



CITY OF PACIFICA
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION
WET-WEATHER EQUALIZATION BASIN
PROJECT UPDATE

DECEMBER 12, 2016

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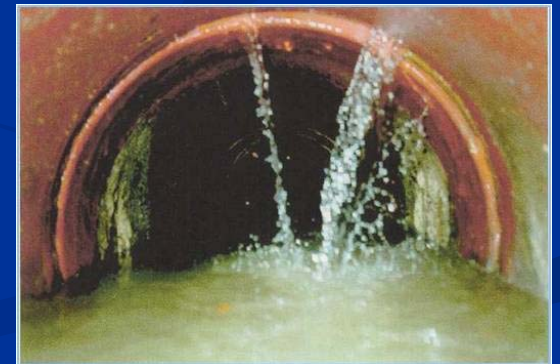
EQ BASIN PROJECT UPDATE

- BACKGROUND
- PURPOSE AND NEED
- PROJECT FEATURES AND DESIGN
- PROJECT COST ESTIMATE & CASH FLOW
- SCHEDULE
- NEXT STEPS



BACKGROUND

- Since 2004, the City has been required to monitor and report occurrences of sanitary sewer overflows (SSOs) to the SF Regional and State Water Resources Control Boards (Water Boards) as a requirement of the *State-wide General Waste Discharge Requirements for Sanitary Sewer Systems*.
- The City's sanitary sewer collection system is subject to infiltration and inflow (I/I) of extraneous groundwater and stormwater into the system, resulting in high wet-weather flows during storm events.





BACKGROUND

- Starting in December 2004, numerous SSOs were reported to the Water Board and a large storm in January 2008 caused a large volume discharge that bypassed the WWTP.
- Under the *State-wide General Waste Discharge Permit Requirements for Sanitary Sewer Systems*, every collection system agency in California must prepare and adopt a *Sewer System Management Plan* that includes the following:
 - *System Evaluation and Capacity Assurance Plan.*
 - A plan for rehabilitation and replacement of sanitary sewers based on their condition.





BACKGROUND

- In October 2009, the City hired RMC Water and Environment (RMC) to prepare a *Collection System Master Plan* with the following objectives:
 - Update the City's previous comprehensive wastewater collection system assessment that was prepared in 1982.
 - Comply with the State-wide General Waste Discharge Permit requirements.
 - Comply with the anticipated requirements of the *Cease and Desist Order (CDO)* and *Consent Decree* that were being negotiated with the City.



BACKGROUND

- In May 2011, the Regional Water Board Issued the CDO to the City as a result of SSOs and bypass that occurred in the sanitary sewer system between 2004 & 2009.
- The CDO requires the City to take specific actions to reduce and ultimately eliminate insufficient capacity-caused SSOs by January 1, 2019.
- In June 2011, the City entered into a *Consent Decree* with Our Children's Earth Foundation, a non-governmental organization.
- Both the CDO and Consent Decree require the City to implement a number of measures targeted at reducing SSOs.



BACKGROUND

- In October 2011, RMC finalized the *Collection System Master Plan* with the following objectives:
 - Satisfy the specific requirements of the CDO and Consent Decree related to performing a condition assessment of the sanitary sewer collection system.
 - Prepare a *System Evaluation and Capacity Assurance Plan*.
 - Develop a 20-year CIP for the wastewater collection system.



BACKGROUND

- The *Collection System Master Plan* evaluated several system-wide alternatives in eliminating collection system SSOs.
- The Master Plan identified the most viable alternative was to implement various Collection System Capacity Improvements including:
 - Sanitary sewer main upgrades.
 - Construction of a Wet Weather Flow Equalization (EQ) Basin in vicinity of the Linda Mar Pump Station.



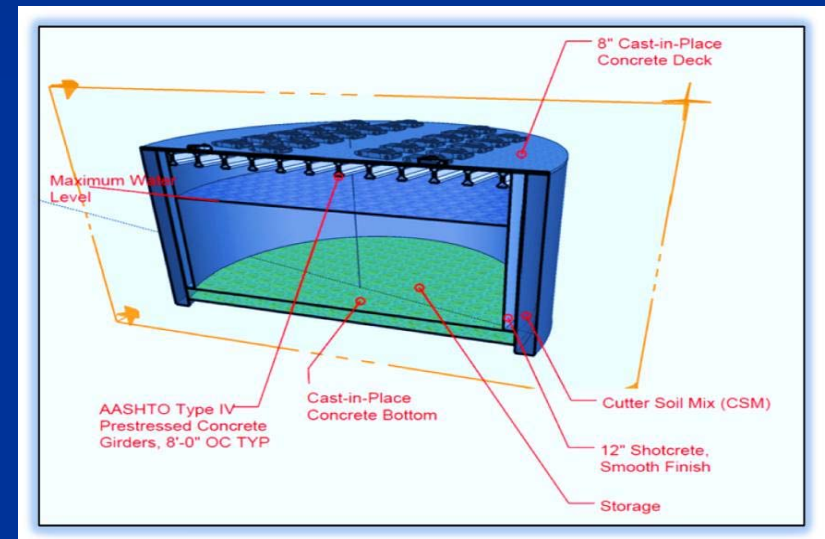
PURPOSE AND NEED

- Wet-Weather EQ Basin Site Feasibility Evaluation Report Prepared by RMC:
 - Completed in 2013 and revised in Aug. 2015 (revised to evaluate moving the proposed EQ Basin site further away from residents).
 - The 1st step in the design process and provided a general conceptual design and a “rough order” of construction costs.



PURPOSE AND NEED

- RMC's Wet-Weather EQ Basin Site Feasibility Evaluation:
 - Recommended constructing a 2.1 million gallon cylindrical shaped EQ basin at the "Preferred Site 2C" location in the City's Skatepark parking lot.
 - Based on the information available at the time, a cylindrical-shaped basin was thought to have the greatest strength and be the easiest to construct.





ASSEMBLING THE TEAM

- Since submittal of RMC's Feasibility and Addendum Reports, the City started Professional Services in support of the project:
 - 4LEAF, Inc. (4LEAF) as the Project's Project Manager, Construction Manager, and Construction Inspector.
 - Freyer & Laureta (F&L) as the Project's Design Engineer.
 - Construction Testing Services (CTS) to perform Geotechnical Investigations at the proposed EQ Basin Site and along the Proposed Pipeline Alignments.
 - Terraphase Engineering to perform California Environmental Quality Act (CEQA) services.



PROJECT FEATURES

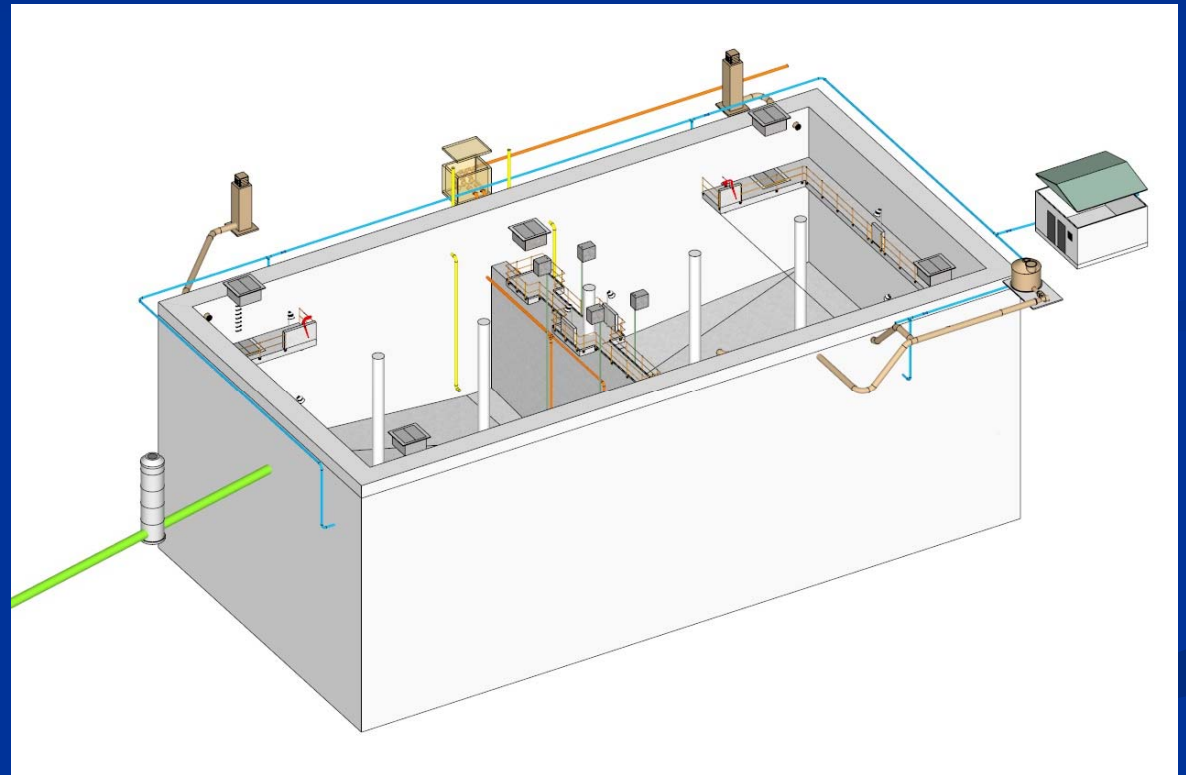




EQ BASIN DESIGN

- Currently at the 95% Design Phase.

- Designing a rectangular-shaped EQ Basin.





EQ BASIN DESIGN

- Rectangular Basin vs. Circular Basin

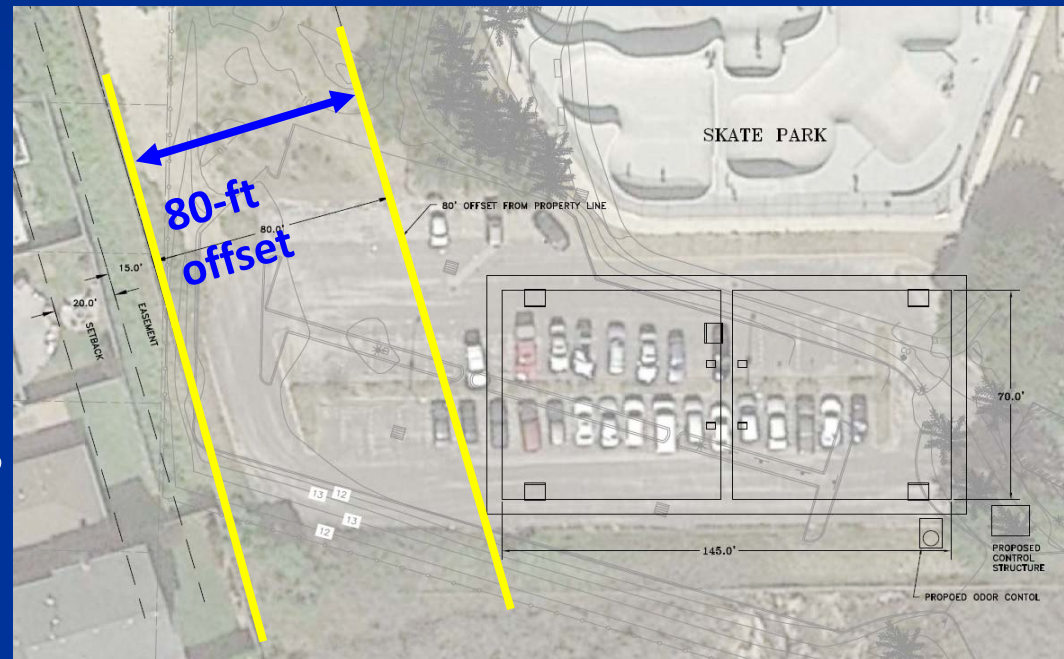
	Rectangular	Circular
Optimizes Available Area.	✓	
Fewer Impacts to Nearby Residents	✓	
Increased Efficiency for Storage.	✓	
Lower O&M Costs and Water Usage for Cleaning.	✓	
Shallower Depth and Easier to Construct.	✓	
Safer for City Staff to Enter and Maintain.	✓	



EQ BASIN DESIGN

- Advantages of a rectangular basin vs. a cylindrical basin include:

- Optimizes the available area without creating additional impacts to the neighbors

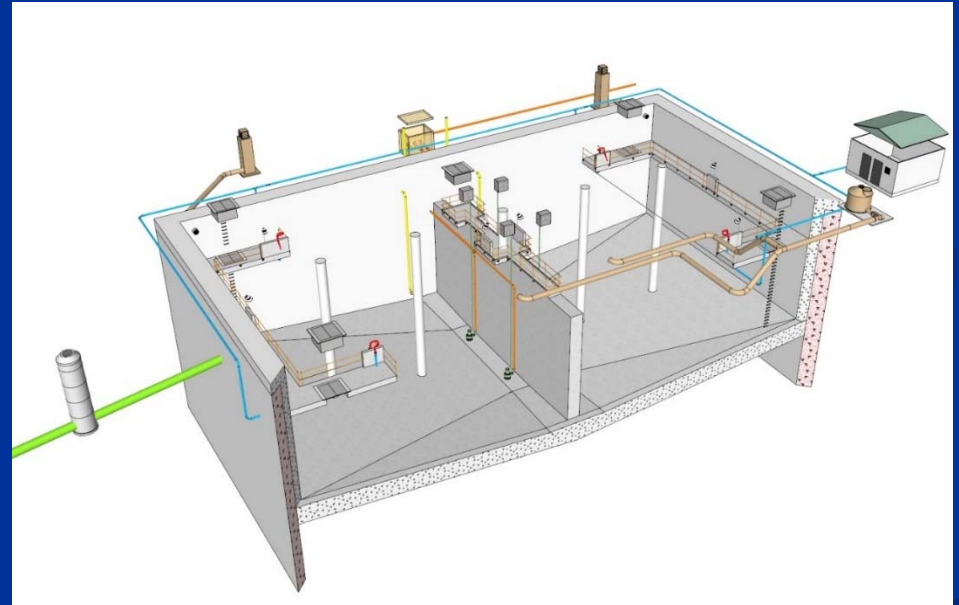


- Maintains an 80-ft offset between the basin and the nearest property lines.



EQ BASIN DESIGN

- Advantages of a rectangular basin vs. a cylindrical basin (cont'd):
 - Increased efficiency for storage (internal compartments or chambers - only a portion of the basin needs to be used for smaller storm events).
 - This will lead to reduced long-term O&M costs and water usage for cleaning.





EQ BASIN DESIGN

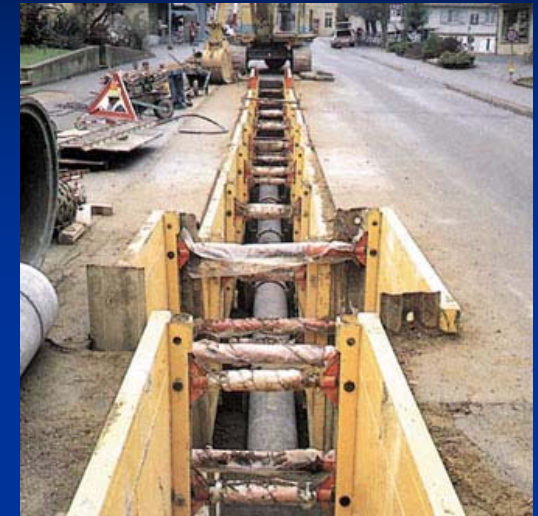
- Advantages of a rectangular basin vs. a cylindrical basin (cont'd):
 - Allows for a shallower basin (45 ft vs. 80 ft) that is easier to construct due to site soil conditions and shallow groundwater elevations that were identified during the recent design-level Geotechnical Investigation.
 - Safer for City staff to enter for maintaining & cleaning.





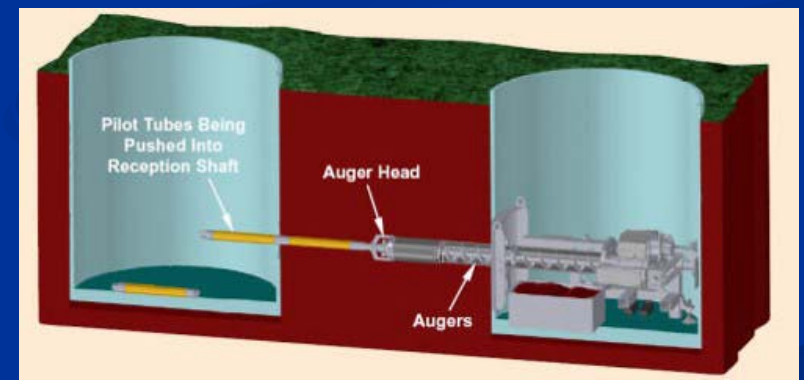
Pipeline Construction

- Open Trenching Method (“cut and cover”)
 - Will be used for a majority of the pipelines.



- Horizontal Drilling Method

- Will be used along an existing public utility easement



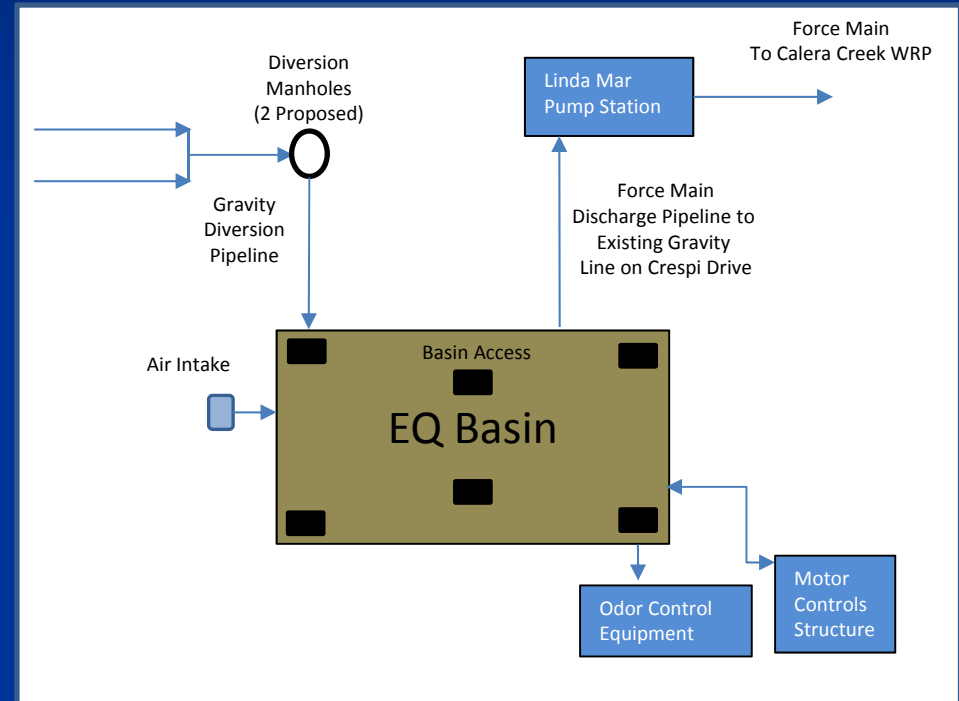
- There is low probability of nearby structures/homes being damaged. Will perform surveys and monitoring before, during, and after construction.



EQ Basin Conceptual Design

How Does it Work?

- Excess SS flows diverted to basin for storage during large storm events.
- Basin contents pumped to sanitary sewer after storm events.
 - Pumps and pipes sized to empty basin in 1 - 2 days (limited by capacity of Crespi Drive SS line).



- Basin facilities include:
 - Small building for electrical & equipment.
 - Odor control system.



F&L EQ Basin Animation (to be given by F&L using animation software)



CEQA PROCESS

- Currently Performing the California Environmental Quality Act (CEQA) Evaluation.
 - Encountered delay issues related to several sensitive habitat areas near the Skate Park parking lot. Issues can be addressed with mitigative measures.
 - Released the Draft Mitigated Negative Declaration (MND) / Initial Study (IS) Document for Public comment.
 - The Project will not have a significant effect on the environment after the mitigated measures enacted.
 - Anticipating to Issue a Notice of Intent to Adopt an MND for the Project in February 2017.



IMPACTS ON COMMUNITY CENTER & SKATEPARK



- Driveway access to Skatepark Parking Lot area will be limited to authorized vehicles.
- Skatepark and Community Center Patrons will use Crespi Parking Lot.
- Curbside parking along Crespi will be restricted to Meals on Wheels, CC Kitchen Deliveries, and Senior Citizen buses.



PRE-CONSTRUCTION BIOLOGICAL SURVEYS

- The project will require the removal of Monterey Cypress Heritage Trees prior to construction.
 - Will perform a tree survey for nesting of migratory birds, protected birds, and cavity-roosting bats.
 - As part of the mitigation measures outlined in the MND / IS, Heritage Trees will be replaced at a ratio of 1:1 and placed as closely as feasible to the removed trees at the completion of the project.
- Conduct a pre-construction survey of the Project area for the presence of the State- or Federally-protected California red-legged frog and/or the San Francisco garter snake.



HERITAGE TREES

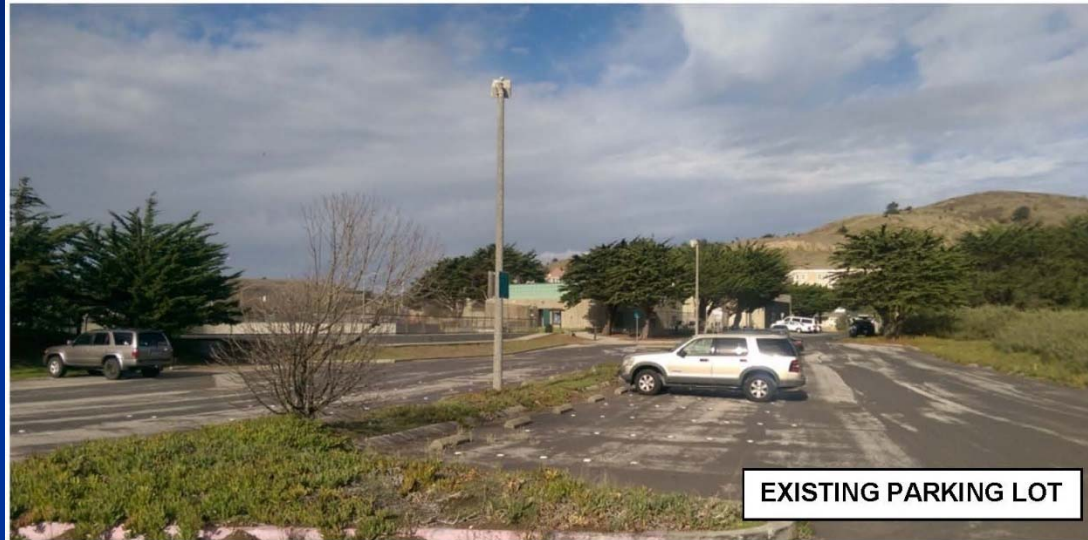
- View looking towards Community Center from Skatepark parking lot



- View looking towards driveway entrance to the Skatepark parking lot from Crespi Drive
- The City's Arborist has determined that 3 of these trees are potential hazards and should be removed regardless of the project²⁴



WHAT WILL IT LOOK LIKE WHEN COMPLETED?



- Number of Skatepark Parking Spaces will Increase from 46 to 51.
- Improved Parking Lot Lighting.
- Two Biorention Areas to Treat Parking Lot Stormwater Runoff.

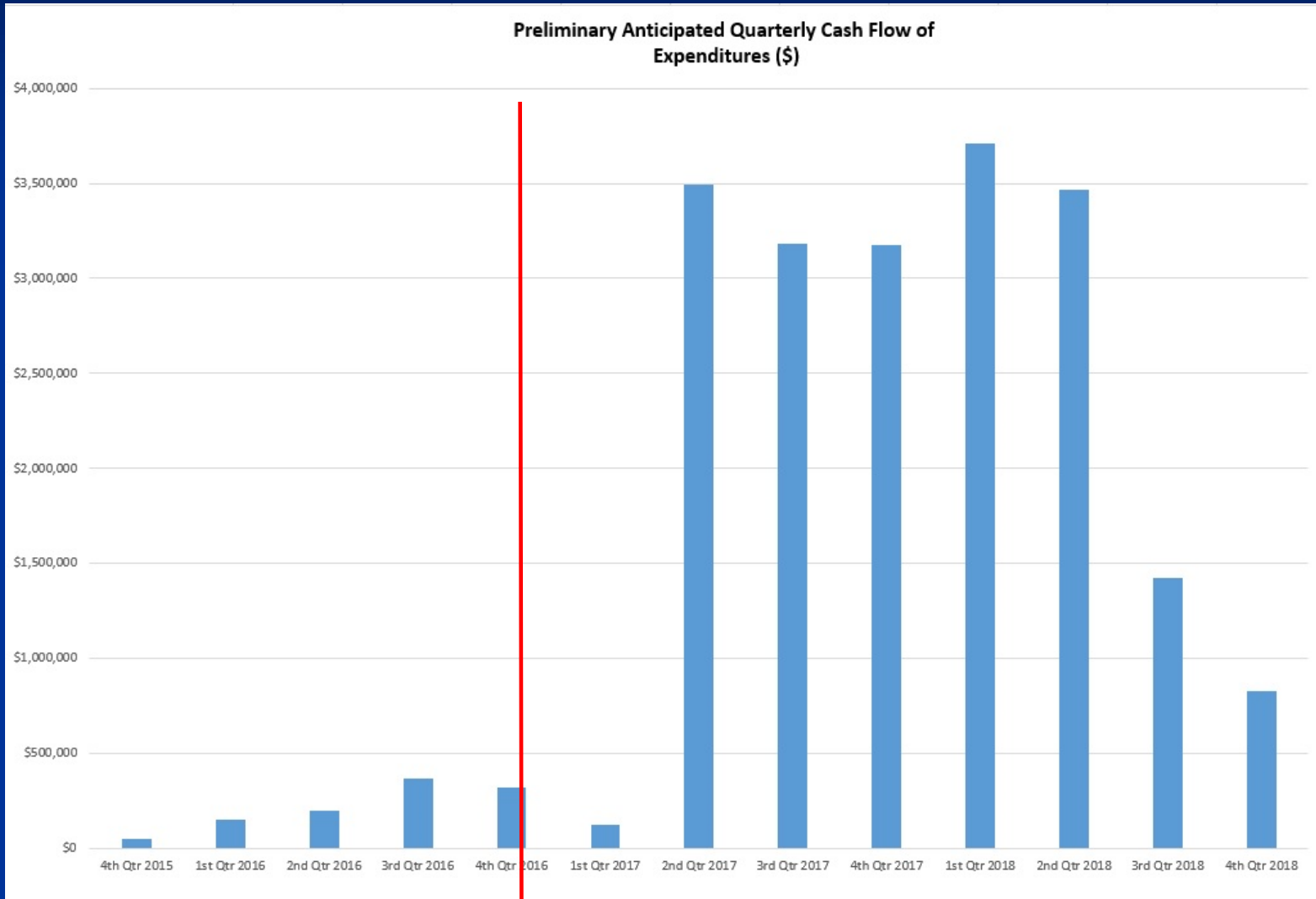


Estimated Project Costs

Item	Draft Est. Cost (based on 95% Design)
Project Management, Construction Management, Inspection, Material Testing, & Biological/Ecological Services.	\$1,445,659
Engineering Design.	\$911,910
Geotechnical Investigation – “Preferred Site 2”.	\$48,760
Geotechnical Investigation – Pipeline Alignment.	\$26,694
CEQA Evaluation.	\$93,839
Mobilization / Demobilization.	\$778,900
Traffic Control.	\$390,000
Sheeting, Shoring, and Bracing (for pipelines).	\$340,000
Construction Staking & Survey.	\$265,000
Site Investigation & Potholing.	\$255,000
Storm Water Pollution Prevention Plan & Implementation.	\$260,000
Dewatering Operations.	\$340,000
Utility Conflict and Relocation (allowance).	\$340,000
Pipeline Construction.	\$1,021,000
EQ Basin Construction.	\$9,378,000
Basin Utilities.	\$1,715,000
Parking Lot Improvements.	\$524,000
Electrical & Controls.	\$750,000
10% Design Contingency (construction costs only).	\$1,635,690
Estimated Project Cost.	\$20,519,990



Projected Cash Flow





Next Steps

- Released the Draft MND / IS document for the 30+ calendar-day Public Comment Period on December 8, 2016. Public CEQA Meeting Scheduled on December 15, 2016.
- Submitted City comments on the 95% Design Submittal Package to F&L on December 12, 2016.
- Finalize 100% Design Submittal/Bid Design Package in early January 2017. Amend plans prior to advertising if necessary.
- Incorporate Public review comments and assuming Project has an MND, submit the Final Notice of Determination in late February 2017.



Next Steps (cont'd)

- Advertise Project to potential bidders (contractors) in February 2017.
- Perform periodic Public Outreach and post Public Notices starting early February 2017 through Project completion.
- Review and evaluate contractor bids, perform Bid Opening, and notify successful and unsuccessful contractors in March 2017.
- Award Construction Contract and issue contractor's Notice to Proceed (NTP) in late March 2017.
- Begin pre-construction activities (e.g. Pre-con Meeting, Pre-con Site Condition Inspections, review submittals, etc.) in mid April 2017.



Next Steps (cont'd)

- Begin contractor site mobilization and construction in early May 2017.
- Perform Construction Management, Inspection, and Biological Monitoring services throughout construction (estimated between May 2017 and early September 2018).
- Perform final inspections and startup / commissioning in August and September 2018.
- Prepare and submit Notice of Completion Report to the SF Regional Water Quality Control Board in October 2018.



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