



● **Board of Directors**
Engineering and Operations Committee

7/9/2013 Board Meeting

7-4

Subject

Appropriate \$1.9 million; and authorize: (1) preliminary design, permitting, and right-of-way planning for access and pipeline protection improvements within the western San Bernardino County operating region; (2) preliminary investigations of similar improvements within the Los Angeles, Riverside, and San Diego County operating regions; and (3) professional services agreement with CH2M Hill, Inc. in an amount not to exceed \$250,000 (Approp. 15474)

Executive Summary

This action authorizes preliminary design, permitting, and right-of-way planning to protect and improve access to five pipelines in western San Bernardino County, and detailed investigations to identify and prioritize site improvements for pipelines within Los Angeles County, Riverside County, and San Diego County. This work represents the second phase of a three-phase program which will enhance distribution system reliability by providing year-round unobstructed access to facilities such as manholes, pump wells, blow-off structures, and valve installations, thereby enabling needed pipeline repairs and routine maintenance to move forward. This action also authorizes an agreement with CH2M Hill, Inc. for preliminary design of the improvements within San Bernardino County.

Timing and Urgency

Detailed investigations of Metropolitan's five pipelines within the western San Bernardino County portion of the distribution system have identified 200 sites as having erosion, access, or right-of-way issues. This work was initiated in June 2012 as part of a comprehensive effort to identify pipeline protection needs and secure programmatic environmental permits to enable the improvements to proceed. Erosion-related issues need to be addressed in a timely manner, since continued erosion over successive winter seasons may eventually expose or undermine a pipeline, which could lead to an unplanned shutdown to perform repairs. Deteriorated access roads hinder the inspection of facilities and make access by maintenance equipment difficult, especially during the rainy season. Clear rights-of-way and easements are necessary to protect Metropolitan's rights and reduce the risk of damage to Metropolitan property and facilities. If not addressed proactively, these conditions could impact water deliveries to member agencies and lead to increased costs for urgent repairs. The planned improvements will protect Metropolitan's facilities, enable patrol and maintenance activities during all weather conditions, secure rights-of-way for Metropolitan's pipelines, and improve access to the pipelines.

This work initiates the second phase of the Distribution System Infrastructure Protection Program, which was established to address erosion and access issues throughout the distribution system. This program has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Reliability project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2013/14.

Details

Background

Most of Metropolitan's distribution system was constructed between the 1930s and the 1970s. This system includes over 830 miles of pipelines and nearly 5,000 individual structures that require regular monitoring and maintenance. Over the past 50 years, land development throughout Southern California has gradually surrounded Metropolitan's right-of-way, creating a number of operating challenges. For example, open fields have been developed and converted to paved surfaces in many areas, increasing storm runoff and undermining Metropolitan facilities such as blow-off structures, pump wells, and patrol roads. Access roads constructed along pipelines are regularly used to patrol and monitor the condition of the pipelines, to perform maintenance of valves and equipment, and for manual operation of facilities during a power outage or emergency.

Many miles of Metropolitan's pipelines traverse steep and rolling hillsides. The pipeline right-of-way may be prone to erosion, particularly following fires. Once cleared of vegetation, the soil may be easily dislodged and carried away by storm flows. Erosion gullies have formed at many locations within the distribution system. These gullies, which are typically created by concentrated storm runoff, threaten to undercut access roads and expose pipelines, manholes, blow-offs, pump-wells, and air-release and vacuum valves.

Land development has landlocked some portions of Metropolitan's right-of-way, which limits access for patrol activities, routine maintenance, and staging of repairs. In addition, increased levels of trespassing and vandalism have occurred as more housing is constructed near Metropolitan properties. These recurring development-related issues have led to increased maintenance and repairs for pipeline structures, access routes, and patrol roads.

The Distribution System Infrastructure Protection Program was initiated in June 2012 to identify erosion, access, and security issues throughout Metropolitan's distribution system, and to carry out needed improvements. The comprehensive program is planned to be executed in three stages, covering the distribution system's five operating regions. Planned activities include conducting detailed reliability investigations, preparation of programmatic environmental impact reports (PEIRs), acquisition of needed right-of-way, and acquisition of environmental permits. The initial action in June 2012 authorized detailed investigations and preparation of programmatic environmental documentation for two operating regions: Orange County and western Riverside County.

In April 2013, Metropolitan's Board authorized the next phase of activities for the Orange County region: preliminary design, permitting, and right-of-way planning. A Notice of Preparation (NOP) of the PEIR for that region is anticipated to be issued by fall 2013, and the preliminary design effort is planned to be completed by December 2013. This action authorizes similar activities for the western San Bernardino County operating region. The Colorado River Aqueduct portion of San Bernardino County will be addressed in a future board action.

The western San Bernardino County region includes over 74 miles of pipelines and a total of 412 structures. Staff has completed the detailed investigations, which identified 200 locations that require pipeline protection work or access improvements. A total of 132 locations, consisting of 40 with erosion issues and 92 with right-of-way issues, will be addressed under this action. Erosion issues caused by concentrated and sheet flows from storm runoff need to be corrected by redirecting storm flows or installing drainage control features. Right-of-way issues primarily consist of locations where access rights were never obtained or recorded, or locations where pipeline and access roads lie outside of Metropolitan's right-of-way. Resolution of these issues may involve acquisition of easements or title to parcels in fee. The remaining 68 locations (out of the total of 200 within the region) require less extensive work and will be handled as operations and maintenance (O&M) projects.

Under the planned program, a comprehensive regional compliance and permitting effort will be initiated to secure environmental clearances for the western San Bernardino County region. Permitting agencies will include the California Department of Fish and Wildlife, U.S. Fish & Wildlife Service, U.S. Army Corps of Engineers, Santa Ana Regional Water Quality Control Board, California Coastal Commission, San Bernardino County Flood Control District, and local jurisdictional agencies.

Detailed investigations to identify needed improvements within the Los Angeles County, Riverside County, and San Diego County operating regions are also authorized by this action. The investigations will cover 702 miles of pipelines and over 3,784 pipeline structures including manholes, blow-offs, pumpwells, and air-release and vacuum valves. The planned investigations will evaluate access, erosion, and security issues along Metropolitan's pipeline right-of-way, and will make recommendations for infrastructure protection improvements similar to the previous two regions. Preparation of PEIRs, acquisition of needed right-of-way, acquisition of environmental permits, and preliminary design activities will be the subject of future board actions.

Project No. 1 - Pipeline Protection and Access Improvements in the Western San Bernardino County Operating Region – Preliminary Design Phase (\$913,000)

Planned preliminary design phase activities include conducting field surveys and preparing topographic maps; developing layout drawings and final design criteria of needed improvements; initiating consultations with permitting agencies for required permits; conducting right-of-way assessments; conducting a third-party value engineering review; and developing a preliminary construction cost estimate. This work is planned to be performed by Metropolitan staff with assistance from CH2M Hill, Inc., as discussed below.

The planned scope of the right-of-way assessments includes ordering and reviewing title reports and supporting recorded documents; preparing legal descriptions, exhibit maps, and other exhibits as needed for acquisition planning, permits, and real estate negotiations; completing right-of-way mapping; preparing Record of Survey maps to be filed with the county of San Bernardino; setting monuments and witness posts; preparing necessary correspondence and pre-appraisal documentation; negotiating and obtaining entry permits necessary for engineering, environmental and appraisal purposes; and preparing and reviewing appraisals of needed real property. This work will be performed by Metropolitan staff.

This action appropriates \$913,000 and authorizes preliminary design, permitting, and right-of-way planning of pipeline and access improvements in the western San Bernardino County region. The requested funds include \$297,000 for preliminary design of the improvements; \$44,000 for preparation of responses to public comments on the PEIR; \$150,000 for establishing survey control monuments, preparing topographic maps, right-of-way maps, legal descriptions, and record survey exhibits; \$115,000 for obtaining and reviewing title reports; \$140,000 for identifying parcels, researching historical documents, analyzing associated easement uses, determining surface rights, and resolving property rights issues; \$49,000 for developing mitigation monitoring plans, and for public outreach; \$36,000 for project management and consultations with local, state, and federal resource agencies; and \$82,000 for remaining budget.

Agreement for Design Support Services – CH2M Hill, Inc.

CH2M Hill, Inc. is recommended to perform preliminary design of improvements for the 40 sites identified with erosion issues within the western San Bernardino County operating region. CH2M Hill, Inc. was selected through a competitive process via Request for Qualifications No. 927. For this agreement, Metropolitan has established a Small Business Enterprise (SBE) participation level of 18 percent. The estimated cost for these services is \$250,000.

The planned scope of work includes development of layout drawings and final design criteria; conducting value engineering reviews; consultation with the permitting agencies for required permits; conducting right-of-way assessments; and developing a preliminary construction cost estimate.

This action authorizes an agreement with CH2M Hill, Inc., in an amount not to exceed \$250,000, to perform preliminary design of improvements for 40 sites along the five pipelines identified with erosion issues in the western San Bernardino County operating region.

Project No. 2 – Pipeline Protection and Access Improvements for the Los Angeles County, Riverside County, and San Diego County Operating Regions – Preliminary Investigations (\$987,000)

These detailed investigations will evaluate access, erosion, and security issues along Metropolitan's pipeline right-of-way, and will make recommendations for infrastructure protection improvements. The investigations will cover 702 miles of pipelines and over 3,784 pipeline structures.

Multidiscipline teams will inspect Metropolitan pipeline alignments and right-of-way, and will identify potential hazards and needed repairs to patrol roads, blow-off structures, manholes, air-release/vacuum valves, and pipeline crossings. Potential hazards may include natural features such as active streambeds, unstable slopes, and erosion issues. Areas with limited access due to environmental restrictions will be considered, including locations with sensitive habitat and species, or areas within regulated waters. Security and right-of-way assessments will address vandalism, encroachment by private landowners, and the need to acquire easements or license agreements for properties used by Metropolitan for access and maintenance.

All inspection activities will be performed by Metropolitan staff. Planned activities include: analyses of drainage patterns; review of potential security breaches; development of guidelines for stream crossings, paving and security; preparation of inspection reports and conceptual design reports for improvements; and conceptual-level cost estimates. The activities will also include field surveys; review of existing habitat conservation easements and utility easements; and development of a long-term road maintenance and repair plan.

This action appropriates \$987,000 and authorizes detailed reliability investigations of the Los Angeles County, Riverside County, and San Diego County operating regions. The requested funds include \$320,000 for field inspection activities; \$400,000 for conceptual engineering analyses and preparation of conceptual design reports; \$165,000 for field survey and right-of-way activities; \$13,000 for project management, preparation of conceptual cost estimates, and preparation of summary reports to support future environmental documentation; and \$89,000 in remaining budget.

Summary

This action appropriates \$1.9 million; authorizes preliminary design, permitting, and right-of-way planning to improve access and protect pipelines in the western San Bernardino County region; authorizes detailed investigations of site improvements for Metropolitan's distribution system within the Los Angeles, Riverside, and San Diego County operating regions; and authorizes a professional services agreement with CH2M Hill, Inc. Staff will return to the Board at a later date to certify the programmatic EIR for the western San Bernardino County region, and for authorization of final design and right-of-way activities.

This work has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2013/14 capital expenditure plan. See [Attachment 1](#) for the Financial Statement and [Attachment 2](#) for the Location Map.

These projects are included within capital Appropriation No. 15474, the Distribution System Infrastructure Protection Program, which was initiated in fiscal year 2011/12. With the present action, the total funding for Appropriation No. 15474 will increase from \$5.2 million to \$7.1 million.

Project Milestones

February 2014 – Completion of preliminary design of improvements in western San Bernardino County

December 2014 – Completion of detailed investigations of improvements in Los Angeles, Riverside and San Diego Counties

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is exempt under the provisions of CEQA and the State CEQA Guidelines, since it involves only a conceptual plan associated with feasibility and planning studies for possible future actions, as well as basic data collection and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These activities may be strictly for information gathering purposes, or as part of a study

leading to actions which a public agency has not yet approved, adopted, or funded. Accordingly, this proposed action qualifies both as a feasibility and planning studies exemption (Section 15262 of the State CEQA Guidelines) and as a categorical exemption (Class 6, Section 15306 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under both the feasibility and planning studies exemption (Section 15262 of the State CEQA Guidelines) and as a categorical exemption (Class 6, Section 15306 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is statutorily and categorically exempt and

- a. Appropriate \$1.9 million;
- b. Authorize preliminary design, permitting, and right-of-way planning for access improvements and pipeline protection within the western San Bernardino County operating region;
- c. Authorize detailed investigations of improvements for the Los Angeles County, Riverside County, and San Diego County regions; and
- d. Authorize professional services agreement with CH2M Hill, Inc. in an amount not to exceed \$250,000.

Fiscal Impact: \$1.9 million in capital funds under Approp. 15474

Business Analysis: This work will protect Metropolitan's assets, enhance reliability of deliveries to member agencies, and reduce the risk of costly emergency repairs.

Option #2

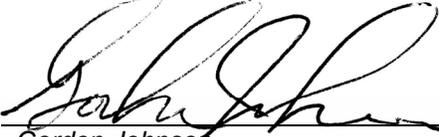
Do not authorize the preliminary design, permitting, and preliminary design activities at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to improve access to pipeline facilities, and may result in more costly repair and maintenance activities.

Staff Recommendation

Option #1

	6/18/2013
Gordon Johnson Manager/Chief Engineer, Engineering Services	Date
	6/25/2013
Jeffrey Kichtlinger General Manager	Date

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Location Map](#)

Financial Statement for Distribution System Infrastructure Protection Program

A breakdown of Board Action No. 3 for Appropriation No. 15474 for access improvements and pipeline protection within the distribution system¹ is as follows:

	Previous Total Appropriated Amount (Apr. 2013)	Current Board Action No. 3 (July 2013)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 412,000	\$ 927,000	\$ 1,339,000
Final Design	-	-	-
Owner Costs (Program mgmt., permitting, envir. documents)	534,000	142,000	676,000
Right-of-Way & Land	1,717,000	305,000	2,022,000
Metropolitan Force Construction	-	-	-
Materials & Supplies	-	-	-
Incidental Expenses (Title reports)	320,000	105,000	425,000
Professional/Technical Services	1,715,000	-	1,715,000
CH2M Hill, Inc.	-	250,000	250,000
Equipment Use	-	-	-
Contracts	-	-	-
Remaining Budget	502,000	171,000	673,000
Total	\$ 5,200,000	\$ 1,900,000	\$ 7,100,000

Funding Request

Program Name:	Distribution System Infrastructure Protection Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15474	Board Action No.:	3
Requested Amount:	\$ 1,900,000	Budget Page No.:	323
Total Appropriated Amount:	\$ 7,100,000	Total Program Estimate:	12,000,000

¹ The total amount expended to date on the Orange County and Western San Bernardino County operating regions is approximately \$967,273.

