submitted to the Town of Discovery Bay after distribution of the agenda packet are available for public inspection in the District Office located at 1800 Willow Lake Road during normal business hours."



# TOWN OF DISCOVERY BAY

A COMMUNITY SERVICES DISTRICT

SDLF Platinum-Level of Governance



President – Bill Pease • Vice-President – Bryon Gutow • Director – Kevin Graves • Director – Robert Leete • Director – Bill Mayer

**MINUTES OF THE REGULAR MEETING  
OF THE WATER AND WASTEWATER COMMITTEE  
OF THE TOWN OF DISCOVERY BAY  
Wednesday, July 1, 2020  
5:30 P.M. – 6:30 P.M.**

**NOTICE  
Coronavirus COVID-19**

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**TO ATTEND BY TELECONFERENCE:**  
Toll-Free Dial-In Number: (866)848-2216  
CONFERENCE CODE: **5193676302**  
To view the Agenda and Presentation Materials go to  
Agenda Packet and Materials at: [www.todb.ca.gov/](http://www.todb.ca.gov/)

**Water and Wastewater Committee Board Members**

*Chair Bill Pease  
Vice-Chair Bill Mayer*

- A. ROLL CALL**
1. Call business meeting to order 5:30 p.m.- By Chair Pease
  2. Roll Call- All Present.
- B. PUBLIC COMMENTS (Individual Public Comments will be limited to a 3-minute time limit)**
- None.
- C. DRAFT MINUTES TO BE APPROVED**
1. Approve DRAFT minutes of May 6, 2020 Standing Water and Wastewater Committee meeting.  
Motion made by Vice-Chair Mayer to approve minutes of May 6, 2020 Standing Water and Wastewater Committee meeting as noted.  
Chair Pease second.
- D. PRESENTATIONS**
1. Water and Wastewater Update.  
District Engineer Gregory Harris updated the committee on the diffuser project. California Environmental Quality Act is up to date regarding this project and all permits have been filed. Discussed a need to possibly go out to bid for the design of the diffuser.  
Chair Pease and District Engineer Gregory Harris had dialog regarding types of firms that are qualified to take on the design project and their proximity to the Town.  
District Engineer Gregory Harris reminded the committee that presently the diffuser is non-operational and it would likely take 15 months to finalize the project.

## **E. DISCUSSION ITEMS**

### **1. Discussion Regarding Influent & Pump Station W Project Advancement.**

District Engineer Gregory Harris updated the committee on the expected completion time for repairs to the Pump Station. His estimate was to finalize the project by September 2020.

### **2. Discussion Regarding Booster Pumps at Newport Treatment Plant.**

District Water Engineer Justin Shobe provided update on worn out Booster Pumps. The failing pump has been removed and a quote was given for replacement of Booster Pump number 3 at the Newport Treatment Plant. He stated that eventually all 12 of the pumps at both treatment plants will need to be replaced as they are all the original ones installed in 2003.

Chair Pease asked if the replacement of the pumps is already inserted in the CIP.

Finance Manager Julie Carter stated funds in the Upgrades, Maintenance and Repairs account can be used for the cost of the pumps since there will be a roll over from this year due to limited spending.

### **3. Discussion Regarding Well 8 Monitoring Well Conceptual Drawings.**

District Water Engineer Justin Shobe gave update on investigating the sustainability of the site to service Well 8 in the Pantages Development. The conceptual layout is being worked on right now and should be completed by next week. District Water Engineer Justin Shobe spoke about the steps to follow before pursuing this site. If all things considered go smoothly, Well 8 should be running in less than two years.

### **4. Discussion Regarding Supplemental Aeration.**

District Engineer Gregory Harris discussed alternatives for the aeration issues at the treatment plant. Cost difference between two options were discussed as well as the positives and negatives of each alternative. Formal presentation will be done at the Regular Board of Directors Meeting on July 15, 2020 at 7:00 p.m.

## **F. FUTURE DISCUSSION/AGENDA ITEMS**

General Manager Mike Davies introduced the new Project Manager for Veolia, Gerry Limas. The committee welcomed him aboard.

## **G. ADJOURNMENT**

### **1. Adjourned at 6:22 p.m. to the next Standing Water and Wastewater Committee Meeting.**

"This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Town of Discovery Bay, at (925) 634-1131, during regular business hours, at least forty-eight hours prior to the time of the meeting."

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# Town of Discovery Bay

*"A Community Services District"*

## STAFF REPORT

Meeting Date

August 5, 2020

**Prepared By:** Mike Yeraka, Projects Manager and Justin Shobe, District Water Engineer

**Submitted By:** Michael R. Davies, General Manager

### Agenda Title

Discussion and Provide Feedback on Scope of Work Luhdorff & Scalmanini to Perform Engineering Services for Pipeline Replacement Projects in the Amount of \$121,032.

### Recommended Action

Provide Feedback for Staff to Bring the Item to the Full Board at the August 19, 2020, meeting to Authorize the General Manager to Execute the Town's Standard Consultant Agreement for Luhdorff & Scalmanini to Perform Engineering Services for Pipeline Replacement Projects as per the Attached Scope of Work.

### Executive Summary

There are two pipeline replacement projects on the CIP to be completed in the FY 20/21. Existing water system information for the two project locations is shown in the attached Scope of Work and described below.

(CIP #6013) 6" pipeline on Discovery Bay Blvd serving the Lakeview Busines Plaza – Budget \$290,0000

A 6" pipeline on Discovery Bay Blvd supplies water to the Lakeview Busines Plaza for commercial service connections, fire hydrants, and irrigation services including the landscape at the Highway 4 entrance to Discovery Bay. The 6" pipeline is approximately 400 feet long and it dead-ends at the entrance to the business plaza. The pipeline is being replaced in response to several breaks that have occurred in recent years, which have indicated the pipeline is in poor condition and could cause water service interruptions to the commercial properties in the future. The replacement pipeline would be installed in a new location to maintain water service during the installation. All existing services on the existing 6" watermain will be identified and connected to the replacement pipeline.

(CIP #6015) 8" pipeline on Edgeview Drive between St. Andrews and Clubhouse Drive – Budget \$300,000

The 8" pipeline on Edgeview Drive between St. Andrews Drive and Clubhouse Drive is located beneath residential driveways along the south side of the road. This section of the pipeline is approximately 1,100 feet long and has approximately 34 residential connections in total. Being located beneath the private driveways has resulted in the District replacing private driveways to address water leaks and it poses a risk of private property damage. The replacement pipeline would be installed in the roadway within the District's easement. All residences would be reconnected to the new pipeline, either by extending existing services or installing new services laterals as needed.

Staff felt it would be more efficient to combing both projects into one bid package as it will involve one bid process, one set of plans, one contractor, and a bigger scope of work for a contractor to provide competitive pricing.

The attached scope of work by Luhdorff and Scalmanini Consulting Engineers (LSCE) is to conduct land surveying, design of the replacement pipelines including corrosion protection design, conduct permitting, assist the District through the bidding and construction, and perform compaction testing and paving inspection during construction.

"Continued to the next page"

Task	Description	Outside Services	LSCE Services	Total
1	Land Survey	\$31,913	\$0	<b>\$31,913</b>
2	Design Plans and Specifications	\$13,800	\$31,064	<b>\$44,864</b>
3	Permitting Assistance	\$0	\$1,188	<b>\$1,188</b>
4	Bidding and Construction Support	\$27,313	\$15,755	<b>\$43,068</b>
	<b>Totals</b>	<b>\$73,025</b>	<b>\$48,007</b>	<b>\$121,032</b>

The outside services include:

- Surveyor to develop a topographic basemap in Task 1.
- Corrosion Engineer (JDH Corrosion Consultants) for design in Task 2 and system checkout in Task 4.
- Compaction testing of trench backfill (CTE) during construction in Task 4.

Task 1 provides scope for the surveyor to perform a land survey and develop a topographic basemap of the project area for use in developing a pipeline design.

Task 2 provides scope for LSCE to prepare design plans and specifications for the replacement pipeline projects, including outside services by JDH Corrosion Engineers for corrosion protection designs.

Task 3 provides scope for LSCE to perform permitting services for the encroachment permit review.

Task 4 provides scope for LSCE to provide support throughout bidding and construction, and outside services by CTE to perform compaction testing every 50 feet of trench backfill in accordance with standard requirements.

The total budget of both projects combined is \$590,000. The estimated construction cost is \$300 per foot at 1,500 total feet of pipeline installation resulting in \$450,000. With the proposed LSCE cost, the total project cost is estimated to be \$571,032. This allows a contingency of about \$29,000.

**Specific Board Action:**

Provide feedback for Staff to ask the Board to take the following action at the August 19, 2020, meeting:

- a. Approve the Scope and Budget Contained in the Luhdorff & Scalmanini (LSCE) Proposal Letter Dated July 29, 2020, to Perform Engineering Services for the Pipeline Replacement Projects.
- b. Authorize the General Manager to Execute the Town's Standard Form of Consulting Agreement with LSCE to Perform Engineering Services in the Amount of \$121,032.
- c. We will also have a Resolution for the Board to adopt a Notice of Exemption under CEQA for the project at the August 19, 2020, Board Meeting.

**Previous Relevant Board Actions for This Item**

The Board approved a total of \$590,000 through FY 20/21 for the Pipeline Projects during approval of the FY 19/20 Budget at the June 19, 2019, Board Meeting.

**Fiscal Impact:** Included in the \$590,000 budget for this fiscal year

**Amount Requested:** \$121,032

**Sufficient Budgeted Funds Available?** Yes

**Prog/Fund # Category:** TBD

**Attachment**

1. LSCE Proposal Dated July 29, 2020.

AGENDA ITEM: E-2



July 29, 2020  
File No. 20-5-101

Mr. Mike Yeraka  
Projects Manager  
Town of Discovery Bay CSD  
1800 Willow Lake Road  
Discovery Bay, CA 94514

**SUBJECT: ENGINEERING SERVICES FOR PIPELINE REPLACEMENT PROJECTS  
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT**

In response to your request, Luhdorff & Scalmanini Consulting Engineers (LSCE) is pleased to provide this scope and budget for engineering services for water pipeline replacement projects that are planned to be complete in the Fiscal Year 2020/2021 for the Town of Discovery Bay Community Services District (District).

**Project Understanding**

The project consists of replacing mainlines in the water distribution system at two locations. Existing water system information for the two project locations is shown in the attached maps (Attachment A) and described below.

(CIP #6013) 6" pipeline on Discovery Bay (DB) Blvd serving the Lakeview Business Plaza

A 6" pipeline on Discovery Bay Blvd supplies water to the Lakeview Business Plaza for the commercial service connections, fire hydrants, and irrigation services including the landscape at the Highway 4 entrance to Discovery Bay. The 6" pipeline is approximately 400 feet long and it dead-ends at the entrance to the business plaza. The pipeline is being replaced in response to several breaks that have occurred in recent years, which have indicated the pipeline is in poor condition and could cause water service interruptions to the commercial properties in the future. The replacement pipeline would be installed in a new location to maintain water service during the installation. All existing services on the existing 6" watermain will be identified and connected to the replacement pipeline.

(CIP #6015) 8" pipeline on Edgeview Drive between St. Andrews and Clubhouse Drive

The 8" pipeline on Edgeview Drive between St. Andrews Drive and Clubhouse Drive is located beneath the residential driveways along the south side of the road. This section of the pipeline is approximately 1,100 feet long and has approximately 34 residential connections in total. Being located beneath the private driveways has resulted in the District replacing private driveways to address water leaks and it

poses a risk to private property. The replacement pipeline would be installed in the roadway within the District's easement. All residences would be reconnected to the new pipeline, either by extending existing services or installing new services laterals as needed.

### **Proposed Scope of Work**

LSCE's scope of work involves preparation of a topographic basemap, development of design plans and specifications for pipeline replacements, permitting services, and services during bidding and construction. LSCE will perform services in accordance with State of California and Contra Costa County rules and regulations, American Water Works Association (AWWA), American Association of State Highway and Transportation Officials (AASHTO), American Society for Testing and Materials (ASTM) and industry standard practices. LSCE will base the design of replacement pipelines in accordance with the recommendations of the Water Master Plan for Discovery Bay Community Services District, dated January 2012. During the design development, provisions will be considered for future expansions or future service connections along the pipelines as deemed appropriate.

#### **Task 1 – Land Survey**

LSCE will provide a surveyor sub-consultant to complete a topographic and right-of-way survey of both project locations. The topographic survey will include property lines, benchmarks, easements, surface features such as curbs, gutter, inlets, driveways power and light poles, water meters, valves, fire hydrants, electric and telephone pedestals and ground elevations. A USA request will be submitted and USA markings will be surveyed. Existing utility mapping indicating utility locations will be incorporated into the basemap.

##### *Deliverables:*

- *Topographic basemap in AutoCAD format and PDF to be used in the design drawings.*

#### **Task 2 – Design Plans and Specifications**

After the survey basemap has been completed, LSCE will attend one field meeting with the District to assess field conditions and design considerations of the District.

LSCE will review pertinent as-built drawings, water service records and other relevant historical information of the project site for inclusion into the engineering and design. The design drawings will be developed for the pipeline replacement, service tie overs, and provisional stub-outs as deemed appropriate. The design will specify materials in accordance with the District standards and operating pressure. Cathodic protection designs will be performed by the corrosion engineer sub-consultant (JDH Corrosion Consultants). Project specifications will be a separate bound Technical Specification.

LSCE will coordinate with affected utility agencies and companies within the extents of the pipeline construction footprint. The utility coordination will identify design conflicts with utilities and address the conflicts in the plans.

Prior to developing the initial drawing set, JDH will perform a site corrosivity evaluation involving site inspection, collection and evaluation of soil samples, and development of an engineering report to develop a cathodic protection design of the pipelines.

An estimate of the plan set sheets is as follows:

- G-1: Cover Sheet, Location Map and TOC
- G-2: General Notes, Legend and Abbreviations
- G-3: Temporary Erosion Control Plan
- G-4: Temporary Erosion Control Details
- C-1 to C-2: Plan and Profile Sheets (DB Blvd #6013)
- C-3 to C-6: Plan and Profile Sheets (Edgeview #6015)
- C-7 to C-8: Project Details
- CP-1 to CP-2: Cathodic Protection Details

At sixty (60) percent and ninety (90) percent completion, design plans and specifications will be provided to the District for review and comment. A meeting will be held with the District following each design deliverable to discuss comments and changes to the design.

Upon completion of the ninety (90) percent deliverable a submittal will be made to the Contra Costa County for a permitting review – ***included in Task 3 for Permitting Assistance.***

Upon all final edits in the 90-percent review (including permitting review), LSCE will prepare and deliver a signed and stamped set of Plans and Specifications for bidding purposes.

*Deliverables:*

- *Corrosivity evaluation report and recommendations.*
- *Three (3) sets of Plans and Specifications with an Engineer's Estimate for the 60-percent, 90-percent and 100-percent completion.*

**Task 3 – Permitting Assistance**

Contra Costa County Encroachment Permit

The County of Contra Costa Public Works Department will require an encroachment permit for excavation performed as part of the pipeline installation within County right-of-way. LSCE will seek a preliminary permit review by Contra Costa County at the 90-percent design completion, prior to finalizing the plans. This submittal will be sent to the County concurrent with the District's review so that LSCE can obtain all review comments at one time prior to preparing the 100-percent signed plans.

During construction, the awarded contractor will submit the permit application using the signed construction set of drawings. The contractor will also provide the Temporary Traffic Control Plan.

### CEQA Exemption

It is assumed that the pipeline projects will be a Class 2 Exemption for replacement or reconstruction. LSCE assumes that the District will file the Categorical Exemption. LSCE will provide any supporting material necessary for the District to file a CEQA exemption.

### SWPPP Not Required

It is assumed that a Storm Water Pollution Prevention Plan (SWPPP) is not required because the project will disturb less than one acre.

#### *Deliverables:*

- *Review and Comments Response for preliminary review of Encroachment Permit.*

### **Task 4 Bidding and Construction Support**

#### Bid Support

Bid support services will include bid advertisement in three local papers, plans to an appropriate number of plan clearing houses, maintaining a plan holders list, attending and leading a pre-bid meeting at the District's office, answering requests for information (RFI's) from contractors, up to two (2) addendums, attend and conduct the bid opening at the District's office, review and tabulate bids that have been received, and make a recommendation for bid award.

*Deliverable: Plan holders list, agendas and meeting minutes for both the pre-bid meeting and bid opening. Responses to RFI's, up to two (2) addendums, bid tabulations, and a recommendation letter for award.*

#### Construction Support

LSCE will provide the following technical services during construction. Resident inspection during construction is not included; it is assumed the District will perform daily monitoring. LSCE services include the following:

**Conferences/Meetings:** A pre-construction conference with the contractor and District will be held onsite to confirm the contractor's understanding of the intent of the contract documents. Construction meetings and coordination with the contractor and District staff will be held as needed through construction to discuss construction progress, inspections, and technical issues during construction. Final site visitation (post-construction) with the contractor and District will be made to confirm all final installation, cleanup and restoration of the project. Project management and meetings are assumed to occur for a 3-month construction period.

**Compaction Testing and Paving Inspection:** LSCE will provide and coordinate with a sub-consultant to perform compaction testing and paving inspection during installation of the new pipelines by Construction Testing and Engineering, Inc (CTE). Compaction testing will be performed at regular intervals along the pipeline conforming with Encroachment Permit

requirements and District trenching standards. Inspection results and field observations will be provided in digital (pdf) format following each inspection.

**Cathodic Protection System Checkout:** JDH will provide on-site assistance during construction to ensure the system is installed correctly and applies proper exothermic welding procedures. A system checkout will be performed and a Letter of Certification accepting the work completed.

**Submittals, RFIs, Change Order Review:** Review all submittals to ensure all products used during construction are consistent with the plans and specifications. Review RFIs from the contractor and respond as needed. Review any proposed contract change orders during construction based on changes to the contract documents and provide recommendation to the District. Provide any negotiation or pricing verification necessary.

**Progress Payments:** Review, approve, and recommend payment on the contractor's progress billings.

**As-Builts:** Prepare project as-builts using the contractor's redline markup set maintained during construction to show the final location and details of the installation.

#### **Assumptions:**

- This project falls under CEQA exemption as a Class 2 exemption.
- District will pay all permit and review fees.
- SWPPP will not be required since the disturbed area is less than one (1) acre.
- Contractor will submit the Encroachment Permit Application.
- Contractor will prepare the Traffic Control Plan with the Encroachment Permit Application.
- Contractor will perform construction staking as will be dictated in the Plans and Specifications.
- LSCE sub-consultant for compaction testing (by CTE) assumes a test every 50 feet per lift of backfill, and 15 days of installation at 100 feet installed per day (1,500 feet total pipeline length).

#### **Services not provided:**

- Any services not specifically identified in this scope of work.
- Construction staking. This will be required for the Contractor to perform.

#### **Proposed Budget**

An estimated budget for LSCE engineering services to complete the work is summarized in the cost table below.

LSCE will bill monthly for labor and expenses in accordance with LSCE's Schedule of Fees for Engineering and Field services (attached). In the event that LSCE is directed to deviate from the proposed scope, or as caused by unforeseen field conditions, LSCE will provide notification of any potential changes in the estimated cost and time to complete the work. LSCE will not proceed with any work that deviates from the approved scope and budget until approval to proceed is granted.

Task	Description	Surveyor	Corrosion Engineer	Compaction Testing	LSCE	Total
1	Land Survey	\$31,913	\$0	\$0	\$0	<b>\$31,913</b>
2	Design Plans and Specifications	\$0	\$13,800	\$0	\$31,064	<b>\$44,864</b>
3	Permitting Assistance	\$0	\$0	\$0	\$1,188	<b>\$1,188</b>
4	Bidding and Construction Support	\$0	\$6,900	\$20,413	\$15,755	<b>\$43,068</b>
<b>Total</b>		<b>\$31,913</b>	<b>\$20,700</b>	<b>\$20,413</b>	<b>\$49,457</b>	<b>\$121,032</b>

### Proposed Schedule

LSCE will complete these design services within three (3) months of obtaining the "Notice to Proceed". Schedule is subject to revision dependent upon review time by state and local agencies.

We appreciate the opportunity to provide you with this scope and budget. LSCE stands ready to proceed with your authorization. Please call us if you have any questions at (530) 661-0109.

Sincerely,

LUHDORFF AND SCALMANINI  
CONSULTING ENGINEERS



Justin Shobe, P.E.  
Supervising Engineer

### Attachments:

- A. Project Area Water System Maps
- B. Schedule of Fees for Engineering and Field Services (January 2020)

# DB Blvd Pipe Replacement

From Firwood Ct to Hwy 4 ROW.

Attachment A

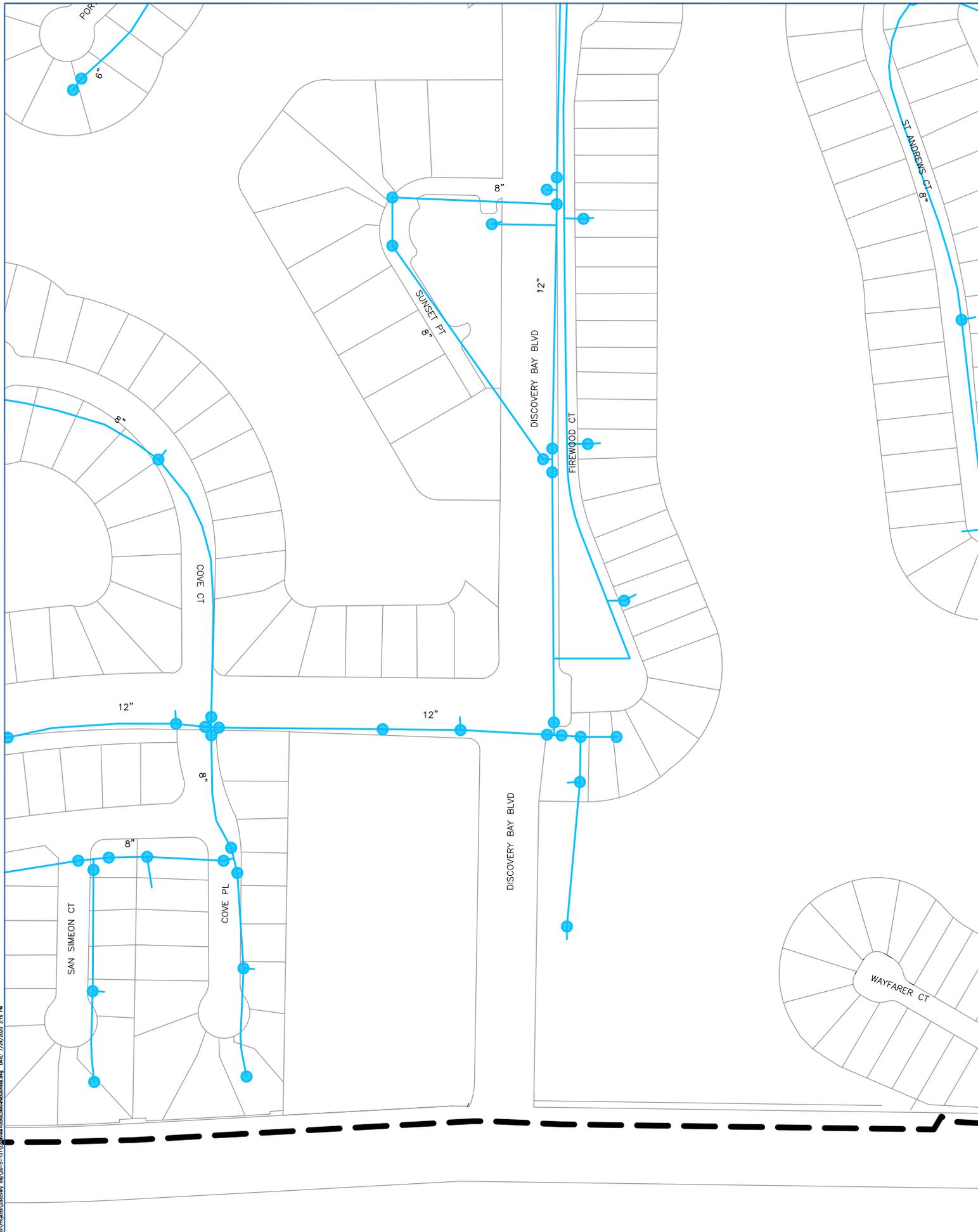
## Legend

-  Discovery Bay Dental
-  Feature 1
-  Oriental House
-  Sports Bar & Steakhouse
-  Vision Fx

**Limits of Survey**  
N-S from intersection of Firwood Ct and DB Blvd to Highway 4 ROW,  
W-E from west curb face on DB Blvd to 5 feet behind east-sidewalk, or as needed to pickup existing water facilities.  
See focus areas.

**Focus areas**





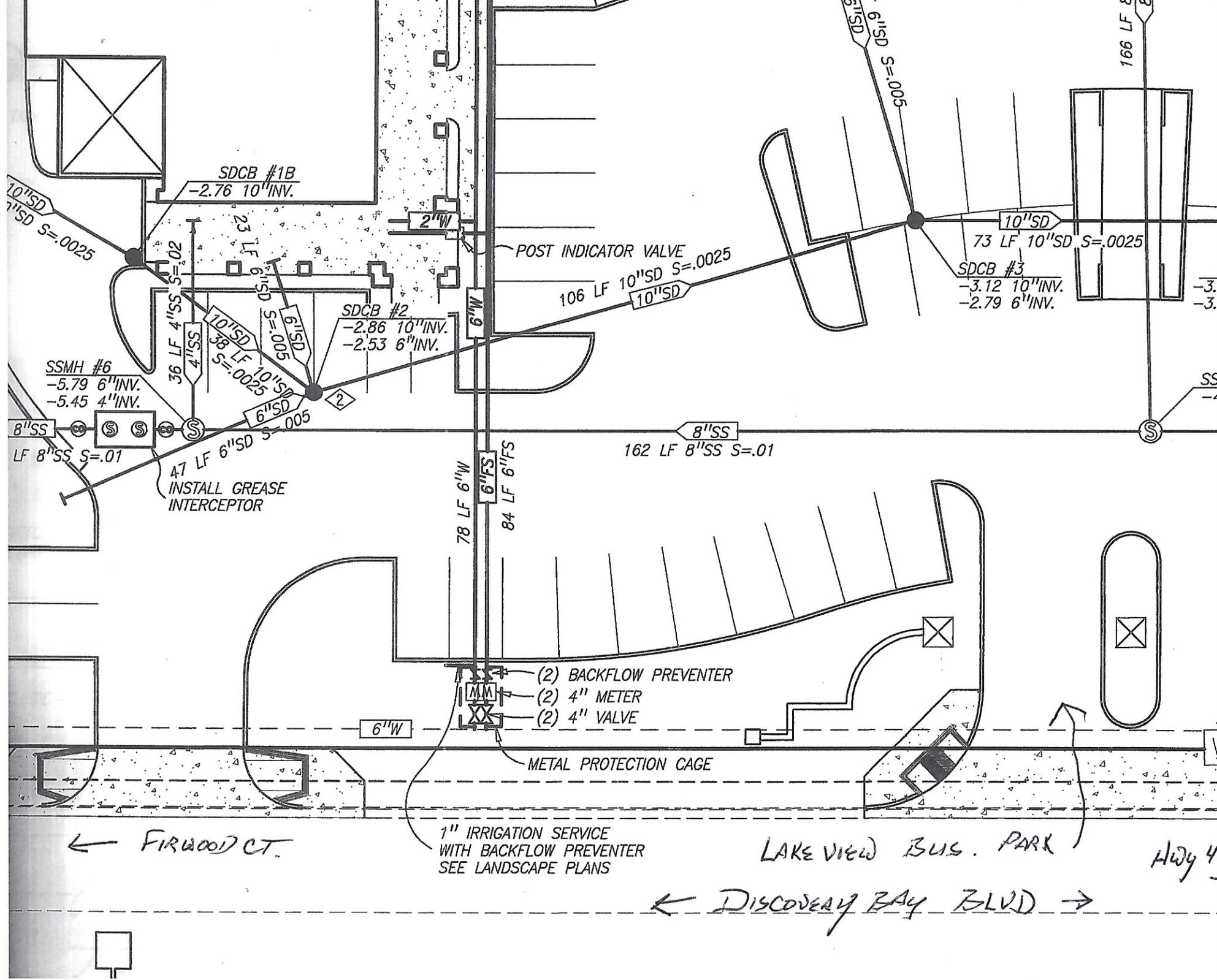
CAD FILE: D:\LS - Design\Projects\Discovery Bay\20-4-101\Utility\DiscoveryBayBusiness.dwg DATE: 7/24/2020 3:16 PM



Discovery Bay Blvd to Lakeview Business  
Discovery Bay, California

FIGURE 2





← FIRWOOD CT.

1" IRRIGATION SERVICE  
WITH BACKFLOW PREVENTER  
SEE LANDSCAPE PLANS

LAKE VIEW BUS. PARK

HWY 4

← DISCOVERY BAY BLVD →

# Edgeview Dr Pipe Replacement

From St Andrews Dr to Clubhouse Dr.

## Legend

-  Discovery Bay Dental
-  Feature 1
-  Oriental House
-  Sports Bar & Steakhouse
-  Vision Fx

### Limits of Survey

W-E from St Andres Dr to Clubhouse Dr.  
N-S from north-curb face of Edgeview Dr  
to approximately 20 feet behind south-  
face curb where existing water facilities  
exist.







## SCHEDULE OF FEES - ENGINEERING AND FIELD SERVICES 2020

Professional	
Senior Principal	\$225/hr
Principal Professional	\$220/hr
Supervising Professional	\$210/hr
Senior Professional	\$192/hr
Project Professional	\$150 to 170/hr
Staff Professional	\$135 to 145/hr
Technical	
Engineering Inspector	\$140/hr
ACAD Drafting/GIS	\$135/hr
Engineering Assistant	\$105 to 125/hr
Scientist	\$105 to 125/hr
Technician	\$105 to 125/hr
Clerical Support	
Word Processing, Clerical	\$80/hr
Digital Communications Specialist	\$90/hr
Project Admin/Accounting Assistant	\$100/hr
Other Services	
Vehicle Use	\$0.58/mi
Subsistence	Cost Plus 15%
Groundwater Sampling Equipment (Includes Operator)	\$170.00/hr
Copies	0.20 ea
Professional or Technical Testimony	200% of Regular Rates
Technical Overtime (if required)	150% of Regular Rates
Outside Services/Rentals	Cost Plus 15%
Services by Associate Firms	Cost Plus 15%



# Town of Discovery Bay

*“A Community Services District”*

## STAFF REPORT

**Meeting Date**

August 5, 2020

**Prepared By:** Mike Yeraka, Projects Manager and Justin Shobe, District Water Engineer

**Submitted By:** Michael R. Davies, General Manager

### Agenda Title

Discussion and Provide Feedback on Scope of Work for Luhdorff & Scalmanini to Perform Engineering and Inspection Services for Filter Maintenance at Willow Lake and Newport Drive Water Treatment Plants in the Amount of \$68,545.

### Recommended Action

Provide Feedback for Staff to Bring the Item to the Full Board at the August 19, 2020, meeting to Authorize the General Manager to Execute the Town’s Standard Consultant Agreement for Luhdorff & Scalmanini to Perform Engineering and Inspection Services for Filter Maintenance as per the Attached Scope of Work.

### Executive Summary

In 2018, Veolia was experiencing low production from filters at both Newport Drive and Willow Lake Water Treatment Plants. In response to this, Veolia brought in the filter manufacturer (Loprest Water Treatment Company) to conduct filter testing and inspection. Loprest provided recommendations for immediate cleaning to get the filters back in service and made recommendations to replace the filter media in Newport Filter B and in all three filters at Willow Lake Filters A, B and C. Loprest also recommended replacing the underdrain laterals during the media replacement.

Veolia is planning to perform media replacement of two filters in Fall 2020 during low demand, which will be Newport Filter B and Willow Lake Filter B. The filters must be removed from service to perform this work. The new media that is installed is typically good for more than 10 years of service. For this reason, when the filters are removed from service any necessary filter refurbishment should be performed at that time to provide the longest service life possible.

At a minimum, filter maintenance will involve replacement of the internal filter lateral piping and the filter media. Loprest would supply the interior filter components and warranty the performance. A contractor would perform the work. Veolia will remove the filters one at a time to minimum impact on treatment plant production.

Under LSCE’s Scope of Work, inspections would be performed on the exterior of all five filters to evaluate the condition of the pressure vessels and identify any other repairs or re-coating of the filters. The inspections will also provide the expected remaining service life of all existing filter pressure vessels. LSCE will prepare a Filter Maintenance Program based on these inspections. Veolia would then obtain costs from contractors to implement the program and LSCE would provide oversight and inspection during the filter maintenance.

Task	Description	Outside Services	LSCE Services	Total
1	Develop Filter Maintenance Program	\$34,125	\$7,140	\$41,265
2	Oversight During Filter Maintenance Program (2 Filters)	\$8,150	\$4,200	\$12,350
	<b>Sub-total</b>	<b>\$42,275</b>	<b>\$11,340</b>	<b>\$53,615</b>
3	Optional Inspection Services (if needed)	\$13,670	\$1,260	\$14,930
	<b>Total with optional item</b>	<b>\$55,945</b>	<b>\$12,600</b>	<b>\$68,545</b>

"Continued to the next page"

Task 1 provides scope for LSCE to coordinate and oversee external inspections of all five filters with specialty consultants, incorporate findings, and develop a Filter Maintenance Program.

Task 2 provides scope for LSCE to conduct oversight during filter maintenance involving coordination with Veolia and the contractor, perform interior filter inspections, providing direction, review of submittals and witnessing startup and commissioning.

Task 3 is an optional task to inspect re-coating and repairs of the filter vessels if that is deemed necessary based on the interior filter inspections once they are removed from service.

Outside Services include:

- Bay Area Coating Consultants will conduct NACE coating inspection of exterior of all 5 filters and develop coating specifications in Task 1. The interior coating inspection is completed in Task 2 after the media is removed. Optional Task 3 includes cost to inspect re-coating of both filters if that is deemed necessary based on the inspections.
- TechCorr will conduct API/ASME pressure vessel inspections of exterior of all 5 filters in Task 1 to develop recommendations for maintenance and assess service life. The interior vessel inspections is completed in Task 2.
- JDH Corrosion Consultants will provide consultation in Task 1 in the development of filter lateral piping changes to ensure proper corrosion protection is used in the Loprest filter.

The total budget for the project is \$218,000 for filter repair of both filters. The estimated construction cost is \$140,000, which includes filter media replacement and internal lateral pipe replacement of both Newport Filter B and Willow Lake Filter B. With the proposed LSCE cost (without the optional Task 3), the total project cost is estimated to be \$193,615 for repairs on both filters. This cost includes exterior inspection of all 5 filters at the water treatment plants.

While not included in the original project scope, Staff is anticipating the possibility of needing to recoat the filter vessels based on internal and external filter inspections, the total project cost is estimated to be \$281,545, which includes the cost of re-coating interior and exterior of both filters and includes LSCE's optional Task 3 for inspections during coating, if the recoating work is required.

**Specific Board Action:**

Provide feedback for Staff to ask the Board to take the following action at the August 19, 2020, meeting:

- a. Approve the Scope and Budget Contained in the Luhdorff & Scalmanini (LSCE) Proposal Letter Dated July 29, 2020, to Perform Engineering and Inspection Services for the Filter Maintenance Program.
- b. Authorize the General Manager to Execute the Town's Standard Form of Consulting Agreement with LSCE to Perform Engineering and Inspection Services in the Amount of \$68,545.
- c. We will also have a Resolution for the Board to adopt a Notice of Exemption under CEQA for the project at the August 19, 2020, Board Meeting.

**Previous Relevant Board Actions for This Item**

The Board approved a total of \$218,000 in FY 19/20 and 20/21 for Filter Repairs of two filters during approval of the FY 19/20 Budget at the June 19, 2019, Board Meeting.

**Fiscal Impact:** Included in the \$218,000 budget for this fiscal year and the previous fiscal year

**Amount Requested:** \$68,545

**Sufficient Budgeted Funds Available?:** Yes, If interior recoating of the filter vessels is not required.

**Prog/Fund # Category:** TBD

**Attachment**

1. LSCE Proposal Dated July 29, 2020.

**AGENDA ITEM: E-3**



July 29, 2020  
File No. 20-5-102

Mr. Mike Yeraka  
Projects Manager  
Town of Discovery Bay CSD  
1800 Willow Lake Road  
Discovery Bay, CA 94514

**SUBJECT: ENGINEERING AND INSPECTIONS SERVICES FOR FILTER MAINTENANCE  
AT WILLOW LAKE AND NEWPORT DRIVE WATER TREATMENT PLANTS  
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT**

Dear Mr. Yeraka:

This letter outlines a scope for engineering and inspection services associated with filter maintenance at the Willow Lake and Newport Drive Water Treatment Plants (WTPs). The proposed scope involves developing a Filter Maintenance Program to direct work conducted by a qualified contractor and the filter supplier (Loprest). The proposed scope also involves inspection and construction period services that would be performed by the LSCE team during implementation of filter maintenance.

**Project Understanding and Approach**

The Newport Drive WTP has two treatment filters; Newport Filter A installed in 2001 and Newport Filter B installed in 2004. Willow Lake WTP has three treatment filters; Willow Lake Filter A and B both installed in 2002 and Willow Lake Filter C installed in 2006. The attached drawings are the latest design plans of both sites when the most recent filters were installed (Attachment A).

In 2018, Veolia was experiencing low production from filters at both Water Treatment Plants. Veolia brought in the filter manufacturer (Loprest Water Treatment Company) to conduct filter testing and inspection. Loprest provided recommendations for immediate cleaning to get the filters back in service and made recommendations to replace the filter media in Newport Filter B and in all three filters at Willow Lake (Filter A, B and C). Loprest also recommended replacing the underdrain laterals.

Veolia is planning to perform media replacement of two filters in Fall 2020 during low demand, which will be Newport Filter B and Willow Lake Filter B. The filters must be removed from service to perform this work. The new media can typically remain in service for more than 10 years. For this reason, when the filters are removed from service any necessary filter refurbishment should be performed at that time to provide the longest service life possible.

## Scope for Engineering and Field Services

LSCE's proposed scope of work involves performing inspections of the existing filters to develop a Filter Maintenance Program. Initial inspections will be conducted on the exterior before the filters are removed from service to assess the condition of the filter vessels and coating. All five existing filters will be inspected on the exterior. LSCE will develop a Filter Maintenance Program based on those findings and issue this to Veolia to solicit costs from Contractors. Once a filter is removed from service and the media is removed, additional inspections will be performed on the inside of the filter to confirm any necessary maintenance. The LSCE team includes outside services to perform inspections and recommendations related to coating and pressure vessel conditions. LSCE understand that Veolia will manage this project and engage directly with contractors to perform the work outlined in the Filter Maintenance Program. Veolia has indicated the filters would be removed from service one at a time to minimize the impact on WTP production.

### Task 1: Develop Filter Maintenance Program

Under this task, LSCE will perform inspections of the exterior of all five (5) filters at the WTPs, evaluate existing information on the filters, and develop a Filter Maintenance Program that will define the work to be performed by contractors and the filter supplier (Loprest). This program will be used by Veolia to obtain costs and engage the service of contractors. All work completed by Loprest and the contractor would be covered under warranty for filter performance and operation. The work by Loprest would involve supplying replacement parts for the interior of the filter vessel to ensure proper filter operation covered under their warranty. The filter media may be supplied by Loprest or other media vendors, which will be determined during this Task.

LSCE's sub-consultant scopes used on this project are as follows (some work is in Task 1 and some work in Task 2, as noted below).

- **NACE/SSPC Coating Expert:** Bay Area Coatings Consultants (BACC) will conduct external and internal filter coating inspection from a NACE and SSPC certified inspector. The external coating inspection is included in Task 1 and includes all five (5) existing filters. The internal coating inspection is in Task 2 and is for the two filters removed from service at different times. BACC will provide a report and recommendations for re-coating. BACC will develop a coating specification (in Task 1) for the internal and external of the filter vessel that will be used as a cost basis in the Filter Maintenance Program. Internal coating systems will comply with NSF 61 and consider of steel and concrete floor to prevent corrosion.
- **ASME Certified Vessel Inspector:** TechCorr will conduct external and internal pressure vessel inspections following American Petroleum Institute (API) 510 and American Society of Mechanical Engineers (ASME) pressure vessel inspection requirements. The external vessel inspection is included in Task 1 and includes all five (5) existing filters. The internal vessel inspection is in Task 2 and is for the two filters removed from service at different times. Following the inspections, TechCorr will provide a report of findings that includes results, such

as, ultrasonic thickness survey, remaining life on the vessel, suggested working pressure, concrete foundation conditions, short-term corrosion rate, compliance with ASME code (relative to the code at the time of construction), and any repairs recommended would be made to the current ASME code standards.

- **Corrosion:** JDH Corrosion Consultants (JDH) will provide consultation of internal piping replacement plan in Task 1. JDH will review the design details of the filter manufacture (Loprest) for internal filter piping laterals and provide consultation on corrosion protection such as separation of dissimilar metals. Use of PVC or stainless-steel piping will be evaluated and determined during Task 1 and any requirements will be made in the Filter Maintenance Program.

The Filter Maintenance Program prepared by LSCE includes the items below. LSCE will prepare the program as a Work Plan for Veolia to obtain contractor bids. A bid schedule will be provided with considerations that will allow adding or deducting items as dictated by the internal filter inspection.

1. Filter Out-of-Service Sequencing Plan
2. Media Replacement Specifications
3. Internal Piping Replacement Plan
4. Re-Coating Specifications (internal/external) – *re-coating will be determined from inspection*
5. Provisions for Vessel Repairs – *repairs will be determined from inspection*
6. Media Placement and Conditioning Procedures
7. Startup and Testing Requirements

#### **Task 1 Overview**

- External inspection of all five filters (LSCE, BACC, TechCorr)
- Draft and Final Filter Maintenance Program
- Meetings and coordination as needed with Veolia and Town staff

#### **Task 2: Oversight During Filter Maintenance (2 Filters)**

LSCE will provide coordination, oversight, and inspection during the filter maintenance to ensure compliance with the Filter Maintenance Program and to identify any further work necessary once the media is removed.

The Filter Maintenance Program would involve the following coordination between the Contractor, Loprest, Veolia, and LSCE:

1. Contractor/Loprest furnish submittals of materials and project schedule (review by LSCE/Veolia).
2. Contractor isolates one filter and removes existing media.
3. Contractor power spray/cleans inside of filter.
4. Internal filter inspections occur as follows:
  - a. Filter laterals and internal piping (by Loprest and LSCE)
  - b. NACE coating condition assessment (by BACC)
  - c. Filter vessel API 510 internal inspection (by TechCorr)

5. LSCE gives direction to Contractor for any additional work identified in inspections.
6. Contractor removes all internal filter components and performs repairs or re-coating as directed. (*Note, LSCE services for inspection during these repairs would be an optional service in Task 3, to be used only if required.*)
7. Contractor/Loprest install new piping, new filter media, core samples and media conditioning
8. Contractor/Loprest provide startup services (witnessed by LSCE/Veolia)
9. Contractor/Loprest provide warranty and O&M
10. Proceed to the next filter maintenance and repeat steps 2-9.

### **Task 2 Overview**

- Coordination with Veolia and Contractor during filter maintenance.
- Review of contractor submittals and respond to RFIs.
- Perform internal filter inspections when filter media is removed (Item 4 above).
- Review and approve all installation and testing requirements by Loprest.
- Attend startup of filter after media is installed and conditioned by Contractor.

### **Task 3: Optional Inspection Services (if needed)**

LSCE will provide additional inspection services as needed depending on the filter repairs required.

- NACE coating and lining inspection will be performed by BACC ensuring proper surface preparation and coating application. The budgetary cost in this item assumes re-coating of both filters.

### **Fee Proposal**

LSCE's proposed fee estimate for the engineering and inspection services for the Filter Maintenance Program are encompassed in the following table. Cost estimates are presented by task and are considered suitable for planning and budgeting purposes.

The proposed project sum includes LSCE's labor under each task and outside engineering services, all as delineated in this proposal. LSCE will bill monthly for labor and materials, only as incurred, in accordance with LSCE's Schedule of Fees for Engineering and Field services (Attachment B).

Task	Description	BACC <sup>1</sup>	TechCorr <sup>1</sup>	JDH	LSCE	Total
1	Develop Filter Maintenance Program	\$4,870	\$27,530	\$1,725	\$7,140	\$41,265
2	Oversight During Filter Maintenance Program (2 Filters)	\$2,280	\$5,870	\$0	\$4,200	\$12,350
<b>Sub-total</b>		<b>\$7,150</b>	<b>\$33,400</b>	<b>\$1,725</b>	<b>\$11,340</b>	<b>\$53,615</b>
3	Optional Inspection Services (if needed)	\$13,670	\$0	\$0	\$1,260	\$14,930
<b>Total Budget with Optional Task</b>		<b>\$20,820</b>	<b>\$33,400</b>	<b>\$1,725</b>	<b>\$12,600</b>	<b>\$68,545</b>

**Notes**

1. Prevailing Wage is included in the BACC and TechCorr inspections for compliance with DIR.

If LSCE is directed to deviate from the proposed scope, or as dictated by unforeseen field conditions, LSCE will provide notification of any potential changes in the estimated cost and time to complete the work. LSCE will not proceed with any work that deviates from the approved scope and budget until approval to proceed is granted.

We appreciate the opportunity to provide you with this scope and budget.

Sincerely,  
 LUHDORFF & SCALMANINI  
 CONSULTING ENGINEERS

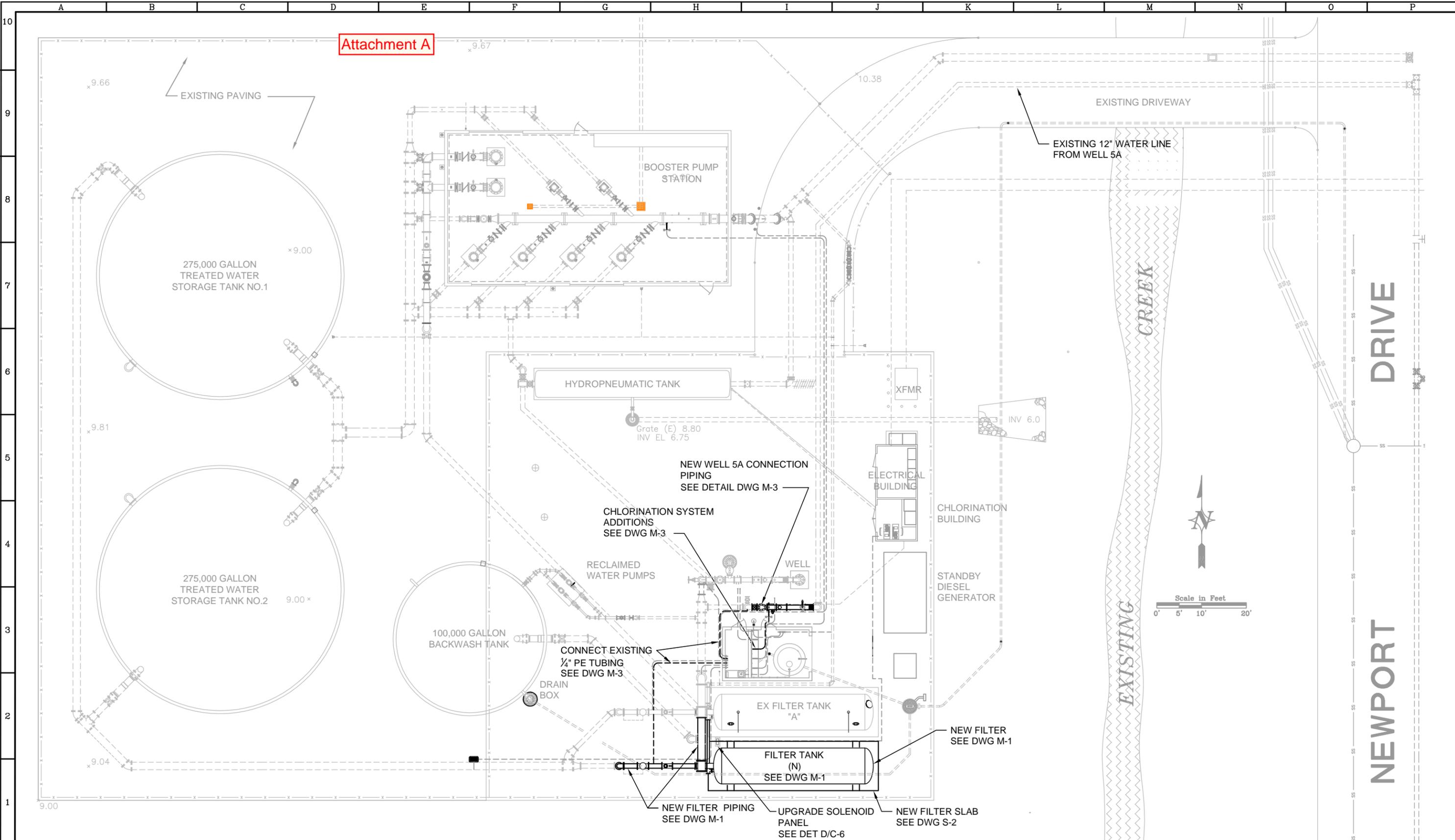


Justin Shobe, P.E.  
 Supervising Engineer

**Attachments:**

- A. Existing Filter Design Drawings
- B. Schedule of Fees for Engineering and Field Services (January 2020)

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Attachment A

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**LS** LUHDORFF & SCALMANINI CONSULTING ENGINEERS

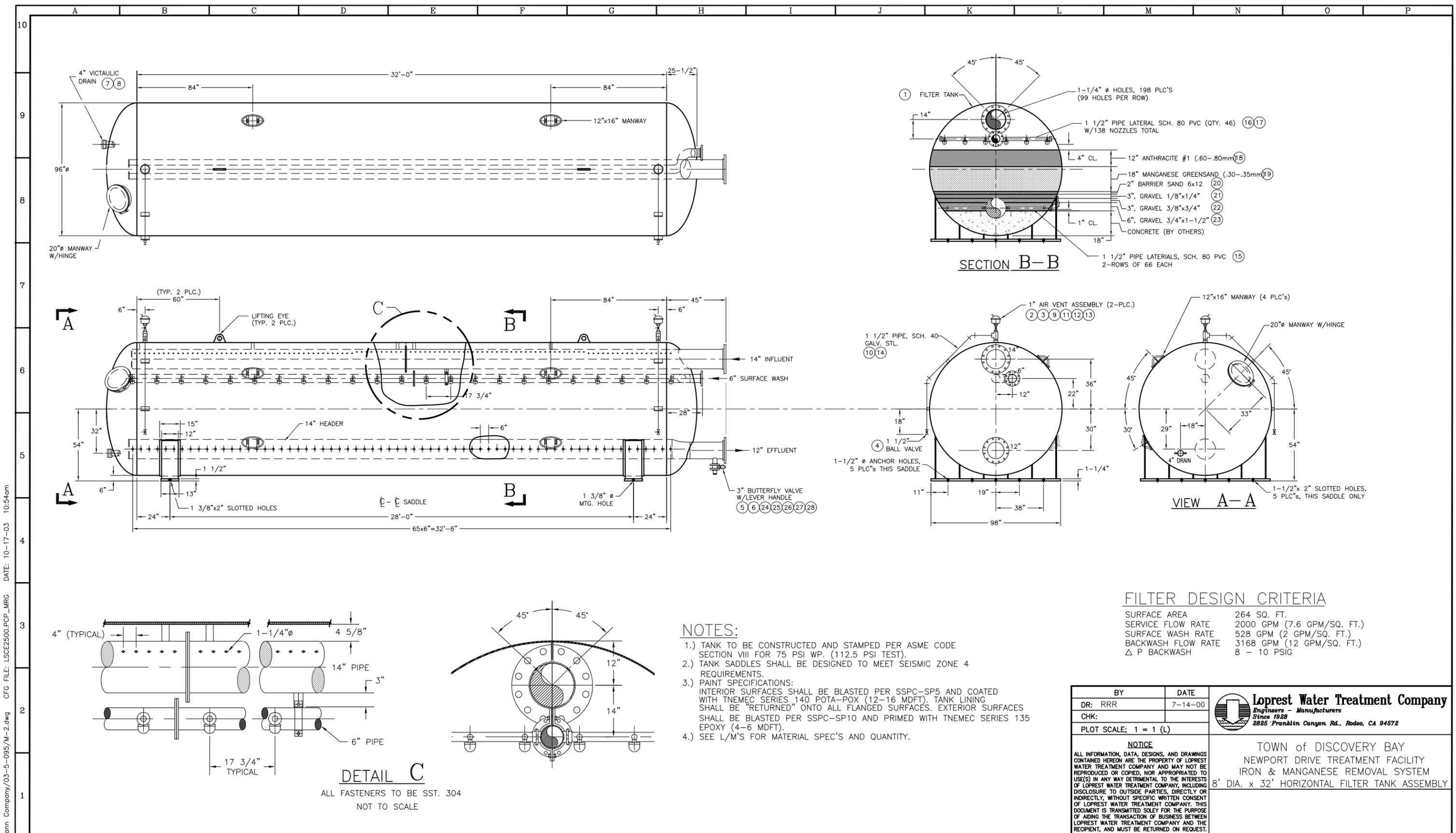
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ZONE	REV.	DESCRIPTION	BY	DATE	APP.

TOWN OF DISCOVERY BAY  
**NEWPORT DRIVE - PHASE 2**  
**WELL 5A & TREATMENT PLANT EXPANSION**

SUBMITTED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SUBMITTAL APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

**WATER TREATMENT PLANT EXPANSION SITE PLAN**

SCALE 1"=10'  
 DRAWING NUMBER **C-3**  
 SHEET NUMBER **6** OF **22**



**NOTES:**

- 1.) TANK TO BE CONSTRUCTED AND STAMPED PER ASME CODE SECTION VIII FOR 75 PSI WP. (112.5 PSI TEST).
- 2.) TANK SADDLES SHALL BE DESIGNED TO MEET SEISMIC ZONE 4 REQUIREMENTS.
- 3.) PAINT SPECIFICATIONS:  
 INTERIOR SURFACES SHALL BE BLASTED PER SSPC-SP5 AND COATED WITH TNEC SERIES 140 POTA-POX (12-16 MDT). TANK LINING SHALL BE "RETURNED" ONTO ALL FLANGED SURFACES. EXTERIOR SURFACES SHALL BE BLASTED PER SSPC-SP10 AND PRIMED WITH TNEC SERIES 135 EPOXY (4-6 MDT).
- 4.) SEE L/M'S FOR MATERIAL SPEC'S AND QUANTITY.

**FILTER DESIGN CRITERIA**

SURFACE AREA	264 SQ. FT.
SERVICE FLOW RATE	2000 GPM (7.6 GPM/SQ. FT.)
SURFACE WASH RATE	528 GPM (2 GPM/SQ. FT.)
BACKWASH FLOW RATE	3168 GPM (12 GPM/SQ. FT.)
Δ P BACKWASH	8 - 10 PSIG

BY DR: RRR	DATE 7-14-00	 <b>Loprest Water Treatment Company</b> Engineers - Manufacturers Since 1928 2825 Franklin Canyon Rd., Rodeo, CA 94572
CHK:		
PLOT SCALE; 1 = 1 (L)		
<p><b>NOTICE</b></p> <p>ALL INFORMATION, DATA, DESIGNS, AND DRAWINGS CONTAINED HEREON ARE THE PROPERTY OF LOPREST WATER TREATMENT COMPANY AND MAY NOT BE REPRODUCED OR COPIED, NOR APPROPRIATED TO USE(S) IN ANY WAY DETRIMENTAL TO THE INTERESTS OF LOPREST WATER TREATMENT COMPANY, INCLUDING DISCLOSURE TO OUTSIDE PARTIES, DIRECTLY OR INDIRECTLY, WITHOUT SPECIFIC WRITTEN CONSENT OF LOPREST WATER TREATMENT COMPANY. THIS DOCUMENT IS TRANSMITTED SOLELY FOR THE PURPOSE OF AIDING THE TRANSACTION OF BUSINESS BETWEEN LOPREST WATER TREATMENT COMPANY AND THE RECIPIENT, AND MUST BE RETURNED ON REQUEST.</p>		TOWN of DISCOVERY BAY NEWPORT DRIVE TREATMENT FACILITY IRON & MANGANESE REMOVAL SYSTEM 8' DIA. x 32' HORIZONTAL FILTER TANK ASSEMBLY

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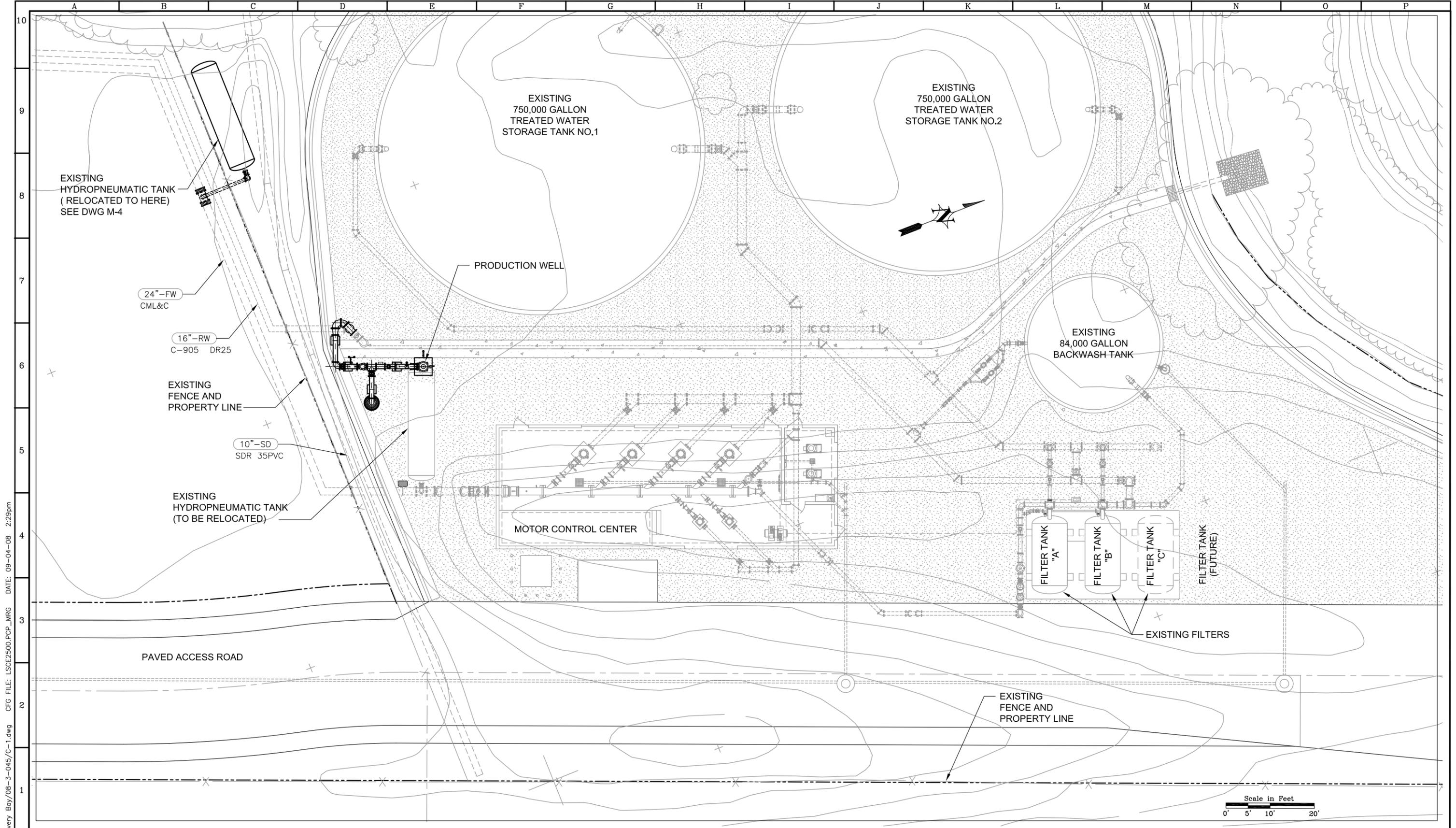
TOWN OF DISCOVERY BAY  
**NEWPORT DRIVE - PHASE 2**  
**WELL 5A & TREATMENT PLANT EXPANSION**

SUBMITTED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SUBMITTAL APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

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**DRAWING NUMBER**  
**M-2**

**SHEET NUMBER**  
**9 OF 22**



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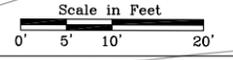
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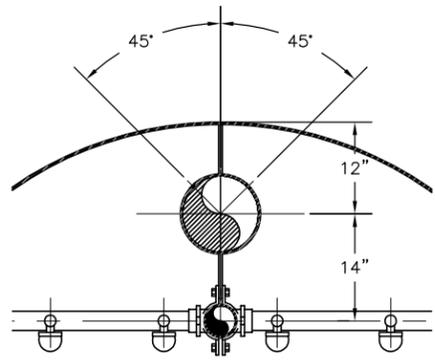
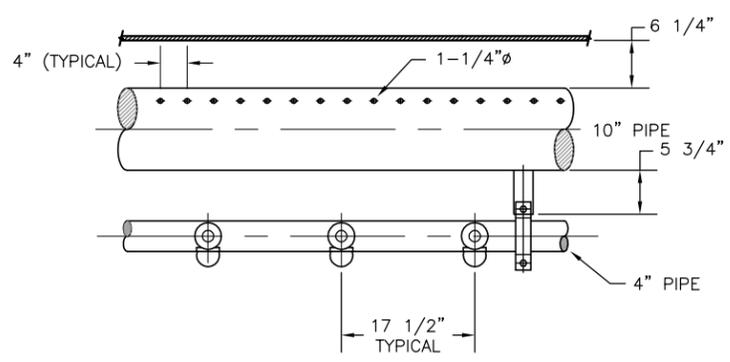
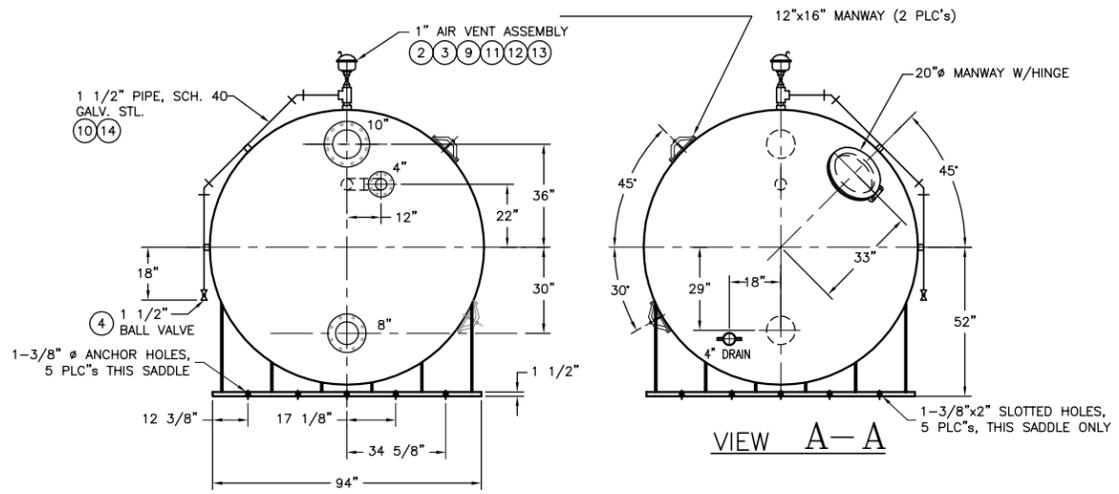
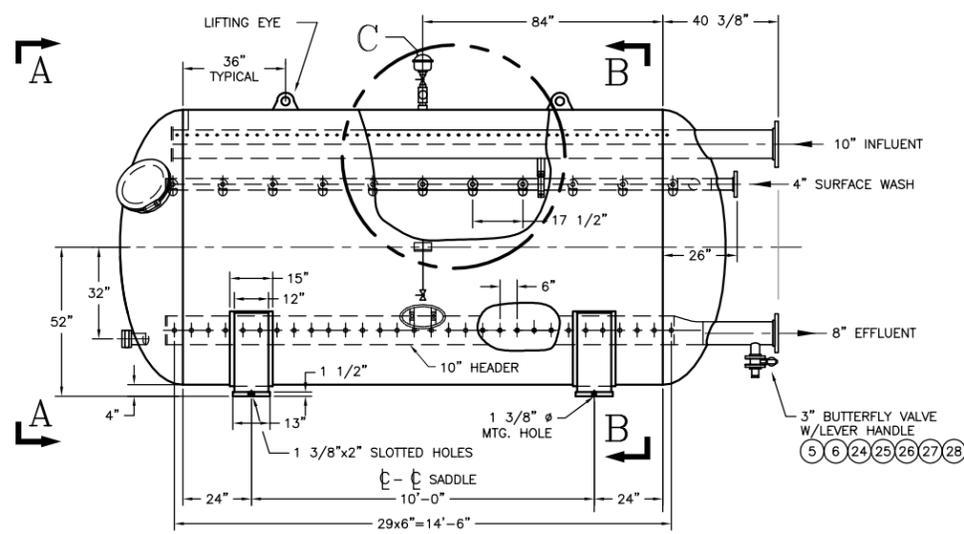
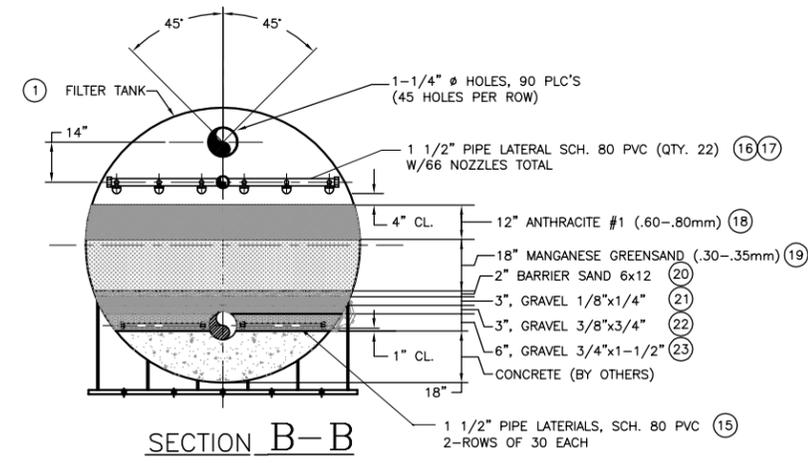
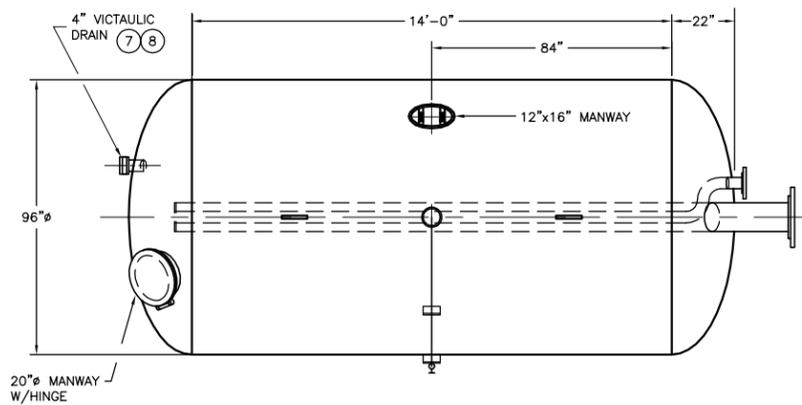
TOWN OF DISCOVERY BAY  
**WILLOW LAKE ROAD SITE**  
**WELL & PUMP STATION NO.6**

SUBMITTED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SUBMITTAL APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

**SITE PLAN**

SCALE AS SHOWN  
 DRAWING NUMBER **C-1**  
 SHEET NUMBER **1** OF **14**





**DETAIL C**  
ALL FASTENERS TO BE S.S.T. 304  
NOT TO SCALE

**FILTER DESIGN CRITERIA**

SURFACE AREA	120 SQ. FT.
SERVICE FLOW RATE	850 GPM (7.1 GPM/SQ. FT.)
SURFACE WASH RATE	240 GPM (2 GPM/SQ. FT.)
BACKWASH FLOW RATE	1440 GPM (12 GPM/SQ. FT.)
Δ P BACKWASH	8 - 10 PSIG

**NOTES:**

- TANK TO BE CONSTRUCTED AND STAMPED PER ASME CODE SECTION VIII FOR 75 PSI WP. (112.5 PSI TEST).
- TANK SADDLES SHALL BE DESIGNED TO MEET SEISMIC ZONE 4 REQUIREMENTS.
- PAINT SPECIFICATIONS:  
INTERIOR SURFACES SHALL BE BLASTED PER SSPC-SP5 AND COATED WITH TNEC SERIES 140 POTA-POX (12-16 MDT). TANK LINING SHALL BE "RETURNED" ONTO ALL FLANGED SURFACES. EXTERIOR SURFACES SHALL BE BLASTED PER SSPC-SP10 AND PRIMED WITH TNEC SERIES 135 EPOXY (4-6 MDT).
- SEE L/M'S FOR MATERIAL SPEC'S AND QUANTITY.

BY: RRR	DATE: 7-14-00	<p><b>Loprest Water Treatment Company</b> Engineers - Manufacturers Since 1928 2825 Franklin Canyon Rd., Rodeo, CA 94572</p>
CHK:		
PLOT SCALE; 1 = 1 (L)		
<p><b>NOTICE</b></p> <p>ALL INFORMATION, DATA, DESIGNS, AND DRAWINGS CONTAINED HEREON ARE THE PROPERTY OF LOPREST WATER TREATMENT COMPANY AND MAY NOT BE REPRODUCED OR COPIED, NOR APPROPRIATED TO USE(S) IN ANY WAY DETRIMENTAL TO THE INTERESTS OF LOPREST WATER TREATMENT COMPANY, INCLUDING DISCLOSURE TO OUTSIDE PARTIES, DIRECTLY OR INDIRECTLY, WITHOUT SPECIFIC WRITTEN CONSENT OF LOPREST WATER TREATMENT COMPANY. THIS DOCUMENT IS TRANSMITTED SOLELY FOR THE PURPOSE OF AIDING THE TRANSACTION OF BUSINESS BETWEEN LOPREST WATER TREATMENT COMPANY AND THE RECIPIENT, AND MUST BE RETURNED ON REQUEST.</p>		<p>TOWN of DISCOVERY BAY WILLOW LAKE ROAD TREATMENT FACILITY IRON &amp; MANGANESE REMOVAL SYSTEM 8' DIA. x 14' HORIZONTAL FILTER TANK ASSEMBLY</p>

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TOWN OF DISCOVERY BAY  
**WILLOW LAKE ROAD WATER STORAGE AND TREATMENT PLANT**

SUBMITTED: \_\_\_\_\_ DATE: \_\_\_\_\_  
SUBMITTAL APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

**FILTER TANK ASSEMBLY SECTIONS AND DETAILS**

SCALE AS SHOWN  
DRAWING NUMBER **M-6**  
SHEET NUMBER **15** OF **43**



## SCHEDULE OF FEES - ENGINEERING AND FIELD SERVICES 2020

Professional	
Senior Principal	\$225/hr
Principal Professional	\$220/hr
Supervising Professional	\$210/hr
Senior Professional	\$192/hr
Project Professional	\$150 to 170/hr
Staff Professional	\$135 to 145/hr
Technical	
Engineering Inspector	\$140/hr
ACAD Drafting/GIS	\$135/hr
Engineering Assistant	\$105 to 125/hr
Scientist	\$105 to 125/hr
Technician	\$105 to 125/hr
Clerical Support	
Word Processing, Clerical	\$80/hr
Digital Communications Specialist	\$90/hr
Project Admin/Accounting Assistant	\$100/hr
Other Services	
Vehicle Use	\$0.58/mi
Subsistence	Cost Plus 15%
Groundwater Sampling Equipment (Includes Operator)	\$170.00/hr
Copies	0.20 ea
Professional or Technical Testimony	200% of Regular Rates
Technical Overtime (if required)	150% of Regular Rates
Outside Services/Rentals	Cost Plus 15%
Services by Associate Firms	Cost Plus 15%



# Town of Discovery Bay

*"A Community Services District"*

## STAFF REPORT

Meeting Date

August 5, 2020

**Prepared By:** Mike Yeraka, Projects Manager and Justin Shobe, District Water Engineer

**Submitted By:** Michael R. Davies, General Manager

### Agenda Title

Discussion and Provide Feedback on Scope of Work for Luhdorff & Scalmanini to Perform Engineering and Inspection Services for Well 1B Rehabilitation in the Amount of \$37,000.

### Recommended Action

Provide Feedback for Staff to Bring the Item to the Full Board at the August 19, 2020, meeting to Authorize the General Manager to Execute the Town's Standard Consultant Agreement for Luhdorff & Scalmanini to Perform Engineering and Inspection Services for Well 1B Rehabilitation as per the Attached Scope of Work.

### Executive Summary

Well and pump testing in 2019 revealed a prolonged period of decline in the specific capacity in Well 1B. Decline in specific capacity is an indication of clogging in the well screen and gravel pack that restricts flow into the well. Historical records of the specific capacity of Well 1B are below.

Year	2003	2007	2009	2011	2013	2015	2017	2019
<b>Specific Capacity (gpm/ft)</b>	23.4	16.8	11.4	11.2	9.8	8.9	9.7	8.7

A rehabilitation was previously conducted on Well 1B in 2010. While the well rehabilitation effort did not result in an increase in the specific capacity, the results appeared to arrest the decline for a period of time. Based on the 2019 testing, there is a buffer of 20 feet from the well screens to the lowest pumping water level. While this is operational for now, further decline can result in permanent reduction in capacity from the well. A rehabilitation program should be conducted during the current Fall 2020 to attempt to unclog the well structure and restore capacity.

A more aggressive rehabilitation workplan will be developed than was previously done. This will involve an iterative process of surging chemical mixtures into the formation, mechanical scrubbing and air lifting, verifying removal of solids from the well. Onsite inspection will allow adjusting the process as needed during performance of the work. The workplan will also include installation of a test pump to properly develop the well.

During the previous rehabilitation, the pump bowl assembly was replaced and the existing motor was re-installed in 2012. The existing motor is now 25 years old and it is recommended that the motor is replaced during this process. The replacement motor can either be an in-kind replacement with a Byron Jackson oil-filled motor (highest quality) or a water-filled motor also suitable for potable water but lower quality. In comparison, the lower quality motor is about half the cost (about \$40K instead of \$80K), is expected to be half the service-life (about 10 years instead of 20 years) and can be procured by the contractor more quickly (12 weeks instead of 22 weeks). Given the historic performance of this well there is a high likelihood that rehabilitation will be completed again in the next 5 years. On this basis, LSCE recommends the lower quality motor for Well 1B replacement, which also has the benefits of lower cost and quicker procurement to return the well back in service before 2021 summer high demands.

Once the pump is removed it will take approximately 3 to 4 months to bring it back into service. This accounts for lead time for the replacement pump and motor and for well rehabilitation to be completed while the pump is removed. The scope of work presented by LSCE involves preparing a pump and well rehabilitation work plan, obtaining pricing for all possible pump work and well rehabilitation work, and overseeing the rehabilitation work and pump installation. The work will be performed during Winter 2020 and the well will be returned to service in March 2021.

"Continued to the next page"

The costs presented in LSCE's scope of work are below.

<b>Task</b>	<b>Description</b>	<b>Total</b>
1	Pump Maintenance Oversight	\$6,160
2	Rehabilitation Workplan	\$4,180
3	Inspection and Oversight	\$19,840
4	Summary Report	\$6,820
	<b>Totals</b>	<b>\$37,000</b>

Task 1 provides scope for LSCE to prepare pump bid documents for Pump Contractors, reviewing submittals, and oversee removal, determine replacement needs, and oversee installation of new equipment.

Task 2 provides scope for LSCE to prepare a rehabilitation workplan for Well 1B to be performed by a Well Contractor.

Task 3 provides scope for LSCE to provide daily inspection and oversight during the well rehabilitation program.

Task 4 provides scope for LSCE to prepare a final report summarizing the results of well rehabilitation and pump upgrades.

The approved budget for well rehabilitations in FY 20/21 is \$250,000. The total cost estimate of the work to be performed by well and pump contractors including pump replacements is estimated to be \$190,000 to \$200,000. With the proposed LSCE cost, the total project cost is estimated to be \$227,000 to \$237,000. This allows a contingency of \$10,000 for unknown issues that may arise.

**Specific Board Action:**

Provide feedback for Staff to ask the Board to take the following action at the August 19, 2020, meeting:

- a. Approve the Scope and Budget Contained in the Luhdorff & Scalmanini (LSCE) Proposal Letter Dated July 29, 2020, to Perform Engineering and Inspection Services for the Well 1B Rehabilitation.
- b. Authorize the General Manager to Execute the Town's Standard Form of Consulting Agreement with LSCE to Perform Engineering and Inspection Services in the Amount of \$37,000
- c. We will also have a Resolution for the Board to adopt a Notice of Exemption under CEQA for the project at the August 19, 2020, Board Meeting.

**Previous Relevant Board Actions for This Item**

The Board approved a total of \$250,000 for FY 20/21 for Well 1B Rehabilitation during approval of the FY 19/20 Budget at the June 19, 2019, Board Meeting.

**Fiscal Impact:** Included in the \$250,000 budget for this fiscal year

**Amount Requested:** \$37,000

**Sufficient Budgeted Funds Available?** Yes

**Prog/Fund # Category:** TBD

**Attachment**

1. LSCE Proposal Dated July 29, 2020.

July 29, 2020  
File No. 20-5-100

Mr. Mike Yeraka  
Projects Manager  
Town of Discovery Bay CSD  
1800 Willow Lake Road  
Discovery Bay, CA 94514

**SUBJECT: ENGINEERING AND INSPECTION SERVICES FOR  
WELL 1B REHABILITATION AND PUMP MAINTENANCE  
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT**

In response to your request, Luhdorff & Scalmanini Consulting Engineers (LSCE) is pleased to provide a scope and budget for engineering and field services to evaluate, design, and assist with implementation of a rehabilitation program for Well 1B.

**Project Understanding**

Well 1B was constructed in 1995 and is one of six water supply wells serving the Town of Discovery Bay Community Services District (District). Well 1B supplies water to the Willow Lake Water Treatment Plant. Well 1B is completed to a depth of 350 feet below ground surface. The annual concrete seal was installed to a depth of 225 feet to isolate the shallower brackish water aquifer that exists in the Discovery Bay area. The as-built well profile is attached (Attachment A).

Based on the results of the biennial well and pump testing program conducted in 2019, Well 1B exhibits a prolonged period of decline in specific capacity, which is the measurement of production flow rate (gpm) per foot of drawdown in the well (units are gpm/ft). Decline in specific capacity is typically an indication of clogging in the well screens or gravel pack that restricts flow into the well. Historical records of the specific capacity of Well 1B are below.

Year	2003	2007	2009	2011	2013	2015	2017	2019
<b>Specific Capacity (gpm/ft)</b>	23.4	16.8	11.4	11.2	9.8	8.9	9.7	8.7

In 2007, Well 1B exhibited an initial decline in specific capacity from historical baseline 2003 values. While the decline was not so severe that it warranted immediate action, LSCE recommended continued performance monitoring. After bi-annual testing in 2009, LSCE observed further decline in specific capacity and made recommendations to address the problems with a rehabilitation program that

occurred in 2010. Contrary to expectations, the well rehabilitation effort did not result in an increase in the specific capacity. However, the rehabilitation did appear to arrest the decline.

The pump was lowered in 2011 to provide a larger buffer between the pumping water level and pump setting. The pump was also upsized to restore some of the lost production caused by the deeper pumping water levels. The District selected an option to replace the pump and re-use the motor and cable. The existing submersible motor, cable, and column pipe were inspected and found to be in acceptable condition for re-use, although the components did show signs of wear.

The motor currently installed in the well is the original Byron Jackson Type H (mercury seal) installed in 1995 and it is recommended to be replaced as part of this Well 1B rehabilitation. The mercury seal motor must be removed and properly disposed by a contractor authorized by the motor company. The replacement motor can either be a Byron Jackson oil-filled (highest quality) or a water-filled (lower quality) submersible motor. In comparison, the lower quality motor is about half the cost (about \$40K instead of \$80K), half the service-life (about 10 years instead of 20 years) and can be procured more quickly (12 weeks instead 22 weeks). Given the historic performance of this well, there is a high likelihood that rehabilitation will be completed again in the next 5 years. On this basis, LSCE recommends the lower quality motor for Well 1B replacement, which also has the benefits of lower cost and quicker procurement to return the well back in service before 2021 summer high demands.

### **Proposed Scope of Work**

The proposed scope of work consists of four tasks, which include pump maintenance oversight, rehabilitation workplan, rehabilitation inspection and oversight, and summary report. The project will require two separate contractors. A pump contractor is required to remove the pump prior to the rehabilitation, repair or replace any components, and re-install the equipment after the rehabilitation. A well contractor is required to perform the well rehabilitation, which will include the placement of chemicals, mechanical cleaning, well development, disposal of fluids and test pumping after the rehab to develop the well and verify the post-rehab improvement. LSCE understands that the District operator (Veolia) will provide project management and will contract directly with the well and pump contractors.

#### **Task 1 – Pump Maintenance Oversight**

Under Task 1, LSCE will develop a description of work and bid sheet to obtain quotes from qualified pump contractors. The bid sheet and work that will be outlined includes:

- Removal and installation of the existing pump
- Disposal of existing mercury seal motor
- Video survey of the well
- Bowl maintenance and re-build (with optional items)
- Bowl replacement
- Replacement motor and electric cable
- Replacement column pipe (per piece)

LSCE will coordinate with the pump contractor for the removal of pump equipment, perform video survey of the well (used in Task 2), assess the require pump maintenance and replacement components, and re-installation of the refurbished pumping equipment.

LSCE will be onsite to inspect the condition of equipment when the pump contractor pulls the pump and motor. The contractor will transport the pump bowl assembly to their shop and inspect for wear and make recommendations for repair if required. Alternately, the pump bowls can be replaced all new. Column pipe will be replaced as needed on a per-piece basis according to the quoted prices.

Following well rehabilitation, the contractor will transport the pump back to the site and install the refurbished and new pump equipment. Following installation, LSCE will conduct testing to verify pump operation, pump efficiency, and the post-rehabilitation well specific capacity.

#### Task 1 Scope Assumptions

1. LSCE will obtain prices from pump contractors directly and provide to Veolia for contracting. No public bidding is required.
2. Veolia will collect all bacteriological samples required to bring the well back in service after rehabilitation and pump installation.
3. LSCE has three (3) site visits: Day 1 pump removal; Day 2 pump installation; Day 3 pump startup and performance testing.

#### **Task 2 – Rehabilitation Workplan**

Under Task 2, LSCE will develop a rehabilitation workplan that will include the specific methods and procedures to be used on the well. The rehabilitation workplan will include chemical and mechanical methods best suited for the well. Chemical cleaning involves brushing and application of commercially available well cleaning products to dissolve scale or buildup. Mechanical methods involve swabbing and airlifting to remove the material and spent chemicals from the well.

An aggressive workplan will be developed considering the history of the well and prior 2010 rehabilitation efforts. This workplan will involve an iterative process of chemical placement, mechanical scrubbing and testing over several weeks. A test pump will also be included to properly develop the well following rehabilitation and verify the post-rehab performance.

To develop the specific chemical and mechanical methods for the well, LSCE will review well construction details and performance data including well and aquifer testing, water quality, and recent performance test data. LSCE shall review and coordinated all logistical items with the District staff and Veolia.

The workplan will include the site logistical factors for the well rehabilitation work, including:

- Access and egress for rehabilitation equipment.
- Staging area for equipment, tooling, and chemicals.
- Connections for discharges.
- Plan for discharging to the sewer system.

LSCE's workplan will include specifications, details of required equipment, and contractor's required qualifications. The workplan will also include directions on treatment and discharge of development fluids.

The workplan will be used to obtain initial pricing on a unitized basis for chemical placement and hours of labor for mechanical cleaning. During rehabilitation work (in Task 3) LSCE will monitor the fluids and quality to determine if more or less chemicals or labor for scrubbing are required, and the costs will be paid based on the unitized cost of the initial bid.

The video survey by the pump contractor (in Task 1) will be reviewed before the rehabilitation takes place. This information will be used to determine if there are any structural repairs needed (i.e. casing patches) and to determine the visual initial condition of the well screen clogging.

#### Task 2 Scope Assumptions

1. LSCE will prepare the well rehabilitation workplan and bid sheet.
2. LSCE will obtain prices from well contractors directly and provide to Veolia for contracting. No public bidding is required.

### **Task 3 – Rehabilitation Inspection and Oversight**

Under Task 3, LSCE will provide inspection and oversight services for the rehabilitation work. LSCE's role will be to ensure conformance with the technical specifications and workplan, to measure water quality parameters during rehabilitation and modify the workplan as needed to achieve the desired results, and to provide direction if unforeseen matters arise during the work.

#### Task 3 Scope Assumptions

1. Twelve (12) days of field inspection based on an aggressive workplan.
2. LSCE will coordinate with District staff and Veolia during the rehabilitation program.

### **Task 4 - Summary Report**

Under Task 4, LSCE shall prepare a summary report which will include pumping equipment repairs and the well rehabilitation effort. The summary report shall include the work completed in the rehab, final

equipment information, and testing results of post rehabilitation to evaluate the effectiveness of the rehabilitation on well specific capacity and the efficiency of the pump.

### Proposed Budget

An estimated budget for LSCE engineering services to complete the work is summarized in the cost table below.

LSCE will bill monthly for labor and expenses in accordance with LSCE's Schedule of Fees for Engineering and Field services (attached). In the event that LSCE is directed to deviate from the proposed scope, or as caused by unforeseen field conditions, LSCE will provide notification of any potential changes in the estimated cost and time to complete the work. LSCE will not proceed with any work that deviates from the approved scope and budget until approval to proceed is granted.

Task	Description	Cost
1	Pump Maintenance Oversight	\$6,160
2	Rehabilitation Workplan	\$4,180
3	Rehabilitation Inspection and Oversight	\$19,840
4	Summary Report	\$6,820
	<b>Total Cost Estimate</b>	<b>\$37,000</b>

### Proposed Schedule

With an objective to complete the rehabilitation before the Spring 2021, and knowing the District is closed a week during the holidays, below is the estimated timeline of milestone activities:

- LSCE Contract Award and NTP September 1, 2020
- Pump Maintenance Bids October 1, 2020
- Well Rehabilitation Bids November 1, 2020
- Pump removal and video survey November 15, 2020
- Final rehabilitation workplan December 15, 2020
- Well rehabilitation January 1-30, 2021
- Pump installation (after 12-week motor lead time) February 2021
- Well 1B back in service: March 2021\*\*

\*\* The proposed schedule assumes the new pump and motor (water-filled type) with a 12-week lead time.

MR. MICHAEL YERAKA  
JULY 29, 2020  
PAGE 6

We appreciate the opportunity to provide you with this scope and budget for Well 1B rehabilitation. LSCE stands ready to proceed with your authorization. Please call us if you have any questions at (530) 661-0109.

Sincerely,

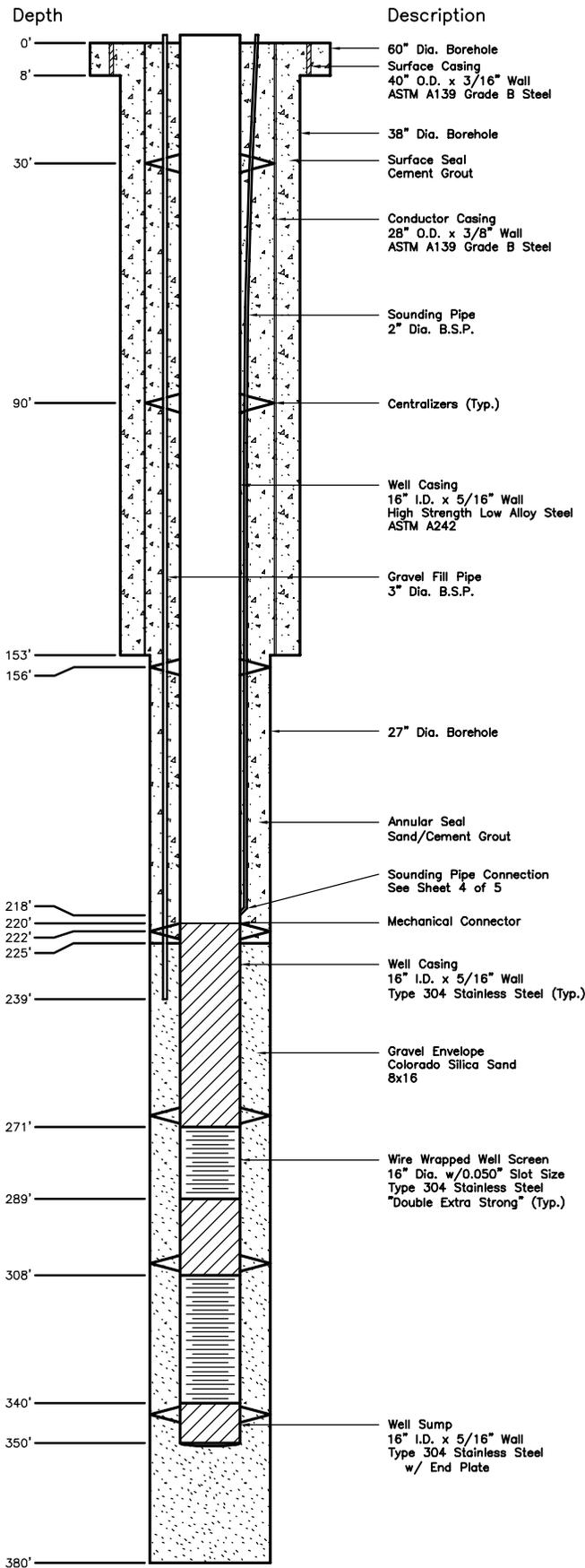
LUHDORFF AND SCALMANINI  
CONSULTING ENGINEERS

A handwritten signature in blue ink, appearing to read "Justin Shobe".

Justin Shobe, P.E.  
Supervising Engineer

Attachments:

- A. As-Built Well Profile (Well 1B)
- B. Schedule of Fees for Engineering and Field Services (January 2020)





## SCHEDULE OF FEES - ENGINEERING AND FIELD SERVICES 2020

Professional	
Senior Principal	\$225/hr
Principal Professional	\$220/hr
Supervising Professional	\$210/hr
Senior Professional	\$192/hr
Project Professional	\$150 to 170/hr
Staff Professional	\$135 to 145/hr
Technical	
Engineering Inspector	\$140/hr
ACAD Drafting/GIS	\$135/hr
Engineering Assistant	\$105 to 125/hr
Scientist	\$105 to 125/hr
Technician	\$105 to 125/hr
Clerical Support	
Word Processing, Clerical	\$80/hr
Digital Communications Specialist	\$90/hr
Project Admin/Accounting Assistant	\$100/hr
Other Services	
Vehicle Use	\$0.58/mi
Subsistence	Cost Plus 15%
Groundwater Sampling Equipment (Includes Operator)	\$170.00/hr
Copies	0.20 ea
Professional or Technical Testimony	200% of Regular Rates
Technical Overtime (if required)	150% of Regular Rates
Outside Services/Rentals	Cost Plus 15%
Services by Associate Firms	Cost Plus 15%