PRELIMINARY ENGINEERING REPORT
(10% Pre-Design Report)

AC Water Group 1019
WBS B-15112 (W)

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The assistance and cooperation of the following individuals during the preparation of this report are greatly appreciated:

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1 NOTES TO THE PROJECT MANAGER

1.1 Objectives of the Study

The mission of the Preliminary Engineering & Program Coordination Section is to detail the scope of work, evaluate the clients' CIP project requests for adequacy of provided funds against the proposed scope of work, establish a cash loaded project schedule and get concurrence on the scope, cost, and schedule goals between the parties involved – the Preliminary Engineering team, the Project Management (PM) Team and the Client Department. Key to this effort is the identification of project risks and accounting for them in the scope, schedule and cost estimates – which this report does. This report memorializes the partnering meetings held between the Preliminary Engineering team, the PM team, and the Client.

1.2 Assumptions Made

This study is based on the following assumptions (further detailed in the study):

- The project requested by the client is supported by the community
- Cost estimates reflect current bidding climate and do not factor in inflation
- Project will be Design-Bid-Build ("no plans/minimum plans") and managed by City Staff

1.3 Preliminary Engineering Level of Effort

In preparing the 10% Pre-Design Level Report, the Preliminary Engineering Section has made every attempt to ensure the success of the project and all those involved by advancing the project per the items listed below:

- We've provided both Scope & Constraints and Pre-Design maps approved by the Client (Appendices B & C)
- We've evaluated the project for potential constraints (e.g. historical districts, redevelopment areas, moratoriums, etc.)
- We've evaluated the project for potential opportunities (e.g. bundling with other projects)
- We've submitted cash loaded Primavera schedules to the Department's Project Controls section (Appendix D)
- We've coordinated the scope, cost, and schedule with the PM/Design representatives
- We've established the project accounting for project charges (Appendix E)
- We've obtained a preliminary environmental assessment (Appendix I)
- We've obtained a hydraulic modeling and pipe assessment (Appendix J)
- We've visited the site
- We've ordered a survey
- We've included all project-related information into this report

Should you have any questions or comments on this report, please contact us.

2 PROJECT NEED

Project Type:	Water - Distribution System - Distribution
Client:	Public Utilities Department (PUD)

The City of San Diego has established an ongoing program for the replacement of all aging and deteriorating water mains currently in service. These replacements will reduce future water main breaks and reduce maintenance requirements. The program will also bring the existing water mains up to current City standards.

3 PROJECT SCOPE AND LIMITS

Water Main: Replace 16,809 LF (3.18 miles) of existing AC water mains; and including associated water services, fire hydrants, curb ramps, traffic control, etc.

AC Water Group 1019 is located in Council District 4, within the Mid-City: Eastern Area. The work is proposed to be replaced-in-place using the open trench construction method within City right-of-way. See Appendix A for location map.

WATER:
The water footage consists of approximately 16,809 LF (3.18 miles) of existing, 6-inch and 8-inch AC water mains to be replaced with 16,809 LF (3.18 miles) of 8-inch pipe. Separation permission from the State of California, Department of Health may be required on Brookline St., Date Pl., Deaton Dr., Dafter Pl., Dafter Dr., Duval St., Elm St., and Fir St. for the separation of water and sewer mains.

The table below shows the breakdown of water footage:

WATER INFORMATION						
Project Name	**Replacement of Existing Pipe (LF)**			**New Pipe (LF)**	**Main to be Abandoned (LF)**	**Total Water Mileage (mi)**
	CI	**AC**	**Other**		**AC**	
AC Water 1019	0	16,809	0	0	0	3.18

3.1 Coordination with Public Utilities Department

- **Scope has been approved by PUD and ROWD staff**

The pre-design map for AC Water Group 1019 (see Appendix C) has been reviewed and approved by both Right of Way Design Division (ROWD) and Public Utilities Department (PUD) staff.

Water:
A hydraulic modeling and pipe sizing assessment was prepared by PUD staff as part of the overall prioritized AC water main program and is included in Appendix J.

3.2 DISCLAIMER

It should be noted that the Pre-design Map is only conceptual and based upon (rough) available data. It is the responsibility of the Designer to optimize the hydraulic conditions upon receipt of surveyed data. In order to provide adequate conditions for future replacement jobs within this area, modifications to the scope of work should take into account the effects of the system at large.

The Design Project Manager shall review periodically and at any change in scope and schedule of their project the information provided for adjacent projects in IMCAT and CIP Tracking to avoid any conflict in scope and schedule and to address any paving moratorium. The current status of adjacent projects has been provided in the Project Coordination Maps and Pre-design Paving Conflict Maps. A screen shot of the IMCAT information at pre-design stage is also provided in Appendix B. It should be noted that the project scope has been submitted for mapping but may not be updated in IMCAT at the time this pre-design is transferred.

3.2.1 Street Resurfacing

It is the responsibility of the Design Project Manager to check with Street Division on the latest OCI index and street resurfacing recommendation prior to completing the design of the project (see Appendix B – Scope & Constraints Maps).

The following are guidelines/recommendations based on the current street OCI index and the scope of work:

1. If the street is rated “Fair or Acceptable” and only impact the street with one trench, then trench cap, slurry & re-stripe as part of the project

2. If the street is rated “Poor” and only impact the street with one trench, then trench cap and Design PM will have to coordinate with Street Division to have Street Division pave the street after the project, as part of their contract.

3. Any rating of the street and the project impacts the street with multiple utility trenches the project will resurface the street.

3.3 Existing Conditions

The following information has been provided on the Scope & Constraints Maps located in Appendix B.

3.3.1 Maintenance Sites (Water)

Water main breaks are noted within the scope of work.
This is a priority AC water main replacement project.

Water records were researched for breaks within the area. Breaks are noted along the project alignment.

The project scope consists of pipes that are included in PUD's high and medium priority AC water main data.

3.3.2 Surrounding CIP Projects

- AC Water Group 1019 is scheduled to begin construction in FY 2016. The following are adjacent projects that require coordination during design and construction:
- Pipeline Rehabilitation Z-1 – Construction June 2015 to February 2016 (contact: Project Manager Sarah Chavez)
- Pipeline Rehabilitation Z-1A – Construction February 2016 to August 2016 (contact: Project Manager Sarah Chavez)
- Sewer and AC Water Group 776 – Construction March 2017 to June 2019 (contact: Project Manager Michael Ninh)
- Sewer Group 743 Lateral – Construction March 2015 to June 2016 (contact: Project Manager)
- Sewer Lateral Rehabilitation Project J-2 – Construction December 2015 to August 2016 (contact: Project Manager Maryam Liaghat)
- Euclid WS Federal to Marilou Bond MS DS – Construction October 2015 to February 2016 (contact: Project Manager Jeff Manchester)
- Webster Neighborhood Identification Sign - Construction October 2015 to January 2016 (contact: Project Manager Mark Koll)
- Residential Project Block 4J1 – Construction May 2015 to May 2017 (contact: Project Manager Mario Reyes)

It is necessary to coordinate with projects in design or construction which may impact the proposed design and schedule of AC Water Group 1019. The CIP Tracking database and IMCAT were used to identify projects within the vicinity and the construction schedules. This information is frequently updated and should be confirmed by the Design team as the project progresses.

4 PROJECT FINANCIALS

Total project cost = $5,608,900

4.1 Project Cost

The following table summarizes the 10% Design Level cost estimates. The total project cost has been distributed among various project tasks as detailed in the cash loaded Primavera schedules that have been submitted to the Project Implementation and Technical Services Division, Project Controls Section and included in Appendix D (10% Design Level – Cash Loaded Schedule Estimate – Primavera). The Design Engineer will need to adjust the estimates throughout the design-bid-build process.

Cost Estimate Summary AC Water Group 1019 WBS# B-15112			
	Cost	**Funded**	**Unfunded**
Planning (Pre-Design)	$84,500	$84,500	$0
Design (Project & Construction Management)	$1,317,700	$1,317,700	$0
Construction	$4,206,700	$4,206,700	$0
TOTAL	**$5,608,900**	**$5,608,900**	**$0**

Notes:

a. *Rounded up to the nearest $100*
b. *Design Costs Include: MACC Contract Procurement, Permitting, Advertising & Award, Consultant Design services)*
c. *Construction Costs Include: Construction Contract, City Forces Work and Contingency*

4.2 Project Funding

This project is funded from “Annual Allocation – Main Replacements”, SAP ID A-KB.00003.

WBS B-15112 has been released for staff charges as reflected in Appendix E – WBS Elements Open to Charges.

5 SCHEDULE

Start of Design/Build: June 2016

The following table outlines the estimated project schedule and is further detailed in the cash loaded primavera schedule that has been submitted to the Project Controls Section (Appendix D).

Schedule Estimate Summary			
	Duration	**Start**	**End**
Bridging Documents	3 months	May 2015	Aug 2015
RFP/NTP	9 months	Sept 2015	May 2016
Design Build	19 months	June 2016	Jan 2018
TOTAL	31 months		
Note: Construction Schedule includes Limited NTP to NTP, BO/BU to NOC, does not include maintenance &/or mitigation.			

6 BUNDLE OPPORTUNITIES

No projects were identified that would benefit from being grouped with this project.
No CMP storm drain pipes were noted within the scope of work.

Using the CIP Tracking database and a review of the Capital Improvement Projects (CIP) projects in the Preliminary Engineering Section, no other current or future projects were identified that would benefit from being grouped with this Project. See Appendix B – Scope & Constraints Maps for a geographical analysis of constraints within the project area.

7 PRIORITIZATION

Prioritization Score: 91.5

This project has been individually scored and prioritized according to Council Policy 800-14. The values are outlined in the following table and the detailed calculations are attached in Appendix F.

Score of Project Council Policy 800-14 CIP Prioritization Calculation for AC Water Group 1019		
Factor	Max Score	Calculated Score
1. Risk to Health, Safety and Environment and Regulatory or Mandated Requirements	25	25
2. Asset Condition, Annual Recurring Costs and Asset Longevity	20	18
3. Community Investment and Economic Prosperity	20	20
4. Level and Quality of Service	10	7
5. Sustainability and Conservation	10	10
6. Funding Availability	5	4
7. Project Readiness	5	3
8. Multiple Category Benefit and Bundling Opportunities	5	4.5
TOTAL	**100**	91.5

8 PROJECT DELIVERY

Design:	Design/Build
Construction:	Design/Build

9 CONSTRAINTS

9.1 Traffic Control

Traffic control plans may be required within the construction plans.

Streets with an Average Daily Traffic (ADT) volume over 10,000 are required to have a traffic control plan included within the construction plans. Note that data is not available for every street (or specific block of a street). The following street has been identified as a high traffic area with an ADT volume over 10,000 (see Machine Count Traffic Volumes – City Streets, Appendix G):

1. Euclid Avenue between (Federal Boulevard to Marilou Street)
2. Euclid Avenue between (Marilou Road to 54th Street)
3. Federal Boulevard between (50th Street to Euclid Avenue)

9.2 Historical Districts

This project is not located within a designated historical district.

The City of San Diego has identified 16 historical districts which are identified on the CIP Tracking database. The Project Manager may wish to coordinate with the point of contact for the Historical District during the design phase to determine whether the project scope will impact the historical district area. The limits of the Historical District area and the point of contact can be viewed on the CIP Tracking database and on the following website:

http://www.sandiego.gov/planning/programs/historical/faq/established.shtml

There may be sidewalk stamps, light standards, sidewalk coloring or special pavement types and print, or other features that may require preservation during construction.

9.3 Utility Conflicts

Protect gas lines, electrical lines, and storm drains which cross the proposed alignment. Signal poles, pedestrian pushbuttons, pull boxes and other obstructions may need relocation to facilitate curb ramp construction

Utility maps have been requested from SDG&E, AT&T (SBC/Pacific Bell), Time Warner Cable, Cox Cable and Level 3 Communications and will be forwarded the Design team when received.

The gas lines and electrical lines which are crossing or parallel to the existing water alignment will need to be protected during construction. Existing storm drains in the area will also require protection.

Signal poles, pedestrian pushbuttons, pull boxes and other obstructions may need to be relocated during construction of ADA-compliant curb ramps (see section 9.8 of this report).

9.4 Moratoriums

The project is not within noted moratorium areas.

Construction restrictions are generally established to limit impact to communities during special events, such as community festivals, sporting events or block parties. The CIP Tracking database was used to identify projects within known seasonal moratoriums.

Coordination with schools will be necessary to avoid any interruption in services.

This project alignment is within City right-of-way; however to minimize impacts caused by construction activities, the design team should coordinate with the following area school:

1. Webster Elementary School

The project is not conflict with noted paving moratoriums

Construction activities are not allowed during the three (3) year slurry seal and the five (5) year resurfacing moratoriums within the City's Right of Way. The CIP Tracking database was used to identify the paving schedules and the design team must review the database for any updates during the design process.

9.5 City of Villages

The project is not adjacent to a City of Villages Development Area.

The City of Villages strategy encourages quality development in compact, mixed-use centers linked by transit to enhance existing neighborhoods and meet future needs. The program is currently managed by the City of San Diego's City Planning & Community Investment Department. The limits of the draft City of Villages projects and the point of contact can be viewed on the CIP Tracking database and on the following website:

http://www.sandiego.gov/planning/genplan/pilotvillage/index.shtml

9.6 Redevelopment Area

The project is not located within a Redevelopment Project Area.

The Redevelopment Department of the City of San Diego has identified areas for economic and/or physical improvement. The limits of the redevelopment project areas and the point of contact can be viewed on the CIP Tracking database and on the following website:

http://www.sandiego.gov/redevelopment-agency/projarea.shtml

9.7 Property Acquisition

The project will not require property acquisition.

The scope of work is within the City's right-of-way and easements.

9.8 Accessibility Issues

The project will include construction of ADA-compliant curb ramps. The project shall also address the relocation of obstructions needed for installation of curb ramps. These may include relocation of signal poles, relocation/adjustment of pedestrian pushbuttons, pull boxes and other obstructions.

The project is required to be in compliance with the Americans with Disabilities Act (ADA). ADA-compliant curb ramps shall be constructed where the scope of work triggers ADA compliance (i.e., street resurfacing). See Access Law Design Compliance Memorandum included in Appendix H.

For curb ramp installations that require removal or relocation of obstructions, the Design Team shall coordinate the curb ramp design and the relocation or removal of obstructions with ADA Project Review Section and Traffic Engineering and Operations Division as early as 30% design phase, and at minimal cost. The Design Team shall also coordinate with PUD to keep them apprised of the higher project cost due to these improvements.

10 SURVEYING

The project delivery method is Design/Build (no plans/minimal plans). The project delivery method is Design/Build (no plans/minimal plans). Survey Package will be delivered in two parts, the southern is currently available and the second part will be completed by Field/Survey Staff and provided to ROWD staff by May 2015.

11 PRELIMINARY ENVIRONMENTAL ASSESSMENT

- A Water Pollution Control Plan (WPCP) will be needed.
- The project could likely qualify for a CEQA exemption.
- The County Dept of Environmental Health should be contacted due to LUST sites identified within 1000 feet of the project.

A Preliminary Environmental Assessment (PEA) was completed to determine the impacts of this project and is included in this document as Appendix I.

All LUST sites, including closed ones, could potentially be harmful if disturbed. As a precaution, the County Department of Environmental Health (Site Assessment and Mitigation Division 858-505-6700) should be contacted during the design phase to determine the precise nature of the listed sites and determine if any safety measures will be necessary in conjunction with the project.

12 MAINTENANCE IMPACTS

No significant increase in maintenance costs.

Maintenance of the water facilities is expected to be minimal and therefore do not constitute a significant increase in maintenance costs. Replacement of all aging and deteriorating asbestos cement (AC) water mains will eliminate future breaks and minimize maintenance costs.