



THE CITY OF SAN DIEGO

Report to the City Council

DATE ISSUED: July 21, 2017

REPORT NO. 17-044

ATTENTION: Honorable Council President Myrtle Cole and Councilmembers

SUBJECT: Balboa Park Water and Sewer Infrastructure

REQUESTED ACTION: This report is for information purposes only.

STAFF RECOMMENDATION: Accept the report.

BACKGROUND:

The Public Utilities Department (Department) provides services to approximately 1.4 million water customers and 2.5 million wastewater customers within the San Diego region. The Department's Capital Improvement Program (CIP) supports the infrastructure to ensure reliable water supply and wastewater collection and treatment.

The purpose of this report is to provide a summary of the condition of existing water and sewer infrastructure as well as planned CIP projects located within the Balboa Park area.

Water and Sewer Condition Assessment Program:

With one of the most complex water and wastewater systems in the region, the Department has developed a robust and comprehensive system-wide condition assessment program.

The water system contains approximately 3,300 miles of water transmission and distribution mains. Approximately 2,150 miles (65 percent) are Asbestos Cement (AC) pipes, of which 8.50 miles are within the premises of Balboa Park with sizes ranging from six to 36 inches in diameter. In 2013, the Department retained Arcadis consultant to develop an AC Water Main Replacement Master Plan (Master Plan) using an asset management risk based approach that would maintain the City of San Diego's (City) current service levels to customers. The Master Plan identified approximately 189 miles of AC priority mains in need of replacement, which includes 1.60 miles in the Balboa Park area. The AC pipes in Balboa Park are part of a proposed CIP developed for the next 10 years. The CIP also includes the replacement of the remaining cast iron pipes in the system.

The Department is also assessing transmission pipelines and scheduling the replacement of these pipelines based on the condition of existing facilities, system needs and available funds.

On the wastewater side, the Department is responsible for managing a system with approximately 3,100 miles of sanitary sewer pipelines which include collection mains, trunk sewers, and major interceptors. In 2001, the Department started the

sewer condition assessment program, which included a minimum of 40 miles of sewer condition assessment every year. The Department bolstered its condition assessment program in 2013 by increasing the minimum per year assessment to 60 miles. Of the total 1985 miles assessed citywide, 11.19 miles were within the premises of Balboa Park.

Water & Sewer Infrastructure in Balboa Park

Less than one percent or 30.91 miles of the City’s water and sewer mains fall within the Balboa Park boundary. Of the total, 19.04 miles are water mains and 11.87 miles are sewer mains.

There are approximately 21.37 miles of water mains within the Balboa Park boundary with diameter sizes ranging from six inches to 36 inches, of which 19.04 miles are City owned and 2.33 miles are privately owned. Of the 19.04 miles, approximately 3.35 miles have been replaced. Of the remaining 15.69 miles, there are approximately 3.58 miles of water mains that are part of CIP projects, 8.50 miles that have had condition assessment (as part of AC Master Plan), and 3.61 miles are currently scheduled for assessment.

The sewer mains in Balboa Park consist of approximately 14.63 miles with diameter sizes ranging from six inches to 24 inches, of which 11.87 miles are City owned and 2.76 miles are privately owned. Of the 11.87 miles, 6.09 miles have been replaced or rehabilitated, 1.98 miles have been assigned to CIP projects, 3.12 miles have been assessed (maintenance, rehabilitation, or replacement) to determine if the pipes need to be grouped into future CIP projects, and the remaining 0.68 mile is currently under evaluation for future inspection (refer to the attached map for existing infrastructure and planned CIP projects).

WATER

Material	Length (mi)	Sizes (in)	Year Installed
AC	10.08	6 - 24	1942 - 1998
CI	4.66	6 - 30	1931 - 1966
CICL	0.37	6	1960
DI	0.05	10	1999
PVC	2.14	6 - 16	1973 - 2015
SCRW	4.07	8 - 36	1942 - 1981
TOTAL	21.37		

SEWER

Materials	Length (mi)	Sizes (in)	Year Installed
CI	0.39	6 - 8	1952
CIPP	1.93	6 - 15	2009 - 2011
CP	0.64	6 - 8	1950
DI	0.64	8 - 12	1952
HDPE	0.14	8	2015
PVC	4.07	8 -24	1978 - 2016
VC	6.83	24	1929 - 2006
TOTAL	14.63		

- AC – Asbestos Cement
- CI – Cast Iron
- DI- Ductile Iron
- RCSC – Reinforced Concrete Steel Cylinder
- PVC – Polyvinyl Chloride
- CICL – Cast Iron Concrete Lined
- CIPP – Cured-in-Place Pipe (trenchless rehabilitation)
- CP – Concrete Pipe
- HDPE – High-Density Polyethylene Pipe
- VC – Vitrified Clay

Capital Improvements Program

The Department’s CIP Guidelines and Standards provide the framework for the design and construction of new water and sewer facilities and address water efficiency, conservation, recycled and reclaimed water, cost effectiveness, and timely construction.

In a continuing main replacement program, deteriorated and deficient sewer and water mains are being replaced, and the Department schedules many of these water and sewer main replacement projects for the same time and location to minimize the impact on the community and the park’s operations. Replacement is currently scheduled based on condition assessment results and breaks or blockages in the mains. As incidents increase, main replacement is scheduled for accomplishment through the annual CIP.

The Department monitors and maintains the water and sewer systems on an ongoing basis because of the age of the water and sewer infrastructure within the premises of the park and the surrounding areas. Below is a list of CIP projects in the Balboa Park and surrounding area.

Planned Capital Improvements Projects in Balboa Park

TITLE	CIP Status	Start Construction	End Construction
AC Water & Sewer Group 1025 (W)	Bid and Award	Aug-17	Nov-18
Sewer Group 691	Construction	Jan-15	Jun-17
Sewer Lateral Rehab Projects J-2	Construction	Dec-15	Oct-18
Upas Street Pipeline Replacement Project	Construction	Mar-14	Jul-18
Balboa Park Water Main Replacement Phase I	Design	Aug-18	Oct-19
Plaza De Panama	Design	Mar-18	Sep-19
Sewer Group 828	Design	Sep-19	Aug-20
Water Group Job 952	Design	Jan-18	Oct-18
Balboa Park Water Main Replacement Phase II	Planning	Apr-20	Dec-21
Balboa Park Water Main Replacement Phase III	Planning	Oct-20	Jun-22
AC Priority 1 and 2	Planning	Jan-19	Jun-22

Halla Razak
 for Halla Razak, Director
 Public Utilities Department

Paz Gomez
 Paz Gomez, PE, CEM, GBE
 Deputy Chief Operating Officer
 Infrastructure/Public Works

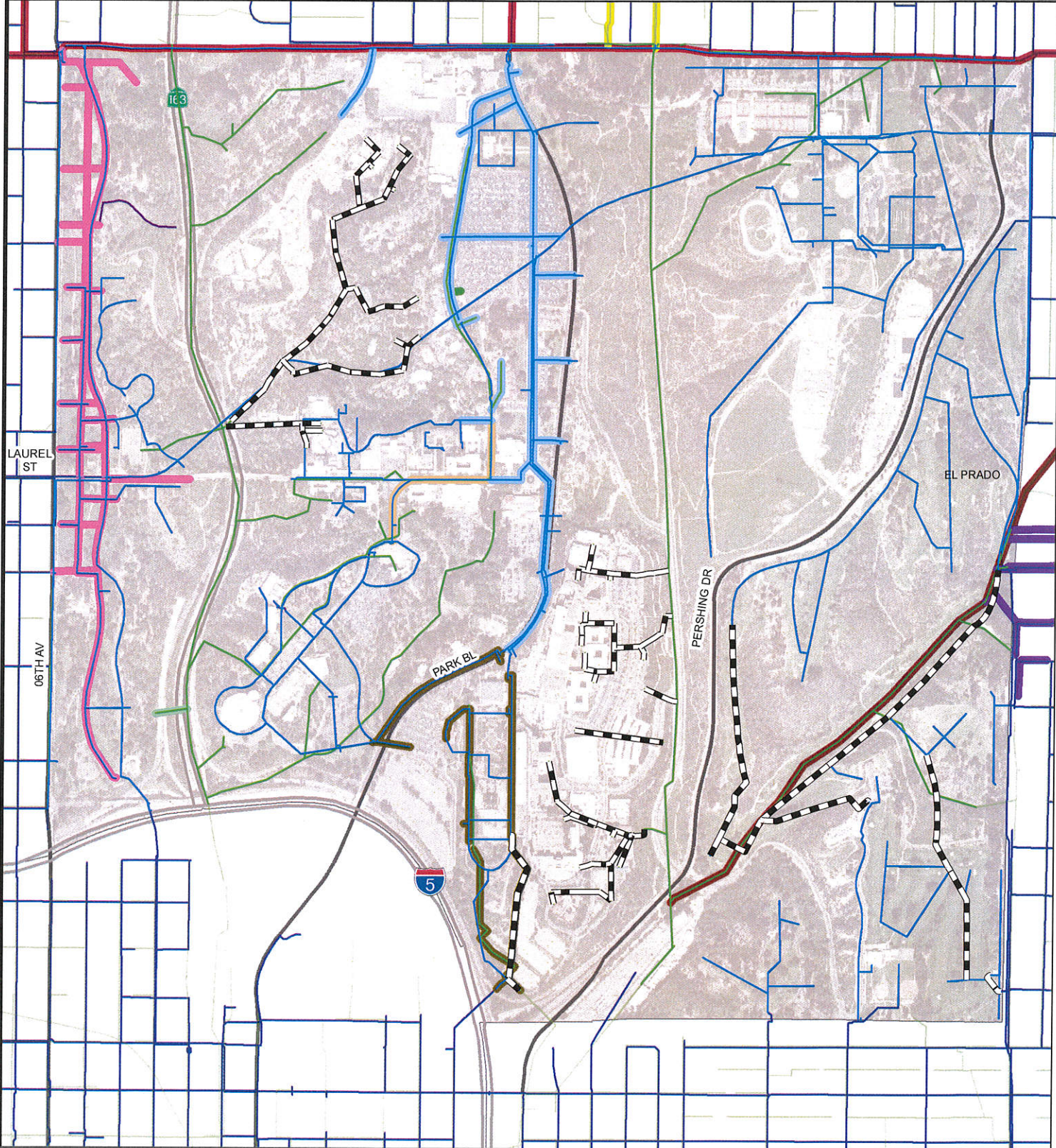
Existing Water and Sewer Infrastructure and Planned CIP

Attachment



Every reasonable effort has been made to assure the accuracy of this map. However, neither the SanGIS participants nor San Diego Data Processing Corporation assume any liability arising from its use.

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Legend

- PRIVATE (W & S)
- Water
- Sewer
- AC Water & Sewer Group 1025 (W)
- Balboa Park Water Main Replacement Phase 1
- Balboa Park PL Replacement Phase II
- Balboa Park PL Replacement Phase III
- Plaza De Panama
- Sewer Group 691
- Sewer Group 828
- Sewer Group 836
- Sewer Lateral Rehab Projects J-2
- Upas_Street_Pipeline_Replacement_Project
- Freeways
- Major Roads