**CALIFORNIA COASTAL COMMISSION**
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

# W20b

| | |
|---|---|
| Filed: | 4/28/16 |
| 270th Day: | 1/23/17 |
| Staff: | M. Vaughn-LB |
| Staff Report: | 11/17/16 |
| Hearing Date: | 12/7-9/16 |

## STAFF REPORT: REGULAR CALENDAR

| | |
|---|---|
| **Application No.:** | **5-15-0123** |
| **Applicant:** | **Mesa Water District** |
| **Agent:** | **Richard Beck, RBI**<br>**Daniel Cardoza, RBI** |
| **Location:** | Bonita Creek at the confluence with San Diego Creek<br>City of Newport Beach, Orange County |
| **Project Description:** | Rehabilitation of approximately 1,700 linear feet of Mesa Water District's OC-44 potable water pipeline by inserting a new 30-inch diameter Ductile Iron Pipe inside the existing 42-inch pipeline. The proposed project includes excavation of three, 30-feet long by 15-feet wide by 12-feet deep temporary access pits, requiring a total of 2,100 cubic yards of cut (700 cubic yards per pit). |
| **Staff Recommendation:** | **Approval with Conditions** |

## SUMMARY OF STAFF RECOMMENDATION:

The proposed project would rehabilitate approximately 1,700 linear feet of an existing potable water pipeline (OC-44 Pipeline) by inserting a new pipeline inside the existing pipeline, by a process known as sliplining. Sliplining will require access directly at the existing pipeline at three points. The existing pipeline is located beneath San Diego and Bonita Creeks and an unnamed tributary north of San Diego Creek (see Exhibits 1 and 2). The project site is located between Upper Newport Bay and the San Joaquin Marsh. A project *Dewatering Plan* and a *Revegetation and Monitoring Plan* are also proposed.

Issues raised by the proposed project are: impacts to habitat, protection of potential cultural resources that may be present in the area, protection of public access with regard to the public bike path that will need to be temporarily re-routed during construction; and protection of water quality. These issues have been addressed though the recommended special conditions.

Although the project will impact 0.39 acre of riparian wetland habitat, as proposed by the applicant, the area of impact has been reduced to the minimum necessary to accomplish the goals of the project (repair of an existing public, potable water pipeline). However, the proposed *Revegetation and Monitoring Plan* is inadequate with regard to, among other things: the ratio of mitigation area to impact area (the applicant proposes 1:1, while the Commission typically requires a minimum of 3:1 for reasons described in the findings), specific success criteria, monitoring of the habitat restoration, and steps to be followed should the habitat restoration fail. Staff is recommending **Special Condition 1** which requires the applicant to submit a revised *Revegetation and Monitoring Plan* to assure all adverse impacts to habitat are adequately mitigated.

A number of special status bird species have been observed within the project vicinity. Habitat suitable for nesting, particularly willow riparian forest and mixed riparian scrub, is also present. In addition, the expected minimum five month project duration will preclude all avoidance of the nesting season. Staff is recommending **Special Condition 2** which requires that the applicant submit a Nesting Bird Survey in the event any work is to occur during the bird nesting season, and requires that if any nests are identified, work be directed away from the nest(s).

The applicant has proposed that a biological monitor be present during all earth disturbing activities. To reinforce this and assure that it occurs, staff is recommending **Special Condition 3**. **Special Condition 3** also requires the applicant to flag the area of the project footprint in order to assure the project impact area is contained.

Although the *Cultural Assessment* prepared for the proposed project concludes that cultural resources are not expected within the project area, it nevertheless recommends that, should such resources be discovered, work should be halted until the resource(s) can be evaluated by a qualified archaeologist. In addition, three of the Native Americans contacted by the applicant regarding the proposed project, requested that it be monitored by appropriate Native American(s). One of the responding Native Americans also requested it be monitored by a qualified archaeologist. However, no such monitoring is proposed. Staff is recommending **Special Condition 4** which requires archaeological and Native American monitoring during all earth disturbing activities and establishes measures to be implemented should cultural resources be discovered.

There is a public bike path that crosses the project site near Bonita Creek. The applicant has indicated that a temporary detour of this bike path will be necessary during construction and that such a detour can be accommodated through the adjacent public Bonita Creek Park parking lot without displacing any public parking spaces. In order assure that any impacts to public access are the minimized, staff is recommending **Special Condition 5** which requires the applicant to submit a *Public Access Plan* that details the specifics of the temporary public bicycle path detour that will be in place only during construction.

The proposed project is located within and/or adjacent to three water courses: San Diego Creek, Bonita Creek, and an unnamed drainage. Both Bonita Creek and the unnamed drainage are tributary to San Diego Creek. In order to protect the quality of these waters, which ultimately flow into the coastal waters of Upper Newport Bay, staff is recommending **Special Condition 6** which requires the applicant to implement construction Best Management Practices to assure that the water quality of the three creeks is protected.

The applicant (MWD) is in agreement with all the recommended special conditions with the exception of two points in **Special Condition 1** (submittal of a revised *Revegetation and Monitoring Plan*). The applicant objects to monitoring the habitat restoration for five years, preferring to maintain and monitor the restoration site for only three years rather than the Commission's typically required minimum five year monitoring and until success criteria are met, whichever is longer. (**Special Condition 1.A.12**); and the requirement that, should the habitat restoration be unsuccessful, a revised restoration plan be prepared and implemented to compensate for those portions of the original restoration program which did not meet the approved performance success performance standards (Special Condition 1.A.18). The applicant prefers to maintain and monitor the restoration for three years, and if it proves unsuccessful to implement no further measures. Staff continues to recommend these aspects of **Special Condition 1** as necessary to assure success of the habitat restoration proposed which is necessary to offset the losses due to the project.

# TABLE OF CONTENTS



## APPENDICES



## EXHIBITS

# I. MOTION AND RESOLUTION

**Motion:**

*I move that the Commission **approve** Coastal Development Permit Application No. 5-15-0123 pursuant to the staff recommendation.*

Staff recommends a YES vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

**Resolution:**

*The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

# II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

**1. Revised Revegetation and Monitoring Plan.**

**A.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, a revised *Revegetation and Monitoring Plan* prepared by a qualified professional that requires and incorporates the following changes into the plan titled *Revegetation and Monitoring Plan, OC-44 Pipeline Rehabilitation and Replacement Project* (Michael Baker International, February 2016):

1) A detailed description of the methods used to determine the base line quantitative surveys shall be provided;
2) Mitigation for all riparian habitat impacts shall be established at a minimum ratio of 3:1 (restoration acreage:impact acreage) when the mitigation is riparian habitat creation, OR, at a minimum ratio of 5:1 (restoration acreage:impact acreage) when the mitigation is non-native species removal;
3) Mitigation for all upland scrub habitat impacts shall be established at a minimum ratio of 3:1 (restoration acreage:impact acreage);
4) All mitigation plantings shall be container plantings when shrubs or trees are part of the vegetation or cuttings for willows;
5) Maps showing specific locations of temporary and permanent project impacts shall be included;
6) Specific soil amendments to be used, if any, must be identified in the *Revegtation and Monitoring Plan*;
7) No added fertilizer shall be used;
8) No permanent fencing shall be permitted; temporary pole and animal migration-friendly single cable or rope fencing to delineate the site with temporary signage with text such as “habitat restoration area, please keep out” may be permitted;
9) No permanent irrigation shall be permitted;
10) The type of herbicide and application methods shall be specified;
11) The propagules (seeds, cuttings, and containers) used in restoration shall be derived from coastal sources within Orange, Los Angeles, or San Diego counties, and preferably from the local watershed, if available;
12) Maintenance and monitoring of the mitigation site(s) shall be conducted for five years from the date of installation or until success criteria are met, whichever is longer;
13) Final monitoring for success shall take place after at least 3 years with no remediation or maintenance other than weeding;
14) The method by which success will be evaluated shall be provided. If a statistical test is proposed, a statistical power analysis should be completed to estimate the necessary replication.

15) Success criteria for riparian habitats shall be at least 80% cover by native shrubs and trees (e.g., willows, mulefat) after 5 years, no invasive species, and < 10% cover of non-native species, including herbaceous species. If non-native species removal is part of the mitigation, there should be no invasive species and < 10% cover of non-native species at the end of each of the 5 years of maintenance and monitoring.

16) There shall be quantitative success criteria for each vegetation layer. Success criteria shall include both cover criteria and criteria for species diversity;

17) Best management practices to be implemented to avoid the recruitment or spread of non-native invasive species, including the polyphagous shot-hole borer, shall be identified;

18) Add the following language, in the appropriate location, to the *Revegetation and Monitoring Plan*: "*If the final report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the approved performance standards, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved performance standards. The revised restoration program, if necessary, shall be processed as an amendment to this coastal development permit.*"

B. The applicant shall implement all mitigation habitat establishment, maintenance, monitoring and management, as proposed and described in the document titled *Revegetation and Monitoring Plan, OC-44 Pipeline Rehabilitation and Replacement Project* (Michael Baker International, February 2016), as revised by the conditions of this permit. Any changes to the approved plan shall be reported to the Executive Director. No change(s) to the approved plan shall occur without a Coastal Commission approved subsequent amendment to this coastal development permit amendment or an approved coastal development permit unless the Executive Director determines that none is legally required.

2. **Nesting Bird Survey**

A. If construction activities are to occur during bird nesting season (February 1 through September 30), a qualified biologist, with experience in conducting bird surveys, shall conduct a bird nesting survey(s) within the thirty (30) days prior to commencement of construction to detect any active raptor and/or California Department of Fish & Wildlife (CDFW) listed species and/or species of special concern nests or nesting activity within 500 feet of the construction area. If an active nest or nesting activity is determined to be located within 500 feet of active construction activities, all such activities within 500 feet from raptor nests and 300 feet from CDFW listed species and/or species of special concern, shall cease until the qualified biologist has confirmed that the detected nest(s) is vacated and juveniles have fledged and there is no evidence of a second attempt at nesting. The 500 foot limit (raptors) and/or 300 foot limit (CDFW listed species and/or species of special concern) shall be identified and protected with flagging, stakes, or construction fencing. Construction personnel shall be instructed by the qualified biologist on the sensitivity of the area and biological importance of maintaining the buffer area to allow the continuation of the natural nesting and fledgling process. The biologist shall record the results of the recommended protective measures described above to document compliance with this special condition and with applicable State and Federal laws pertaining to protection of

nesting birds. These biologist's recorded results shall be submitted to the Executive Director within fifteen (15) days of discovery of the nest(s), along with a description of protective measures implemented.

B. Activities allowed under this permit located further than 500 feet of an active raptor and/or 300 feet from an active CDFW listed species and/or species of special concern nest or nesting activities, however, may continue.

**3. Habitat Protection Measures During Construction**

A. The construction area/limits of work shall be demarcated by flagging, construction fencing or staking that clearly identifies the boundaries of the construction area. All plans shall include a note apprising all on-site workers of the sensitive nature of the on-site habitat.

B. As proposed by the applicant to prevent inadvertent disturbance to special status vegetation communities outside the limits of work, all vegetation removal/clearing activities approved by this permit shall be monitored by a qualified biologist.

**4. Area of Potential Archaeological Significance.**

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and approval of the Executive Director, a Construction Monitoring Treatment Plan (CMTP) for the proposed OC-44 Pipeline Rehabilitation Project prepared by a qualified professional and in conformance with subsection E of this condition that requires a qualified archaeological monitor and appropriate Native American(s) monitor to be present during all earth disturbing activities, describes the required qualifications and responsibilities of the archaeological and Native American monitors, and includes the requirements below:

1) If any cultural deposits are discovered during project construction, including but not limited to skeletal remains and grave-related artifacts, traditional cultural sites, religious or spiritual sites, or artifacts, the permittee shall carry out significance testing of said deposits and, if cultural deposits are found to be significant, additional investigation and mitigation is required in accordance with this special condition including all subsections. No significance testing, investigation or mitigation shall commence until the provisions of this special condition are followed, including all relevant subsections;
2) If any cultural deposits are discovered, including but not limited to skeletal remains and grave-related artifacts, traditional cultural sites, religious or spiritual sites, or artifacts, all construction shall cease in accordance with subsection B of this special condition;
3) In addition to recovery and reburial, in-situ preservation and avoidance of cultural deposits shall be considered as mitigation options, to be determined in accordance with the process outlined in this condition, including all subsections;
4) Archaeological monitor(s) qualified by the California Office of Historic Preservation (OHP) standards, Native American monitor(s) with documented ancestral ties to the area appointed consistent with the standards of the Native American Heritage Commission (NAHC), and the Native American most likely descendent (MLD) when State Law mandates identification of a MLD, shall monitor all project grading and/or ground disturbance;

5) The permittee shall provide sufficient archeological and Native American monitors to assure that all project grading/ground disturbance is monitored at all times;
6) All required monitors shall be notified a minimum of 30 days prior to commencement of construction by confirmable means such as certified mail with return receipt. Attempts to contact the required monitors shall include a follow-up phone call;
7) If human remains are encountered, the permittee shall comply with applicable State and Federal laws. Procedures outlined in the monitoring plan shall not prejudice the ability to comply with applicable State and Federal laws, including but not limited to, negotiations between the landowner and the MLD regarding the manner of treatment of human remains including, but not limited to, scientific or cultural study of the remains (preferably non-destructive); selection of in-situ preservation of remains, or recovery, repatriation and reburial of remains; the time frame within which reburial or ceremonies must be conducted; or selection of attendees to reburial events or ceremonies. The range of investigation and mitigation measures considered shall not be constrained by the approved development plan. Where appropriate and consistent with State and Federal laws, the treatment of remains shall be decided as a component of the process outlined in the other subsections of this condition.
8) Prior to the commencement and/or re-commencement of any monitoring, the permittee shall notify each archeological and Native American monitor of the requirements and procedures established by this special condition, including all subsections. Furthermore, prior to the commencement and/or re-commencement of any monitoring, the permittee shall provide a copy of this special condition, the archeological monitoring plan approved by the Executive Director, and any other plans required pursuant to this condition and which have been approved by the Executive Director, to each monitor.

B. If an area of cultural deposits, including but not limited to skeletal remains and grave-related artifacts, traditional cultural sites, religious or spiritual sites, or artifacts, is discovered during the course of the project, all construction activities in the area of the discovery that has any potential to uncover or otherwise disturb cultural deposits in the area of the discovery and all construction that may foreclose mitigation options or the ability to implement the requirements of this condition shall cease and shall not recommence except as provided in subsection C and other subsections of this special condition. In general, the area where construction activities must cease shall be no less than a 100 foot wide buffer around the cultural deposit.

C. An applicant seeking to recommence construction following discovery of the cultural deposits shall submit a Significance Testing Plan for the review and approval of the Executive Director. The Significance Testing Plan shall identify the testing measures that will be undertaken to determine whether the cultural deposits are significant. The Significance Testing Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), and the Most Likely Descendent (MLD) when State Law mandates identification of a MLD.

1) If the Executive Director approves the Significance Testing Plan and determines that the Significance Testing Plan's recommended testing measures are de minimis in nature and scope, in that the testing will not have any adverse impact on the cultural resources, the significance testing may commence after the Executive Director informs the permittee of that determination.
2) If the Executive Director approves the Significance Testing Plan but determines that the changes therein are not de minimis, significance testing may not commence until after an amendment to this permit is approved by the Commission.
3) Once the measures identified in the significance testing plan are undertaken, the permittee shall submit the results of the testing to the Executive Director for review and approval. The results shall be accompanied by the project archeologist's recommendation as to whether the findings are significant. The project archeologist's recommendation shall be made in consultation with the Native American monitors and the MLD when State Law mandates identification of a MLD. The Executive Director shall make the determination as to whether the deposits are significant based on the information available to the Executive Director. If the deposits are found to be significant, the permittee shall prepare and submit to the Executive Director a Supplementary Archeological Plan in accordance with subsection D of this condition and all other relevant subsections. If the deposits are found to be not significant, then the permittee may recommence grading in accordance with any measures outlined in the significance testing program.

D. An applicant seeking to recommence construction following a determination by the Executive Director that the cultural deposits discovered are significant shall submit a Supplementary Archaeological Plan for the review and approval of the Executive Director. The Supplementary Archeological Plan shall be prepared by the project archaeologist(s), in consultation with the Native American monitor(s), the Most Likely Descendent (MLD) when State Law mandates identification of a MLD, as well as others identified in subsection E of this condition. The Supplementary Archeological Plan shall identify proposed investigation and mitigation measures. The range of investigation and mitigation measures considered shall not be constrained by the approved development plan. Mitigation measures considered may range from in-situ preservation to recovery and/or relocation. A good faith effort shall be made to avoid impacts to cultural resources through methods such as, but not limited to, project redesign, capping, and placing cultural resource areas in open space. In order to protect cultural resources, any further development may only be undertaken consistent with the provisions of the Supplementary Archaeological Plan.

1) If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, in that the changes will not have any adverse impact on the cultural resources, construction may recommence after the Executive Director informs the permittee of that determination.
2) If the Executive Director approves the Supplementary Archaeological Plan but determines that the changes therein are not de minimis, construction may not

recommence until after a subsequent amendment to the permit is approved by the Commission.

E. Prior to submittal to the Executive Director, all plans required to be submitted pursuant to this special condition, except the Significance Testing Plan, shall have received review and written comment by peer reviewers in accordance with current professional practice, and by representatives of Native American groups with documented ancestral ties to the area (as identified by the Native American Heritage Commission and others known to the Executive Director). Names and qualifications of selected peer reviewers shall be submitted for review and approval by the Executive Director. The plans submitted to the Executive Director shall incorporate the recommendations of the peer reviewers. Furthermore, upon completion of the peer review process, all plans shall be submitted to the California Office of Historic Preservation (OHP) and the NAHC for their review and an opportunity to comment. The plans submitted to the Executive Director shall incorporate the recommendations of the OHP and NAHC. Submittal of the plans to these entities shall be by confirmable means such as certified mail with return receipt and evidence of submittal shall be submitted to the Executive Director along with the plans. If the OHP and/or NAHC do not respond within 30 days of their receipt of the plan, the requirement under this permit for that entities' review and comment shall expire, unless the Executive Director extends said deadline for good cause. All plans shall be submitted for the review and approval of the Executive Director.

F. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without approval by the Commission of a subsequent amendment to the coastal development permit unless the Executive Director determines that no amendment is legally required.

5. **Public Access Plan.**

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and written approval of the Executive Director, a *Public Access Plan*. The *Public Access Plan* shall provide the details of the proposed temporary detour of the Bonita Creek bicycle/pedestrian trail to be implemented during project construction. The *Public Access Plan* shall include, but is not necessarily limited to:

**1.** A written explanation of the exact location and the reason that a temporary detour is necessary (within the project footprint only), which shall be supported by documentation (such as access requirements of construction equipment, public safety, etc.);

**2.** Details of the bicycle/pedestrian detour plan, including depicting the location of the detour on plans and demonstrating that no public parking spaces will be displaced;

**3.** Demonstration that any trail detour shall be of the least duration necessary to accomplish the project objective;

**4.** Details of any public access signage to be used, including, but not limited to, detour signage (including, but not limited to, sign dimensions, sign wording, sign lettering sizes, and sign locations), and the expected length of the trail detour, and;

**5.** Plans to restore the trail to public use as soon as feasible, and in any case immediately following completion of construction.

B. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

6. **Construction Responsibilities and Debris Removal.**
By acceptance of this permit, the applicant agrees that the approved development shall be carried out in compliance with the following BMPs:

(a) No demolition or construction materials, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain, or tidal or riverine erosion and dispersion.

(b) No demolition or construction equipment, materials, or activity shall be placed in or occur in any location that would result in impacts to environmentally sensitive habitat areas, streams, wetlands or their buffers.

(c) Any and all debris resulting from demolition or construction activities shall be removed from the project site within 24 hours of completion of the project.

(d) Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters.

(e) All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.

(f) The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction.

(g) Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.

(h) All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil.

(i) Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems.

(j) The discharge of any hazardous materials into any receiving waters shall be prohibited.

(k) Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible.

(l) Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity.

(m) All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

# IV. FINDINGS AND DECLARATIONS

## A. PROJECT LOCATION & DESCRIPTION

The proposed project would rehabilitate approximately 1,700 linear feet of an existing potable water pipeline (OC-44 Pipeline) by inserting a new pipeline inside the existing pipeline, by a process known as sliplining. Sliplining will require access directly to the existing pipeline at three temporary access points. This is proposed to be taken from three temporary access pits, which are each proposed to be excavated to 30-feet long by 15-feet wide by 12-feet deep, and will require a total of 2,100 cubic yards of cut (700 cubic yards per pit). The project is expected to occur in one, five month period, likely October through February. The existing pipeline is located beneath San Diego and Bonita Creeks and an unnamed drainage north of San Diego Creek (Exhibits 1 and 2), in the City of Newport Beach. Both Bonita Creek and the unnamed drainage are tributary to San Diego Creek. The project site is located between Upper Newport Bay and the San Joaquin Marsh. A *Dewatering Plan* and a *Revegetation and Monitoring Plan* are also proposed.

The OC-44 Pipeline is the primary source of imported potable water for the Mesa Water District's service area. The project applicant, Mesa Water District (MWD), is a Special District whose primary mission is to manage and deliver potable water and water-related services to customers within its 18 square mile service area, serving a population of over 107,000 people. The pipeline was originally constructed in the early 1960s, and since 2002, has failed three times due to corrosion where it crosses San Diego Creek. The applicant is proposing the pipeline rehabilitation project with the goal of increasing the overall reliability of MWD's water supply, extending its service life, and minimizing potential future pipeline failure in the San Diego Creek area.

Due to the biological and hydrologic sensitivity associated with San Diego Creek and Bonita Creek, which are soft bottom creeks with vegetated banks, it is impractical to use conventional open trench excavations to replace or rehabilitate the existing OC-44 Pipeline. Rather, the applicant is proposing a trenchless pipeline rehabilitation technique, called sliplining to minimize disturbance. Through this process, a new 30-inch diameter pipe would be installed inside the 42-inch existing pipe. In order to accommodate the proposed sliplining, a pipe jacking operation would be conducted. Pipe jacking would involve the excavation of three designated access pits (one on each end of the pipe (Pits 1 and 3), and one at the point where the existing pipe deflects horizontally at an angle of seven degrees (Pit 2, located approximately 200 feet from the north edge of San Diego Creek, Exhibit 4). A hydraulic jack would then be placed in the excavation pit and, using hydraulic pressure, successive 20-foot long pipe sections would be pushed and pulled into place within the existing pipe.

Of the three access pits proposed, one pit will be located within a portion of Bonita Creek (Pit 3), while the other two pits will be located within the unnamed ephemeral drainage north of the north bank of San Diego Creek (Pits 1 and 2). The unnamed ephemeral drainage is not expected to contain flowing water at the time of construction. Bonita Creek has the potential to contain water at the time of construction, its flows are largely dependent upon local precipitation and urban runoff. Both Bonita Creek and the unnamed drainage are tributary to San Diego Creek, which flows into Upper Newport Bay. Dewatering measures will be required to account for groundwater seepage into the pits, as well as the potential for Bonita Creek to contain flowing water at the time of construction.

Material excavated to create the access pits is proposed to be preserved offsite and used to backfill the pits after completion of pipeline construction activities, unless the native soil is deemed unfit for backfill, in which case clean material will be imported for pit backfill. The project goal is to use only native soil material and avoid importation of non-native material to the extent that is feasible.

All three access pits will be constructed concurrently. Construction of the access pits will utilize a slide-rail or trench box shoring system for each pit. The shoring system will be lowered into place as the pit is excavated. A large track-hoe excavator will be used to remove the existing soil. Once the access pit is excavated around the existing pipeline, the pipeline will be cut-out and removed. When excavation is complete to the desired grade, the pit will be lined with filter fabric and a two-foot layer of crushed rock will be placed atop the fabric at the bottom of the excavation to provide a firm foundation for work activities. Some excavated material will be removed from the project site as the project requires the placement of low strength concrete slurry as backfill surrounding the pipeline. The remainder of the soil material needed for backfill will be stockpiled/staged adjacent to the work areas.

A *Dewatering Plan* is proposed during construction due to the presence of ground water and/or flowing water within the access pits proposed to be excavated. The *Dewatering Plan* includes placement of a submersible pump inside the shored excavated access pits. The water is proposed to be pumped out of the pit and discharged into a multi-baffle Baker tank. One tank will be used for each access pit and will be located outside of sensitive habitat areas.

The project is anticipated to impact a total of approximately 0.39 acre of habitat, including riparian wetland (0.36 acre) and riparian scrub habitat (0.03 acre) due to excavation of the pits and clearing necessary for the single access road leading to Pits 1 and 2 (no access road is needed for Pit 3). A *Revegetation and Monitoring Plan* is proposed to address these impacts. However, as proposed the *Plan* would only mitigate at a 1:1 mitigation ratio (impact:mitigation), among other shortcomings.

A *Cultural Resources Assessment* of the general project area was conducted to assess the potential for adverse impacts to cultural/archaeological resources due to the proposed pipeline rehabilitation project (*Cultural Resources Assessment for the OC-44 Pipeline Rehabilitation/Replacement Project*, prepared by Cogstone/RBI, October 2014). Three of the Native Americans contacted regarding the project requested that the project be monitored by appropriate Native Americans. However, the proposed project does not include archaeological or Native American monitoring.

A public bicycle path exists in the area adjacent to proposed Pit 3 near Bonita Creek. The proposed project would temporarily reroute the bicycle path via a detour through the adjacent public park

parking lot. The applicant has indicated that no public parking spaces will be lost due to the detour. The detour is proposed only for the duration of construction and public access along the path will be restored upon completion of construction.

## B. OTHER AGENCY APPROVALS

The applicant has received approval from or is in the process of requesting approval from the following agencies: California Department of Fish & Wildlife (Streambed Alteration Agreement No. 1600-2015-0014-R5); California Regional Water Quality Control Board (Clean Water Act Section 401 Water Quality Standards Certification, Santa Ana Regional Water Quality Board Project No. 302015-02, (2/29/15); and Water Quality Certification No. 813691); and, the U.S. Army Corps of Engineers (Corps File No. SPL-2015-00446-ERS, Provisional Letter of Permission (2/10/16), provisional pending Coastal Commission approval of the project).

## C. HABITAT

Section 30233(a) of the Coastal Act states:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> > *(l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
> > *(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
> > *(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
> > *(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
> > *(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
> > *(6) Restoration purposes.*
> > *(7) Nature study, aquaculture, or similar resource dependent activities.*

Section 30236 of the Coastal Act states:

> *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.*

In addition, the City of Newport Beach has a certified Land Use Plan (LUP), which is used as guidance. LUP policy 4.2.3-11 requires a minimum mitigation ratio of 3:1 (mitigation:impact) for projects that result in allowable impacts to wetlands, and in some cases a minimum mitigation ratio

of 4:1. LUP Policy 4.2.3-13 requires "*monitoring of mitigation measures for a period of sufficient time to determine mitigation objectives and performance standards are being met. Mid-course corrections shall be implemented if necessary to meet the objectives or performance standards.*"

Coastal Act Section 30233 limits development in wetlands to the seven uses enumerated in that section. Development under Section 30233 must also be the least environmentally damaging feasible alternative, and provide adequate mitigation to offset any adverse environmental effects. In addition, Section 30236 of the Coastal Act requires that substantial alterations of streams shall be allowed for necessary water supply projects. Development under Sections 30233 and 30236 must also incorporate the best mitigation measures feasible. These requirements are echoed in the City's certified LUP policies.

The project will occur in Bonita Creek and an unnamed drainage, near their confluence with San Diego Creek (See Exhibits 1 and 2). San Diego Creek, a perennial drainage feature, flows into the Upper Newport Bay, then into Newport Harbor, and eventually, into the Pacific Ocean. Upper Newport Bay is located in the Upper Newport Bay Ecological Reserve, managed by the California Department of Fish & Wildlife. Just inland of the project site is the San Joaquin Freshwater Marsh Natural Reserve managed by UC Natural Reserve System and UC Irvine; and the San Joaquin Marsh and Sanctuary managed by the Irvine Ranch Water District. San Diego Creek serves as a wildlife corridor between San Joaquin Marsh and Upper Newport Bay, and both San Diego and Bonita Creeks are wildlife corridors between Upper Newport Bay and the inland foothills. The lower reaches of San Diego Creek, within the project site, are tidally influenced and comprised of a combination of fresh and salt water. Open water was observed throughout the entire reach of San Diego Creek. The northern and southern banks of San Diego Creek are subject to periodic inundation and are vegetated with a variety of emergent hydrophytic plant species indicative of a freshwater/tidal marsh plant community. The upper banks that are not inundated during high tide are vegetated with a variety of woody riparian plant species.

Bonita Creek is also a perennial drainage feature, discharging along the southern bank of San Diego Creek. The lower reaches of Bonita Creek, at its confluence with San Diego Creek, are tidally influenced and comprised of a combination of fresh and salt water, while the upper reaches are located outside the tidal influence of San Diego Creek. Open water was observed throughout the entire reach of Bonita Creek. The perennial flows within Bonita Creek establish a variety of riparian plant species indicative of a Willow Riparian Forest plant community.

The unnamed, intermittent drainage feature flows south from the outlet of a four-foot reinforced concrete pipe and eventually discharges along the northern bank of San Diego Creek. It is located outside the tidal influence of San Diego Creek. Flows in this drainage feature come from surface runoff from surrounding development. Surface water, ranging in depth from one to twenty-four inches, was observed during the project site wetland delineation. The unnamed drainage feature is located adjacent to Bayview Way and the Fletcher Jones car dealership property.

A Wetland Delineation was performed for the subject site (*OC-44 Pipeline Rehabilitation/ Replacement Project, RBF Consulting, September 2014*). In addition, a Revegetation and Monitoring Plan is proposed (*Revegetation and Monitoring Plan, OC-44 Pipeline Rehabilitation and Replacement Project*, Michael Baker International, February 2016). And, a Habitat Assessment was conducted for the project area (*OC-44 Pipeline Rehabilitation/Replacement Project, Habitat*

*Assessment*, RBF Consulting, September 2014). All three identify riparian wetland habitat associated with all three streams at the project site.

The *Habitat Assessment* included two in-field assessments conducted on 5/16/13 and 5/13/14. The field assessments did not detect any nesting birds on either day, but recently (within one year) hatched birds were observed, suggesting nesting in the general vicinity. Habitat suitable for nesting, in particular the subject site's willow riparian forest and mixed riparian scrub, is present in the project area. In addition, the *Habitat Assessment* finds the project site provides suitable foraging and cover habitat for a wide variety of avian species. California least terns, Belding's savannah sparrow, Least Bell's vireo, white tailed kite, and the Light footed clapper rail, all special status species, have all been observed in the project vicinity, including Upper Newport Bay and the San Joaquin Marsh.

**Impacts**
All project staging and stockpiling is proposed to occur within the proposed limits of disturbance (Exhibit 4). The proposed project, including pipeline relining, excavation of the three temporary access pits, and all construction staging and stockpiling of materials will impact a total of 0.39 acre of habitat, including 0.36 acre of riparian wetland habitat and 0.03 acre of riparian scrub habitat (Exhibit 4). The impacts will occur within Bonita Creek and in the unnamed drainage tributary to San Diego Creek. No impacts will occur within San Diego Creek.

More specifically, of the three access pits proposed, one pit will be located within a portion of Bonita Creek, while the other two pits will be located within the unnamed ephemeral drainage to the north of San Diego Creek. Access Pit 1 will be located near the top of the north embankment, north of San Diego Creek. Access Pit 2 will be located approximately 200 feet north of the north edge of the San Diego Creek. Access Pit 3 will be located between Bonita Creek and an existing public bicycle/pedestrian trail. The public trail is adjacent to Bonita Creek Park (on the creek side of the park, see Exhibit 4). The pipe proposed for rehabilitation crosses beneath San Diego Creek. The pipeline route is perpendicular to the flow of San Diego Creek and continues within and parallel to Bonita Creek and the unnamed drainage. The proposed access pits will allow access to the existing pipeline that crosses under San Diego Creek from within Bonita Creek and the unnamed drainage, allowing repairs to be performed on the pipeline within these creeks with minimal intrusion into habitat and no intrusion into San Diego Creek itself.

The unnamed ephemeral drainage is not expected to contain flowing water at the time of construction. Bonita Creek has the potential to contain water at the time of construction, but its flows are largely dependent upon local precipitation and urban runoff.

**Allowable Use**
Section 30233 of the Coastal Act limits development within wetlands, such as at the subject site, to seven specific uses. One of the uses under Section 30233 for which develoment within wetlands is allowed is incidental public service use, including but not limited to, burying pipes. Section 30236 allows alteration of streams for necessary water supply projects. The proposed project will result in burying a new water pipe for purposes of rehabilitating part of an existing potable water pipeline. Continued delivery of potable water to MWD's service area constitutes a necessary water supply project. The applicant, Mesa Water District, is a special district whose primary mission is to manage and deliver potable water to customers within its service area, a population of over 107,000 people. Thus, the proposed project is a public service. The project would repair an existing potable water

pipeline. Thus, the project is incidental to the existing public service water distribution use and is therefore an allowable use under Coastal Act Section 30233(a)(4). The project is also a necessary water supply project and is therefore an allowable use under Coastal Act Section 30236.

**Alternatives**

The *Preliminary Design Report* (PDR)(RBF, November 2013) evaluated a number of project alternatives, including analysis of seven pipeline rehabilitation alternatives and six pipeline replacement alternatives. In considering the alternatives, the PDR applied a weighted ranking system based on each alternative's ability to satisfy project objectives and each factor's overall significance to the project. Factors considered in this analysis include (among other considerations): system hydraulics, condition of the existing pipeline, impacts to San Diego Creek, access requirements, addressing the seven degree horizontal deflection in the pipeline's alignment, service outage duration, expected useful service life, easement requirements, and construction, operation, and maintenance costs. The pipeline alternatives analysis considered the number of repairs that have been required on the existing pipeline, the varied nature of previous failures, and the age of the existing pipeline.

Pipeline replacement alternatives considered installation of a new pipeline on either of the two bridges in the immediate project vicinity: the Jamboree Road bridge and the State Route-73 connector bridge, which each cross San Diego Creek. These alternatives would involve placement of the pipe on the bridge by either hanging the pipeline on the underside of the bridge structure or installing cantilevered supports on the side of the bridge. Due to structural limitations of the bridge structures, both bridge alternatives would necessitate reduced pipeline diameter, potentially to 24 inches. A 24-inch diameter is not considered viable because that would reduce the pipeline capacity by 30%. These alternatives would also result in similar impacts to habitat as those resulting from the proposed alternative due to the need for construction access and equipment and the need for temporary support structures in the area beneath the bridge (San Diego Creek). In addition, open trenching would be required between the points of connection to the existing pipeline and the bridge. Though not a habitat consideration, work on the bridges would also create temporary adverse impacts to public access due to the need to limit vehicular traffic, including some closures, on the bridge roads and to the bicycle path along San Diego Creek.

Due to the extent of habitat impacts that would result, open trenching within the creek was dismissed as a viable alternative. However, trenchless construction methods for placement of a new pipeline within San Diego Creek were evaluated. However, the other trenchless construction alternatives would not reduce the area of habitat impacts compared to the proposed alternative because they would also need to construct access pits and an access road within habitat areas. Therefore, the other trenchless construction alternatives for placement of a new pipeline are not less environmentally damaging than the proposed alternative.

All pipeline rehabilitation alternatives that were considered would result in a reduction in the existing pipeline's interior diameter from 42 inches to 30 inches, making increased velocity a consideration. The alternatives analysis determined that a 30-inch diameter pipeline was viable based on velocity calculations and the pipeline's operating capacity. A number of different pipeline materials were consider for the rehabilitation option: fusible PVC, fusible HDPE, cured-in-place pipe, ductile iron, welded steel, carbon fiber wrap, and reinforced cement morar lining. Not all of these options are available in the size or pressure class needed for the proposed project, or they do

not provide the needed structural support. Thus, the viable materials options are limited to ductile iron pipe and welded steel pipe. Welded steel was rejected as an option because it would require manned entry to perform an internal weld at the seven degree horizontal deflection point in the existing pipeline and hand lay-up of the interior lining at the deflection location. A welded steel pipe would also require multiple insertion segments on the northerly side of the creek due to numerous vertical deflections. In addtion, the welded steel alternative would not reduce the area of habitat impact compared to the proposed alternative.

Impacts to the riparian wetland habitat are caused by excavation of the three access pits required for the trenchless construction and by the temporary access road that allows equipment and personnel access to the pits. The proposed trenchless construction greatly reduces the area of impact compared to the open trenching method. Open trenching would require excavation along the entire route of the existing deterioriated pipeline, including riparian wetland habitat and across the entire width of San Diego Creek. Under the proposed trenchless construction alternative the area of impact is limited only to the three 30' by 15' access pits, and the limited length of access road. Access to the proposed pits will be taken from the end of Bayview Way on the north and from existing paved area at Bonita Creek Park on the south, limiting the area of habitat disturbance due to creation of the access road by reducing the lenghth of the road to the least necessary. Both the access pits and the access road are proposed to be returned to their former state once the pipeline work is complete.

The proposed project would repair the pipeline in both San Diego and Bonita Creeks under a single action, thereby limiting disruption of habitat to a single occurrence. According to the PDR, use of the proposed ductile iron pipeline alternative is expected to virtually eliminate the potential for future pipeline failures within San Diego Creek [over the life of the project] due to the strength of the materials and because pipeline rehabilitation is proposed to extend well upstream into Bonita Creek, extending the area of protection without increasing the area of habitat impact. Moreover, this alternative avoids all impacts within San Diego Creek, and minimizes impacts within Bonita Creek and the unnamed drainage to the least area feasible. Based on the alternatives analysis, the trenchless construction rehabilitation using ductile iron pipeline is the least environmentally damaging, feasible alternative.

**Mitigation**

Both Sections 30233 and 30236 also require that any development within streams and wetlands provide mitigation to minimize any unavoidable adverse environmental effects. Due to the existing pipeline's location crossing San Diego Creek and within Bonita Creek and the unnamed drainage, repairs to the pipeline will result in some impacts to sensitive riparian wetland habitat. The location of the existing pipeline dictates the location of the temporary jacking pits and, as such, the pits cannot be relocated in a manner that would avoid or reduce habitat impacts below those proposed.

The applicant has proposed a Revegetation and Monitoring Plan (*Revegetation and Monitoring Plan, OC-44 Pipeline Rehabilitation and Replacement Project*, Michael Baker International, February 2016). The proposed Revegetation and Monitoring Plan (RMP) identifies 0.36 acre of riparian wetland habitat impacts and 0.03 acre of riparian scrub habitat, caused by the excavation of the three access pits and the access road. When pipeline construction is complete, the access pits are proposed to be filled and the area recontoured to its original grade and replanted with native vegetation. The RMP proposes mitigation within the disturbance footprint only, i.e. 1:1 on-site mitigation. However, the Commission typically requires higher mitigation ratios because restoration

on significantly impacted areas is essentially habitat creation and is accompanied with temporal loss and uncertainty of success.

The Commission typically requires a higher mitigation ratio of 3 or 4:1 (impact:mitigation) for habitat creation mitigation and more for mitigation that is non-native removal only (e.g. 5-16-0059, City of Newport Beach; 5-15-1427 (CDF&W); 5-13-0471 (Hometown America Communities)). Or, in this disturbed urban setting, mitigation in the form of non-native species removal at a higher mitigation ratio (4:1) could be appropriate mitigation in addition to the proposed 1:1 mitigation revegetation, for a total mitigation ratio of 5:1 (mitigation:impact) for non-native vegetation removal mitigation plan. That is, only by requiring the higher mitigation ratio can the Commission find that the proposed loss of riparian wetland habitat will indeed be offset by the restoration effort that will not be complete until well after the initial loss. The higher ratio also recognizes the statewide significance of these types of habitat and that their historic loss places greater value on those that remain. The Commission typically imposes the higher mitigation ratios for riparian wetland habitat impacts in order to address the loss of habitat value in the interim between the loss of habitat and establishment of the fully functioning replacement, and as a recognition that a high portion of artificially restored or created habitats are not successful, and for those that are successful, they can tend to be less diverse than natural or even natural but degraded riparian wetland systems.

The higher ratio also recognizes the statewide significance of these types of habitat and that their historic loss places greater value on those that remain. As much as 75% of coastal wetlands in southern California have been lost, and, statewide up to 91% of wetlands have been lost. Additional mitigation area may compensate for problems and/or delays that may arise in developing the mitigation site to full function. An alternative to the increased mitigation ratio would be to establish a fully functioning mitigation site prior to creating the impacts that result in the habitat loss. Typically, this is not the preferred alternative of project proponents. Only by requiring the increased mitigation ratio can the Commission find that the proposed loss of riparian habitats will indeed be offset by the restoration effort that will not be complete until well after the initial loss.

As submitted, the RMP proposes a 3-year maintenance period, and a 1-year monitoring period during the first year following installation of plantings. The RMP does not include a requirement for remedial measures should the revegetation not meet all of its goals or should it fail entirely. The Commission typically requires a minimum 5 years of maintenance with annual quantitative monitoring. Specifically, the Commission requires a minimum of five years of monitoring *or until success criteria are met, whichever is longer*. However, no such requirement is included in the proposed RMP. Without revegetation monitoring over a specified, minimum period to determine the status of the revegetation, the success of the mitigation in actually offsetting the habitat impacts cannot be known. Therefore, as proposed, the Commission cannot find that adequate mitigation has been provided as required by Section 30233, or that the best mitigation has been provided as required by Section 30236.

The proposed success criteria are 25% cover of native species and less than 5% non-native species after 1 year. For riparian wetland habitats in an urban setting, typical success criteria would be at least 80% cover by native shrubs and trees (e.g., willows, mulefat) after 5 years, no invasive species, and less than 10% cover of non-native species, including herbaceous species. If non-native species removal is part of the mitigation program, there should be no invasive species and less than

10% cover of non-native species at the end of each of the 5 years of maintenance and monitoring. As proposed the RMP does not do this, and so must be revised accordingly.

The Commission typically requires that mitigation revegetation be monitored over a minimum five year period in order to document success or failure of the mitigation planting and to document areas where additional work is needed. In addition, the Commission requires specific success criteria as a basis upon which to judge whether the revegetation does, in fact, offset the habitat lost due to project impacts. A minimum five year monitoring period and specific success criteria are necessary to facilitate revegetation success in order to avoid ultimately losing sensitive habitat area, even where revegetation mitigation has been required at a higher ratio that the area lost.

The intent of a restoration is to create a native vegetation community that is self-sustaining. That is why the Commission generally requires that monitoring for success take place no sooner than 3 years after the end of all remediation and maintenance activities other than weeding. The longer the restoration has been in place when success criteria are met, the greater the certainty that the success criteria will be sustained. Given that the restored vegetation continues to mature over several years, five years of monitoring is considered minimal.

The length of time over which monitoring is to be conducted is driven by the mitigation project goals, success criteria, and monitoring parameters. Some results of a restoration project may be observed over a short period of time after construction, while others may take several years to fully appear. Based on past Commission permit actions for restoration projects, or where revegetation mitigation was required, the Commission has found that five years is the minimum needed to fulfill restoration goals (i.e., adequate vegetation coverage, absence of invasive species, survival without supplemental irrigation, etc.), and allows the applicant adequate time to make corrective steps over the monitoring period, in the event restoration is not meeting the stated goals and objectives laid out in the restoration plan. Monitoring over the minimum five year period can provide information to explain why goals are not met as opposed to shorter time periods, increasing the success rate of the mitigation measures.

The Commission did approve a previous project for this same pipeline, Coastal Development Permit 5-06-111 (Mesa Consolidated Water District), where the required monitoring period may have been less the typically imposed minimum five years. However, the project approved under CDP 5-06-111 (follow up to an emergency permit to repair a break in the pipeline) removed only non-native vegetation and required only trimming of willows. Habitat impacts caused by that project were: *"In order to create an access path to enable the contractor to move machinery into the area where the repairs were needed, the applicant removed non-native species including Castor Bean, Pampas Grass, Brazilian peppertree, Fennel, Milk Thistle and Artichoke Thistle and an approximate 2,000 square foot area of Giant Reed (Arundo Donax). Also, some trimming of Arroyo Willow took place.*[1]*"* Under that project, the applicant proposed mitigation for these impacts by planting *Mulefat (Baccharis salicifolia)* and *Mexican Elderberry (Sambucus mexicana*). Moreover, documents in that file reveal that status updates on the mitigation were prepared and submitted from 2006 – 2011, a period of five years. In contrast to the project approved under 5-06-111 which removed non-natives, the currently proposed project, will remove sensitive, native riparian wetland plants.

[1] Coastal Development Permit 5-06-111 (Mesa Consolidated Water District), staff report 5/19/2010).

The applicant has characterized impacts due to the pipeline construction as temporary because no permanent displacement of habitat will occur and the disturbed area is to be revegetated at the conclusion of construction. As proposed, these impacts are to be mitigated at a 1:1 ratio. However, the Commission has classified these types of impacts (where the impact footprint is restored) as permanent impacts for mitigation purposes in cases where: the ground is significantly disturbed or the vegetation removed, where the habitat impacted is especially significant, and where there will be delay (typically one year or more) between occurrence of the impacts and full restoration of the impacted vegetation. All of these circumstances are present with the proposed project. Therefore, the impacts characterized by the applicant as temporary are more appropriately characterized as permanent for purposes of mitigation.

The proposed RMP's quantitative surveys are based on point-contact estimates along transects. However, detailed methods are not provided, including necessary replication. The method by which success will be evaluated is also not provided. If a statistical test is proposed, a statistical power analysis should be completed to estimate the necessary replication. These details are necessary to evaluate the plan. In addition, the type of herbicide and application methods must be specified. The propagules (seeds, cuttings, and containers) used for vegetation restoration should be derived from coastal sources within Orange, Los Angeles, or San Diego counties, and preferably from the local watershed, if available.

In addition, in order to be effective, the RMP must be revised to add the following requirement: "*If the final report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the approved performance standards, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved performance standards. The revised restoration program, if necessary, shall be processed as an amendment to this coastal development permit, unless the Executive Director determines that none is legally required.*" It is critical that requirements be in place should the specified success criteria not be met. If the success criteria are not met, the Commission cannot find that the revegetation mitigation has, in fact, offset the habitat lost due to the proposed project.

As described above, the proposed *Revegetation and Monitoring Plan* is inadequate to assure impacts to habitat are minimized. Thus, the RMP must be revised to address these issues in order to assure that the project's adverse impacts to habitat are adequate to offset any adverse environmental effects. The project has been conditioned to submit a revised *Revegetation and Monitoring Plan* that, among other things, increases the mitigation ratio, better outlines the success criteria, and requires monitoring for five years or until success criteria are met, whichever is longer. It is important that the revised RMP be submitted for the review and approval of the Executive Director to assure the measures are incorporated as necessary to assure adequate mitigation is provided and adverse impacts to habitat are minimized to the maximum extent feasible. Therefore, the Commission imposes **Special Condition 1**, which requires submittal of the revised RMP. Only as conditioned, can the project be found to be in conformance with the Section 30233 of the Coastal Act regarding protection of wetlands, and with Section 30236 regarding alteration of streams.

**Other Necessary Habitat Protection Measures**
As proposed by the applicant and included as a required mitigation measure in the project Mitigated Negative Declaration (JN 134205, prepared by RBF, January 2015), a qualified biologist must be present on-site during all vegetation removal. The biologist will have the authority to stop work in the event impacts to special status species outside the project footprint appear likely. In addition, the limits of work must be identified via flagging, staking, or temporary fencing in order to avoid inadvertent impacts to sensitive habitat and/or species beyond the project limits. In order to minimize adverse impacts on habitat, the Commission imposes **Special Condition 3**, which requires implementation of these habitat protection measures during project construction. Only as conditioned, can the project be found to be consistent with Coastal Act Section 30233 regarding protection of wetlands and Section 30236 regarding alteration of streams.

As stated above, sensitive bird species occur in the general project vicinity, including the Upper Newport Bay Ecological Reserve, San Joaquin Marsh, and surrounding open space such as the subject site. Because the project is expected to occur for a minimum of five months, avoiding the nesting season entirely is not an option. In order to avoid impacts to these species, impacts during the nesting season must be avoided. If construction activities are to occur during the bird nesting season (January 1 through September 30), a qualified biologist with experience in conducting bird surveys, must conduct nesting bird surveys to identify their presence or absence during construction. If active nests of special status species are identified within the construction area, work shall cease within 500 feet for raptors and within 300 feet for California Department of Fish & Wildlife listed species and/or species of special concern. Work outside these limits, however, may continue. In order to avoid adverse impacts to sensitive bird species during nesting season, the Commission imposes **Special Condition 2**, which requires that surveys for nesting birds be conducted by a qualified biologist when work is undertaken during the nesting bird season and, that if nests are identified, work be directed away from the nests.

## D. MARINE RESOURCES/WATER QUALITY

Section 30230 of the Coastal Act states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining*

*natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The project will occur in Bonita Creek and an unnamed drainage tributary to San Diego Creek, adjacent to San Diego Creek (See Exhibits 1 and 2). San Diego Creek, a perennial drainage feature, flows into the Upper Newport Bay, then into Newport Harbor, and eventually, into the Pacific Ocean. Open water was observed throughout the entire reach of San Diego Creek. Bonita Creek is also a perennial drainage feature, discharging along the southern bank of San Diego Creek. Open water was observed throughout the entire reach of Bonita Creek. The unnamed, intermittent drainage feature flows south from the outlet of a four-foot reinforced concrete pipe and eventually discharges along the northern bank of San Diego Creek. Flows in this drainage feature come from surface runoff from surrounding development. Surface water, ranging in depth from one to twenty-four inches, was observed during the project site wetland delineation.

Due to the presence of surface and ground water, dewatering is proposed during construction (*Dewatering Plan for the OC-44 Pipeline Replacement and Rehabilitation Project*, prepared by John H. Harris, registered professional engineer, received in the Commission's South Coast District Office on April 28, 2016). Dewatering pumps will be placed within each of the proposed access pits. One of the proposed access pits will be located within a portion of Bonita Creek. The other two pits will be located within the unnamed ephemeral drainage to the north of San Diego Creek. The unnamed ephemeral drainage is not expected to have flowing water at the time of construction. Bonita Creek has the potential to contain water at the time of construction, though its flows are largely dependent upon local precipitation and urban runoff. Dewatering measures are required to account for groundwater seepage into the pits, as well as the potential for Bonita Creek to contain flowing water at the time of construction.

The proposed dewatering plan is intended to address anticipated water levels, and provides the location and dimensions of the desilting tank, water discharge methods, and relevant water quality BMPs. The proposed project requires that the groundwater level be lowered to 2 feet below the bottom of the access pits. Dewatering effluent is proposed to be discharged and treated through a desilting basin prior to discharge back into Bonita Creek. Dewatering will be required for the entire duration of project construction, which is expected to be a maximum of 180 days.

The dewatering methods are described in the proposed *Dewatering Plan* as follows:

*"The construction contractor will utilize a submersible pump inside of the shored excavated pits. The water will be pumped out of the pit and discharged into a multi-baffle Baker tank. One tank is required for each access pit, resulting in a total of three (3) tanks. The tanks will be located outside of sensitive habitat areas, but within the previously identified temporary construction footprint.*

*A Baker tank separates water and waste by using weirs rather than a filter cloth or media. The configuration of the weirs maximizes the residence time in the tank and determines the waste to be removed from the water such as oil, grease, and sediments. The tanks used for this project will be approximately 25 feet long x 8.5 feet wide x 8 feet tall. Each tank will have a capacity of approximately 10,000 gallons. Based on an estimated pumping rate of 100 gallons per minute, the residence time within each Baker tank will be 100 minutes*

*(10,000 gallons/100 gallons per minute (gpm)). This will provide sufficient time for most of the entrained sand particles to settle out prior to discharge to the creek. The tank will* [be] *inspected daily to ensure proper function.*

*To further reduce the potential of pumping fine grained materials into the dewatering system, each excavation will be lined with filter fabric, similar to Mirafi® 140N, a nonwoven geotextile composed of polypropylene fibers. A 24-inch thick layer of crushed rock, 1" maximum, will be placed in the bottom of the excavation on top of the fabric liner and the dewatering sump pump(s) will be placed within the rock layer. Discharge from these pumps will go into the Baker tank for further settling treatment.*

*The treated water will be discharged into San Diego Creek or Bonita Creek downstream of the access pits in a manner that minimizes erosive potential. Each Baker tank will be fitted with a 4" diameter discharge port and rubber discharge hose, which will produce a discharge velocity of less than 3 feet per second*[2] *(fps) at a dewatering rate of 100 gpm. Appropriate erosion control best management practices (BMP's), consisting of a filter bag, similar to* [those] *manufactured by Spill Control, Inc., will be provided at the discharge point to further trap any sediment and spread the discharge laterally to avoid any scour at the discharge point."*

In summary the proposed dewatering system will consist of three steps to minimize sediment transport: 1) a filter fabric liner separating the native soil from the dewatering pump; 2) a multi-baffle Baker tank; and, 3) a filter bag at the discharge point into the creek. In addition, other measures proposed to be incorporated into the dewatering plan include redundant equipment such as pumps and generators; spill response plan; supply of erosion control devices such as sand bags, straw wattles, silt fence; and, identification of a 24-hour emergency response person and contact information.

However, additional construction BMPs could be incorporated into the proposed project to promote the biological productivity of coastal waters, to assure that protection of marine resources, and to assure that water quality is maximized, as required by Section 30230 and 30231 of the Coastal Act. These additional measures include but are not limited to covering of stockpiled material, prohibition of any construction machinery or materials not essential for project improvements in subtidal or intertidal zones; the installation of barriers between work areas and water areas; and implementation of erosion control BMPs. All of the additional BMPs are listed in **Special Condition 6**.

The proposed development has a potential for a discharge of polluted runoff from the project site into coastal waters. The development, as proposed and as conditioned, incorporates BMPs to minimize the effect of construction activities on the marine environment. Therefore, the Commission finds that the proposed development, as conditioned, conforms with Sections 30230 and 30231 of the Coastal Act regarding the biological productivity of coastal waters, assuring the protection of marine resources, and protection of water quality.

## E. CULTURAL RESOURCES

Coastal Act Section 30244 states:

[2] 3 feet cubic feet is equal to 22.45 gallons

> *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

A *Cultural Resources Assessment* of the general area of the project footprint was conducted to assess the potential for adverse impacts to cultural/archaeological resources due to the proposed pipeline rehabilitation project (*Cultural Resources Assessment for the OC-44 Pipeline Rehabilitation/Replacement Project*, prepared by Cogstone/RBI, October 2014). A records search revealed that there are 29 recorded archaeological or historic sites within a one mile radius of the project site. However, the *Assessment* concluded that only one is located in an area that has the potential to be impacted by the proposed project. That site is located adjacent to, but outside the project area. However, that site is reported to have been graded away in the past. In addition, an intensive-level pedestrian survey of the entire 15.75 acre Area of Potential Effects (APE) was conducted and no cultural resources were observed within or immediately adjacent to the APE. The Native American Heritage Commission (NAHC) was consulted and stated that no known sacred sites are located within the project vicinity. The assessment states the project site APE is not near any recorded major village. The NAHC identified sixteen Native American tribes or individuals to be contacted for further information regarding the project. Three of the Native Americans contacted requested that the project be monitored by appropriate Native Americans, and one of the three requested it be monitored by both Native Americans and a qualified archaeologist. Although the *Assessment* concludes that no cultural resources are known within the project area, it nevertheless recommends: "*In the event of unanticipated discoveries work should be halted until a qualified archaeologist can evaluate the nature and significance of the find.*" However, the proposed project does not include archaeological or Native American monitoring requirements. Without such monitors, there is no assurance that any cultural resources that are revealed would be recognized as such and treated appropriately. The project has been conditioned to submit a *Construction Monitoring Treatment Plan* (CMTP) that requires a qualified archaeological monitor and appropriate Native American monitor(s) to be present during all earth disturbing activities, and provides measures to be implemented in the event cultural resources are discovered.

The proposed development will be occurring in a location where there is a potential for the presence of cultural resources. To reduce the potential for impacts on any cultural resources, the Commission imposes **Special Condition 4** requiring that all ground disturbing project activities be monitored by a qualified archaeologist and by appropriate Native American(s), and that if any cultural resources are discovered a specific process to protect them be implemented. As conditioned, the Commission finds that the development conforms with Section 30244 of the Coastal Act.

## F. PUBLIC ACCESS

Coastal Act Section 30210 states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

A public bicycle path runs along the west bank of Bonita Creek, in the area adjacent to proposed Pit 3. The proposed project would temporarily reroute the bicycle path via a detour through the adjacent public park parking lot. The applicant has indicated that no public parking spaces will be lost due to the detour. The detour is proposed only for the duration of construction and public access along the path will be restored upon completion of construction. **Special Condition 5** requires the applicant to submit a *Public Access Plan* that provides the details of the proposed public bicycle path detour, including information regarding specific location, signage, duration of the detour, and confirmation that no public parking spaces will be displaced and that the path will be restored to public use upon completion of construction. The proposed project will have no impacts on the public bicycle paths on the east side of Bonita Creek and along San Diego Creek. As conditioned, the proposed development will not have any new adverse impact on public access to the coast or to nearby recreational facilities. Thus, as conditioned, the proposed development conforms with Sections 30210 of the Coastal Act.

## G. LOCAL COASTAL PROGRAM (LCP)

Coastal Act section 30604(a) states that, prior to certification of a local coastal program ("LCP"), a coastal development permit can only be issued upon a finding that the proposed development is in conformity with Chapter 3 of the Act and that the permitted development will not prejudice the ability of the local government to prepare an LCP that is in conformity with Chapter 3. The Land Use Plan for the City of Newport Beach was effectively certified on May 19, 1982. The certified LUP was updated on October 2005. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified Land Use Plan for the area. Approval of the project, as conditioned, will not prejudice the ability of the local government to prepare an LCP that is in conformity with the provisions of Chapter 3 of the Coastal Act.

## H. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

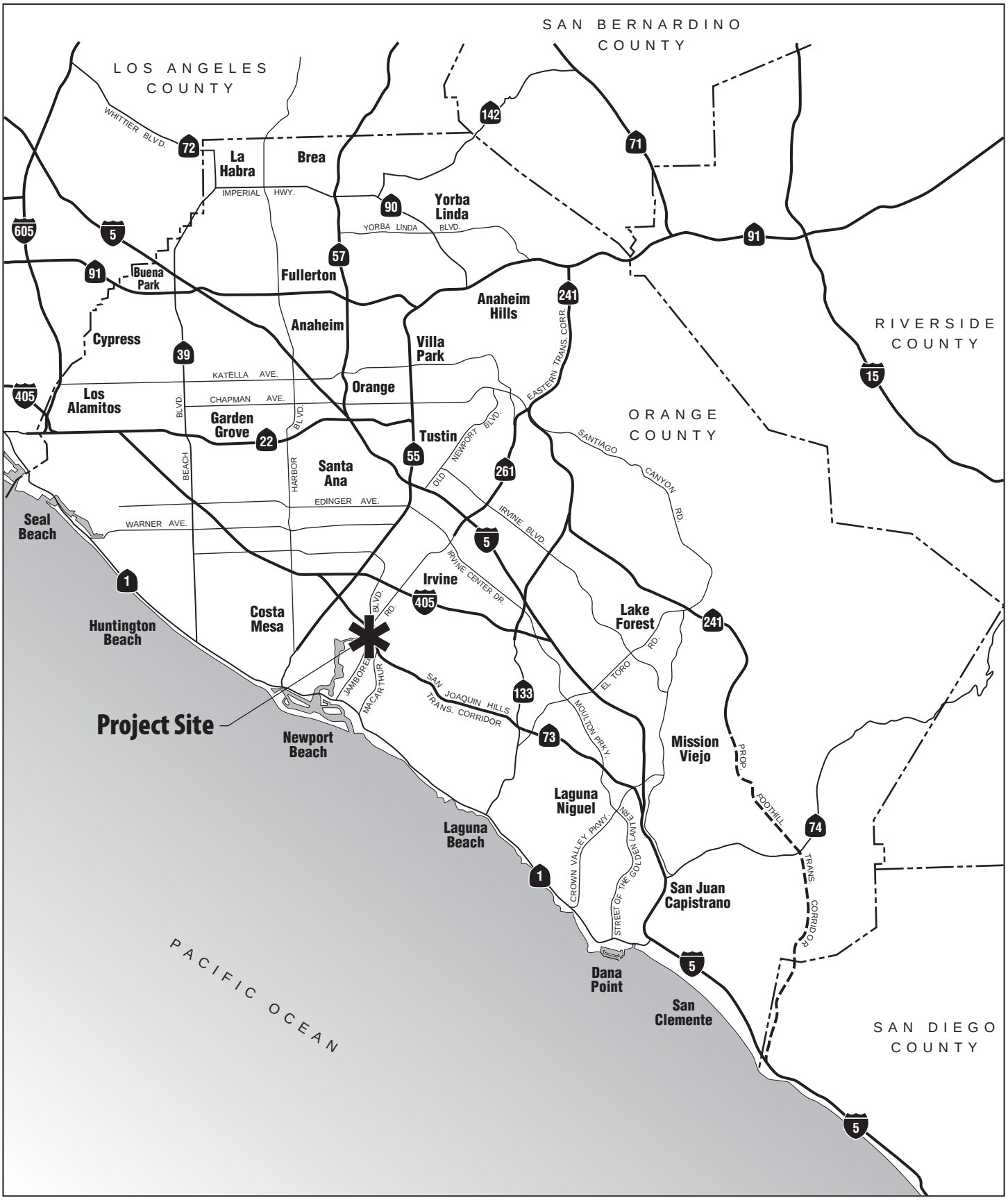
Section 13096 of the California Code of Regulations requires Commission approval of a coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

A Mitigated Negative Declaration (Mitigated Negative Declaration OC-44 Pipeline Rehabilitation/Replacement Project *(*RBF Consulting, September 2014) was approved for the proposed project by the MWD Board on April 9, 2015. The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act regarding protection of habitat, cultural resources, public access and water quality. Mitigation measures, in the form of special conditions, require the applicant to: submit a revised *Revegetation and Monitoring Plan*, conduct nesting bird surveys if work will occur during nesting season, provide a biological monitor to be present during all vegetation removal activities, flag the project footprint, provide archaeological and Native American monitors to be present during all earth disturbing activities, submit a *Public Access Plan* addressing the temporary bike path detour, and implement construction best management practices to preserve and enhance water quality. As conditioned, there are no

feasible alternatives or additional feasible mitigation measures available that would substantially lessen any significant adverse effect that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

## Appendix A - Substantive File Documents

*Revegetation and Monitoring Plan, OC-44 Pipeline Rehabilitation and Replacement Project* (Michael Baker International, February 2016);
*OC-44 Pipeline Rehabilitation/Replacement Project Habitat Assessment* (Michael Baker International, September 2014);
*Preliminary Design Report*, Mesa Water District, OC-44 Pipeline Rehabilitation/Replacement Evaluation & Cathodic Protection Study (RBF Consulting, November 2013);
*Dewatering Plan for the OC-44 Pipeline Replacement and Rehabilitation Project*, (John H. Harris, P.E., received in the Commission's South Coast District Office 4/28/16);
*Mitigated Negative Declaration OC-44 Pipeline Rehabilitation/Replacement Project* (RBF Consulting, September 2014);
*Cultural Resources Assessment for the OC-44 Pipeline Rehabilitation/Replacement Project*, prepared by Cogstone/RBI, October 2014;
Coastal Development Permit 5-06-111(Mesa Consolidated Water District).




Project Site

OC-44 PIPELINE REHABILITATION/REPLACEMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

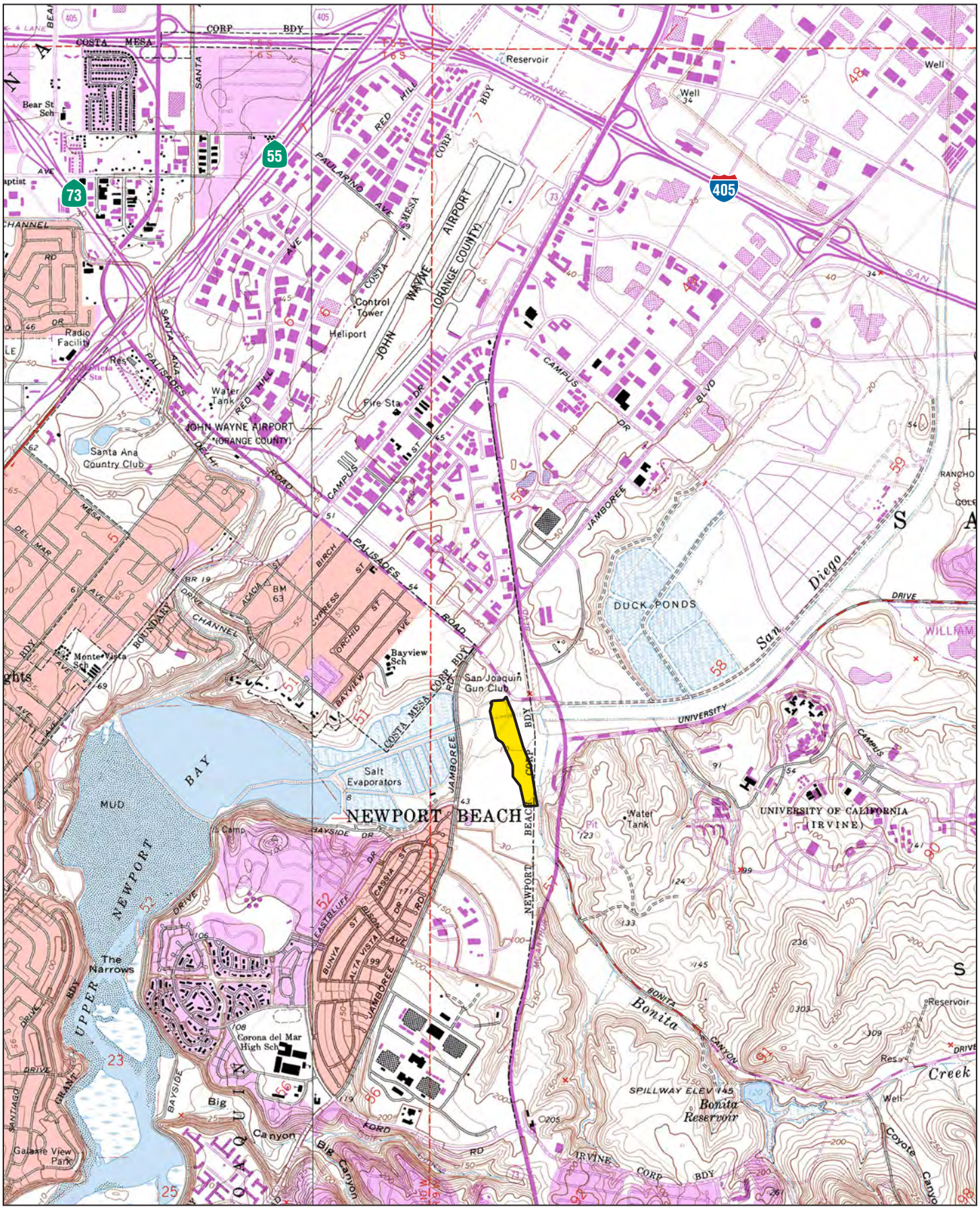
# Regional Vicinity

RBF A Baker Company

not to scale

6/23/14 JN 134205-20288 MAS

**Exhibit 1**




SOURCE: USGS Tustin, CA Quadrangle, rev. 1981;
USGS Newport Beach, CA Quadrangle, rev. 1981.

Project Site

OC-44 PIPELINE REHABILITATION/REPLACEMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

# Site Vicinity

RBF
A Baker Company

0 2500'
APPROXIMATE

6/4/14 JN 134205-20288 MAS

**Exhibit 2**


SOURCE: Google Earth Pro Aerial, 2013.

RBF A Baker Company

not to scale

8/4/14 JN 134205-20288 MAS

OC-44 PIPELINE REHABILITATION/REPLACEMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

# Project Site

**Exhibit 3**


OC-44 PIPELINE REHABILITATION/REPLACEMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

# CDFW/CCC Jurisdictional Map

Exhibit 3B


## SITE PLAN

SCALE: 1" = 100'

LEGEND

- SB-2 — SOIL BORING LOCATION SEE SHEET GT-1
- CALTRANS RIGHT OF WAY
- LIMITS OF MANUAL REMOVAL OF ARUNDO DONAX (GIANT REED)
- CLEARING LIMITS OF ACCESS ROAD AND WORK AREA

SCALE: 1"=100'

100 50 0 100 200 300

SCALE: 1"=100'

REGISTERED PROFESSIONAL ENGINEER — JOHN H. HARRIS — No. 38217 — Exp. 3/31/17 — CIVIL — STATE OF CALIFORNIA

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-2027
949.472.3505 • FAX 949.472.8373 • www.RBF.com

MesaWater DISTRICT

REPAIRS TO OC-44 PIPELINE BY SLIP-LINING 30" IN EX. 42" PIPE BETWEEN STA 335+00 AND 352+00

PROJECT SITE PLAN

C-1

SHEET 3 OF 13

H:\PDATA\134205\CADD\WATER\DLV\IMPROVE\134205-WA-01.DWG ROLDAN, RICHARD 7/16/2015 8:50 AM

DESIGN CAPACITY = 75 CFS
DESIGN HGL = 478 FT
WORKING PRESSURE = 210 PSI

FLETCHER JONES CAR DEALERSHIP
96" CONC ENCASE
EX. 42" PIPE
S=-0.0200
S=-0.1800
S=-0.1400
S=-0.0594
S=-0.0271
S=+0.0017
S=+0.0020
S=+0.0084
S=+0.0080
S=+0.0120
S=+0.0175
S=-0.1693
334+36 CPLG W/ OBS PIPE
334+53.5 30" OUTLET W/ MH SHAFT (REPAIRED 2006)
850' - 30" DIP SLIP-LINE PIPE WITH TR-FLEX JOINTS CLASS 350
ACCESS PIT # 2 REMOVE EXIST. 60" CASING AND 42" PIPE AS REQUIRED PROVIDE 6" B.O.
333+40.00 INV 18.46
333+91.89 EX COUPLING
334+03 INV 7.21
STA 334+90±
STA 335+00 ACCESS PIT #1
STA 335+17±
STA 335+74.70 INV -5.54
2" VENT
STA 335+85 BEGIN 60" C.M.P. NESTABLE CASING
STA 336+33±
STA EQUATION 336+43.41 BK= 336+41.77 AHEAD Δ = 7° 30' 05"
STA 336+52±
ORIGINAL GROUND SURFACE @ ℄ PIPE (1962)
EX. 60" CMP CASING
EX. 42" PIPE
NEW 30" DIP SLIPLINE
334+74.60 INV -2.78
334+91.26 INV -3.77
335+44.33 EX 6" FLOW-OFF ASSY TO BE ABAN'D
338+40.33 INV -5.03
338+56.86 INV -4.89
339+77.17 OUTLET SHAFT
2" VENT
STA 341+47.4 20" ACCESS M.H.
EX. 42" PIPE
340+95 END 60" CMP NESTABLE STL. CASING
341+90.64 INV 0.96
342+07.33 INV 1.17
343+50 MATCHLINE SEE SHEET C-3

PROFILE
SCALE: HORZ: 1"=40'
VERT: 1"=4'

334+94± INSTALL TEMP. 42" END CAP PER DETAIL 3 DT-5
ACCESS PIT # 1 SEE DETAIL 1 DT-1
ACCESS PIT # 2 W/B.O. SEE DETAIL 2 DT-1
℄ PT 336+42.59
Δ =7° 30' 05" RT
EX 60" CMP CASING
SACRIFICIAL ANODES, SEE SHEET CP-1
334+36 EX SLEEVE COUPLING W/ OBSERVATION PIPE
FLETCHER JONES MOTORCARS
SAN DIEGO CREEK CHANNEL
339+77.17 20" OUTLET W/ MH SHAFT TO BE ABANDONED
EX METER STRUCTURE
BIKE PATH
30' MESA WATER EASEMENT
341+47.4 EX 20" ACCESS MH
REHAB EXIST. 42" PIPE W/ 30" DIP SEE DETAIL 3 DT-2
STATE OF CALIFORNIA
334+53.5 EX 30" OUTLET W/ MH SHAFT
STA 335+00 CP TEST STATION PER 1 CP-2
15' MWD EASEMENT
EX RIP-RAP
EX 36" MWD ORANGE COUNTY FEEDER
341+35± EX SLEEVE COUPLING W/ OBSERVATION PIPE
EX 16" GAS LINE (ABANDONED)
333+91.89 EX COUPLING
EX. 16" GAS LINE (ABANDONED)
ORANGE COUNTY FLOOD DISTRICT RIGHT OF WAY (APPROXIMATE LIMITS)
CITY OF NEWPORT BEACH
ACCESS ROAD TO WORK AREA SEE SHEET C-1
IRVINE COMPANY (BAYPOINT APTS)
343+50 MATCHLINE SEE SHEET C-3
SCALE: 1"=40'

SEE CONTINUATION SHEET C-1

PLAN - 30" DIP SLIP-LINER PIPE
STA. 335+00 TO STA. 343+50

REGISTERED PROFESSIONAL ENGINEER JOHN H. HARRIS No. 38217 Exp. 3/31/17 CIVIL STATE OF CALIFORNIA

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-2027
949.472.3505 • FAX 949.472.8373 • www.RBF.com

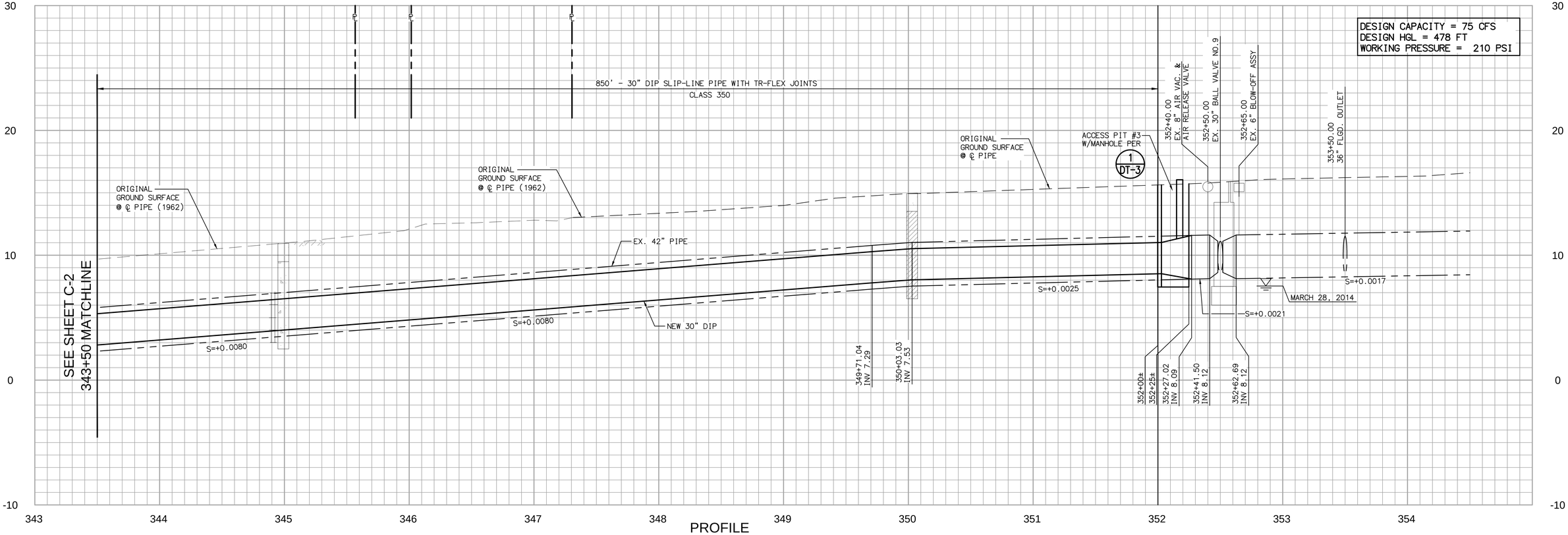
MesaWater DISTRICT

REPAIRS TO OC-44 PIPELINE
BY SLIP-LINING 30" IN EX. 42" PIPE
BETWEEN STA 335+00 AND 352+00

PLAN & PROFILE
STA. 335+00 TO STA. 343+50

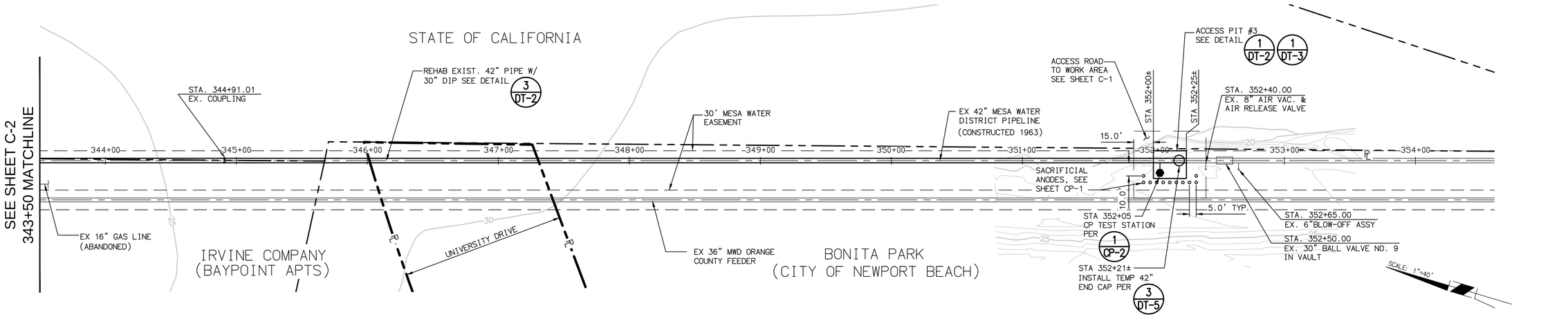
C-2
SHEET
4 OF 13

H:\PDATA\134205\CADD\WATER\DLV\IMPROVE\134205-WA-02.DWG ROLDAN, RICHARD 7/16/2015 8:50 AM




PROFILE

SCALE: HORZ: 1"=40'
VERT: 1"=4'




PLAN - 30" DIP SLIP-LINER PIPE
STA. 343+50 TO STA. 352+00

REGISTERED PROFESSIONAL ENGINEER
JOHN H. HARRIS
No. 38217
Exp. 3/31/17
CIVIL
STATE OF CALIFORNIA

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-2027
949.472.3505 • FAX 949.472.8373 • www.RBF.com

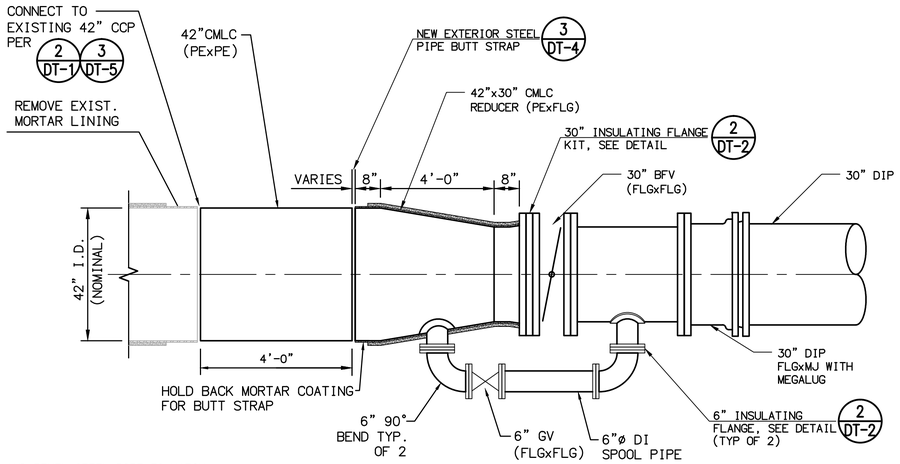
MesaWater DISTRICT

REPAIRS TO OC-44 PIPELINE
BY SLIP-LINING 30" IN EX. 42" PIPE
BETWEEN STA 335+00 AND 352+00

PLAN & PROFILE
STA. 343+50 TO STA. 352+00

C-3
SHEET
5
OF
13

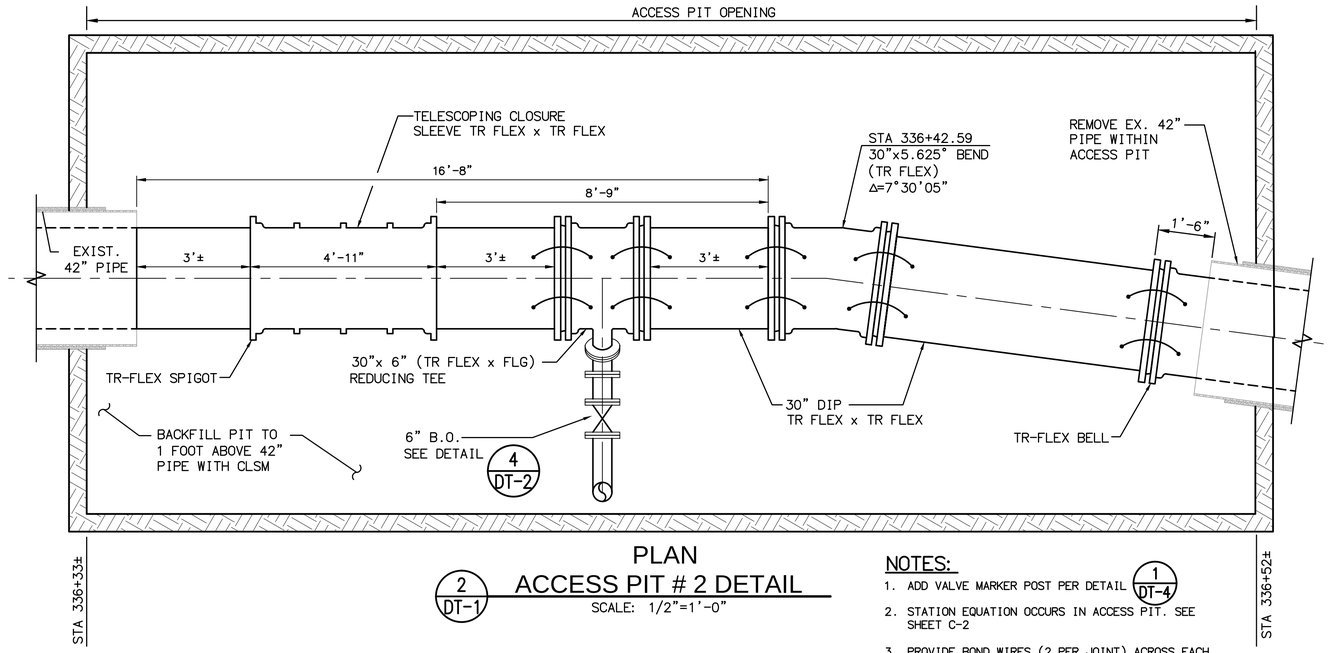
H: \PDATA\134205\CADD\WATER\DLV\IMPROVE\134205-WA-03.DWG ROLDAN, RICHARD 7/16/2015 8:51 AM




NOTES:

1. FIELD CUT AND BEVEL STEEL PIPE TO MATCH VERTICAL ALIGNMENT OF ADJOINING PIPE SECTIONS.
2. PROTECT VALVE OPERATOR AND NUT FROM CLSM BACKFILL.
3. PROVIDE VALVE WELL ASSEMBLY PER DETAIL 2 DT-5
4. ALL HARDWARE SHALL BE SST TYPE 316, COATED WITH A THREE PART AWWA C217 WAX AND WAX TAPE SYSTEM.

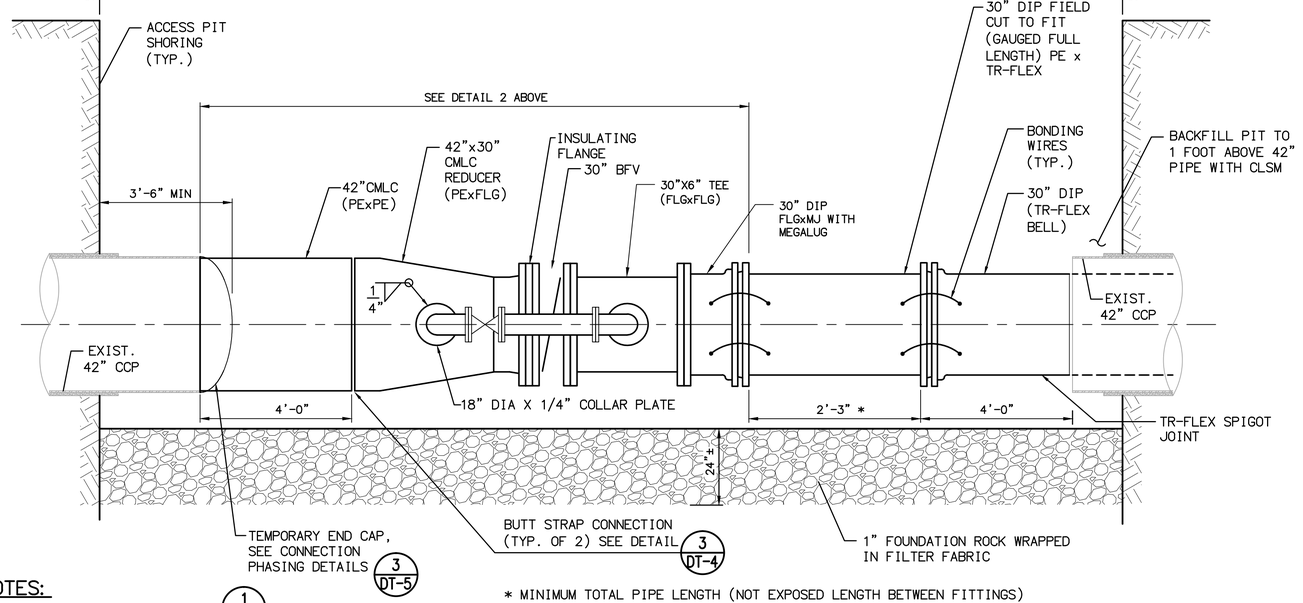
3 DT-1 DETAIL
SCALE: 1/2"=1'-0"




PLAN
2 DT-1 ACCESS PIT # 2 DETAIL
SCALE: 1/2"=1'-0"

NOTES:

1. ADD VALVE MARKER POST PER DETAIL 1 DT-4
2. STATION EQUATION OCCURS IN ACCESS PIT. SEE SHEET C-2
3. PROVIDE BOND WIRES (2 PER JOINT) ACROSS EACH FITTING AND PIPE JOINT
4. ALL JOINTS IN ACCESS PIT NEED BONDS

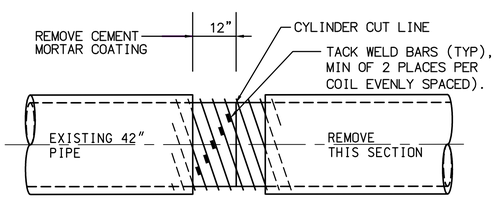



NOTES:

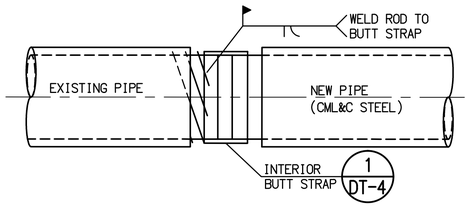
1. ADD VALVE MARKER POST PER DETAIL 1 DT-4

* MINIMUM TOTAL PIPE LENGTH (NOT EXPOSED LENGTH BETWEEN FITTINGS)

1 DT-1 ELEVATION
ACCESS PIT # 1 DETAIL
SCALE: 1/2"=1'-0"




1. PERFORM ROUGH LAYOUT, REMOVE CEMENT MORTAR COATING AND TACK WELD EXPOSED BARS TO CYLINDER.
2. BEFORE CUTTING THE REINFORCING ROD, ALLOW AT LEAST TWO FULL COILS OF ROD FOR REDUCED ROD SPACING AND LAPPING ONTO THE BUTT STRAP. CUT THE ROD AND BEND AWAY FROM CYLINDER.




2 DT-1 42" CCP CONNECTION DETAIL
SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER — JOHN H. HARPER — No. 38217 — Exp. 3/31/17 — CIVIL — STATE OF CALIFORNIA

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-2027
949.472.3505 • FAX 949.472.8373 • www.RBF.com

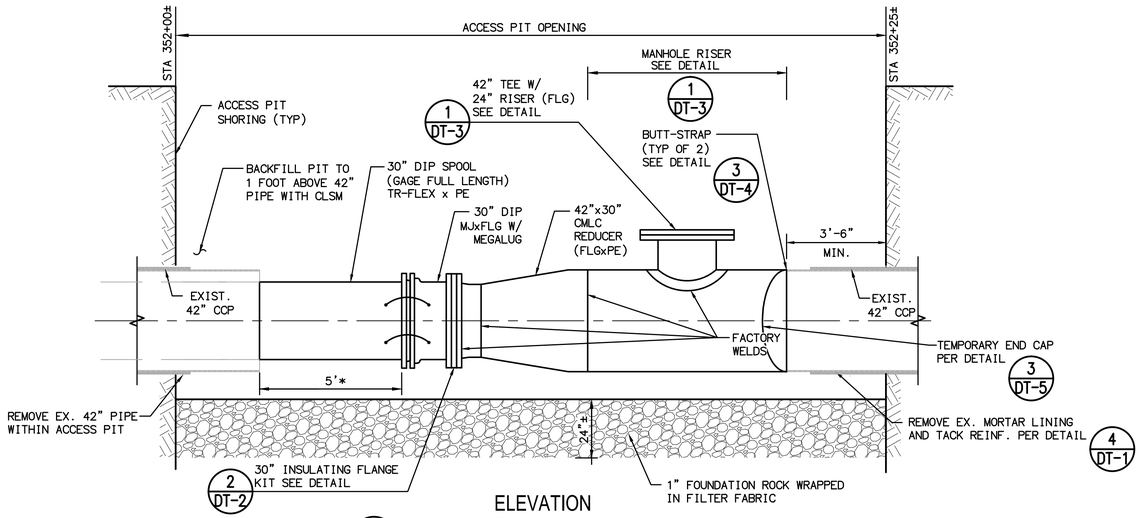
MesaWater DISTRICT

REPAIRS TO OC-44 PIPELINE BY SLIP-LINING 30" IN EX. 42" PIPE BETWEEN STA 335+00 AND 352+00

ACCESS PIT # 1 AND # 2 DETAIL SHEET

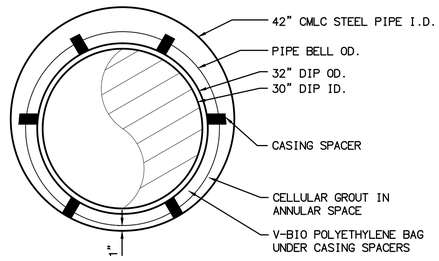
DT-1
SHEET
6 OF 13

H:\PDATA\134205\CADD\WATER\DLV\IMPROVE\134205-DT-01.DWG ROLDAN, RICHARD 7/17/2015 8:38 AM

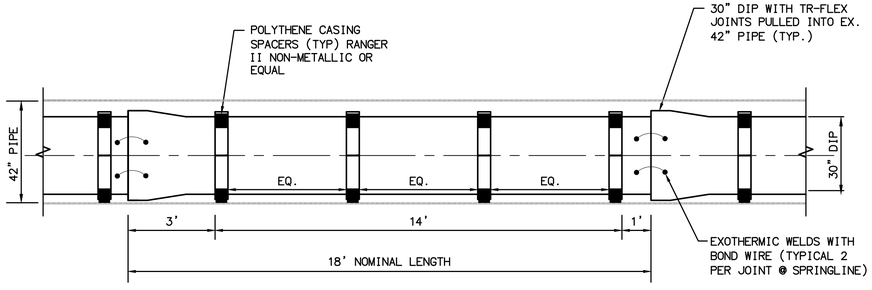



* DIMENSION CAN BE REDUCED TO SUIT FIELD CONDITIONS

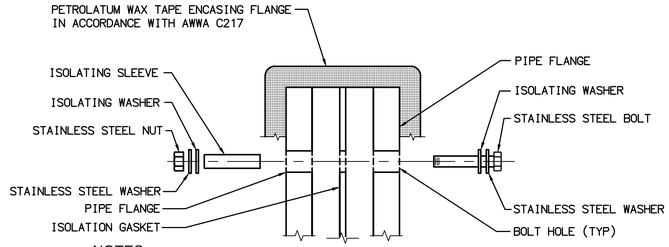
1 DT-2 **ELEVATION**
**ACCESS PIT # 3 DETAIL**
SCALE: 3/8"=1'-0"




**SECTION**
SCALE: NTS



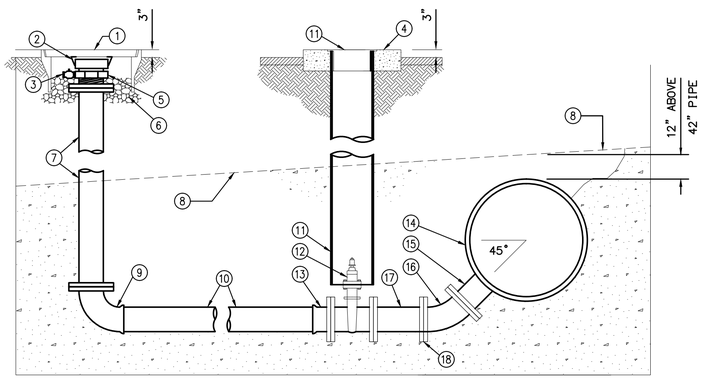

3 DT-2 **ELEVATION**
**CASING SPACER DETAIL**
SCALE: NTS




NOTES:

1. FLANGE ISOLATION KITS SHALL BE SUITABLE FOR POTABLE WATER SERVICE UNDER OPERATING PRESSURES AS INDICATED ON THE PLANS AND SPECIFICATIONS.
2. THE GASKET SHALL BE CORRECTLY SIZED TO EXTEND OUT TO THE O.D. OF THE FLANGE TO FIT THE FLANGE AND BOLT PATTERN.
3. THE HOLES SHALL BE CUT IN AT THE BOLT CIRCLE TO ACCOMMODATE THREADED STUDS OR BOLTS.
4. ISOLATING GASKETS KIT SHALL CONSIST OF A DOUBLE WASHER SET TO INCLUDE THE FOLLOWING COMPONENTS FOR EACH BOLT:
   A. TWO - 1/8" THICK STEEL WASHERS
   B. TWO - ISOLATING WASHERS
   C. ONE - FULL LENGTH ISOLATING SLEEVE
5. ALL BOLTS, NUTS AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL

2 DT-2 **INSULATING FLANGE DETAIL**
SCALE: NTS




NOTES:

1. SET TOP OF METER BOX 3" ABOVE GRADE
2. KAMLOCK ADAPTER SHALL BE DRILLED AND TAPPED BY THE SUPPLIER AS REQUIRED FOR THE PET COCK.

ITEMS:

1. POLYMER METER BOX WITH LID (17"x30")
2. 6" KAMLOCK ADAPTER x MIPT WITH LOCKING DUST CAP, SEE NOTE NO. 2
3. 1/4" PET COCK
4. 24" DIAMETER x 8" CONCRETE RING
5. 6" FLANGED COMPANION x FIPT
6. 3/8" ROCK (4" TO 6" DEEP)
7. 6" FLG DI PIPE x REQUIRED LENGTH (MAXIMUM 2 SPOOLS)
8. CLSM BACKFILL
9. 6" FLG x MJ/PO 90° BEND
10. 6" C-900 PVC PIPE x (36")
11. 8" GATE WELL
12. 6" FLG x MJ/PO/FLG RWGV
13. 6" FLG x MJ/PO/ADAPTER
14. WATER MAIN
15. SIZE x 6", MJ/PO/FLG x FLG TEE
16. 6" FLG'D 45° BEND
17. 6" x 24" FLG DI SPOOL
18. 6" INSULATING FLANGE

4 DT-2 **6" BLOWOFF INSTALLATION**
SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER — JOHN H. HAEFNER — No. 38217 — Exp. 3/31/17 — CIVIL — STATE OF CALIFORNIA

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-2027
949.472.3505 • FAX 949.472.8373 • www.RBF.com

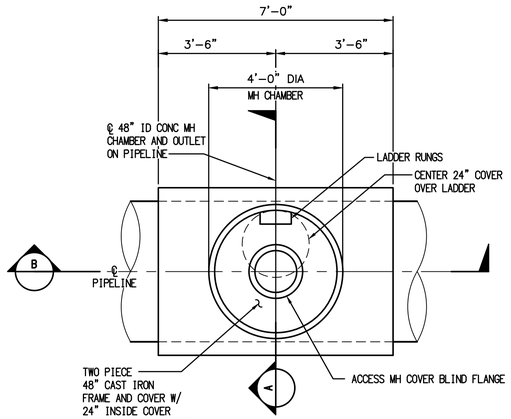
MesaWater DISTRICT

REPAIRS TO OC-44 PIPELINE
BY SLIP-LINING 30" IN EX. 42" PIPE
BETWEEN STA 335+00 AND 352+00

ACCESS PIT # 3 AND
DETAIL SHEET

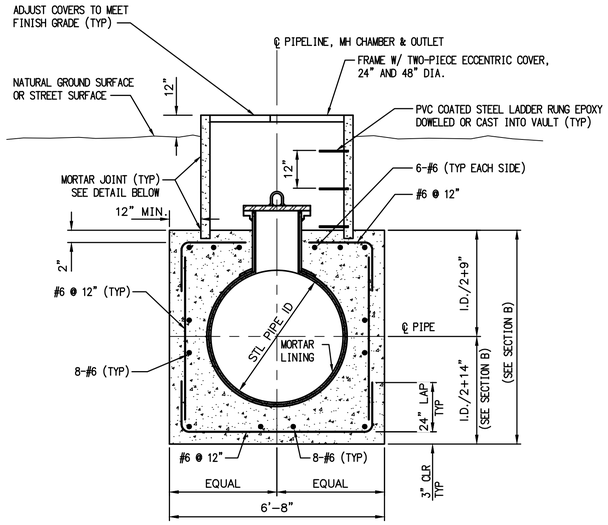
DT-2
SHEET
7
OF
13

H:\PDATA\134205\CADD\WATER\DLV\IMPROVE\134205-DT-02.DWG ROLDAN, RICHARD 7/17/2015 8:38 AM

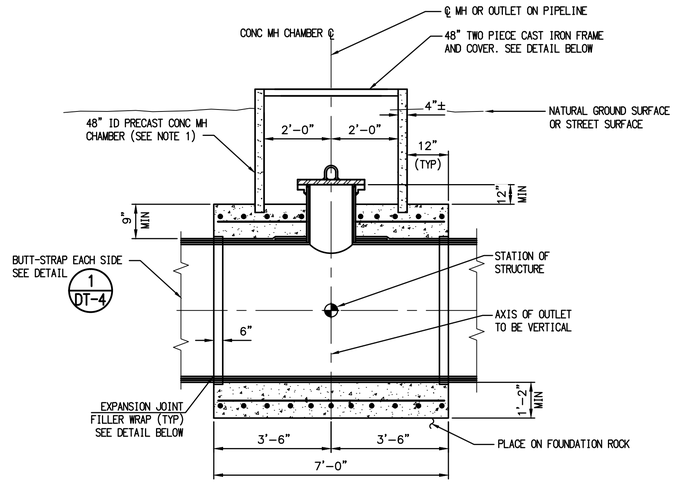



PLAN

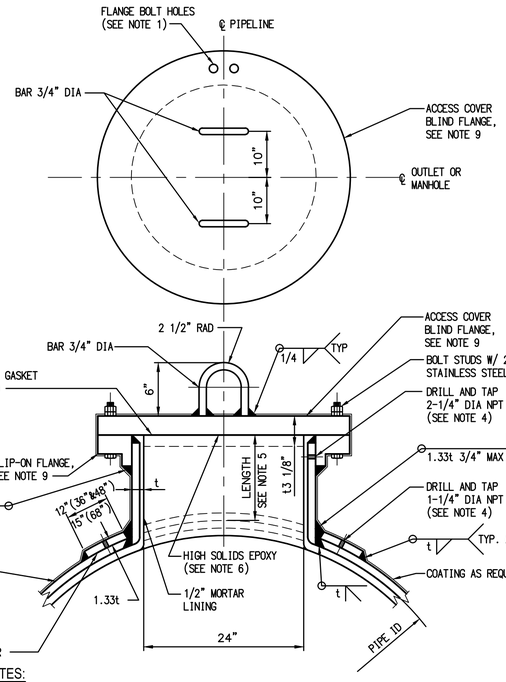
PLAN VIEW




SECTION A



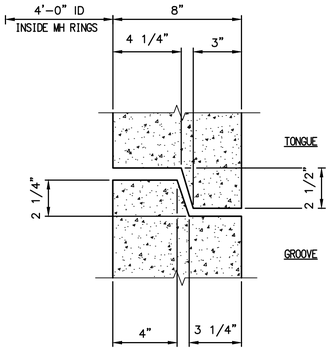

SECTION B




OUTLET DETAIL NOTES:

1. ALL MANHOLE FLANGES, OUTLET FLANGES AND BLIND FLANGES SHALL BE FLAT FACED. BOLT HOLES TO STRADDLE CENTERLINE OF PIPELINE.
2. ALL GASKET SHALL BE FULL FACED.
3. "t" INDICATES THE THICKNESS OF THE STEEL PIPE, SEE PLAN AND PROFILE DRAWINGS.
4. AFTER SHOP WELDING, CONTRACTOR TO PLUG WELD TAPPED HOLES ON COMPLETION OF TESTS.
5. LENGTH OF OUTLET SHALL BE 18" MINIMUM UNLESS OTHERWISE SHOWN OR DIRECTED BY ENGINEER.
6. HIGH SOLIDS EPOXY ON SURFACES NOT COVERED BY NON-ASBESTOS GASKET.
7. TAPPED HOLES IN FLANGES SHALL BE A CLASS 3 FIT.
8. ALL BOLT HOLES TO SPOT FACED.
9. PRESSURE RATING OF FLANGE ASSEMBLY SHALL MATCH PIPE CLASS. SEE PLAN AND PROFILES SHEETS.

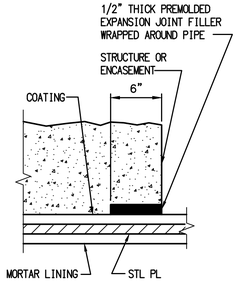
OUTLET AND BLIND FLANGE DETAIL




TONGUE & GROOVE JOINTS FOR 4'-0" ID MANHOLE RINGS

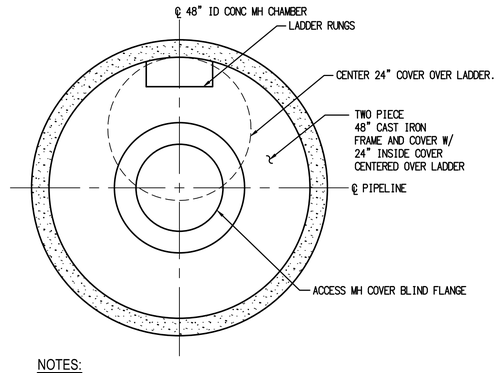
MORTAR JOINT DETAIL

NOTE:
TONGUE AND GROOVE JOINTS SHALL BE SET IN A BITUMASTIC GASKET.




JOINT FILLER WRAP AT END OF STRUCTURE OR ENCASEMENT

EXPANSION JOINT DETAIL




NOTES:

1. CENTER 48" FRAME AND COVER OUTLET. CENTER 24" COVER OVER LADDER.

CAST IRON FRAME AND COVER

1 DT-3 MANHOLE CHAMBER AND OUTLET
NTS

REGISTERED PROFESSIONAL ENGINEER
JOHN H. HARRIS
No. 38217
Exp. 3/31/17
CIVIL
STATE OF CALIFORNIA

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-2027
949.472.3505 • FAX 949.472.8373 • www.RBF.com

MesaWater DISTRICT

REPAIRS TO OC-44 PIPELINE
BY SLIP-LINING 30" IN EX. 42" PIPE
BETWEEN STA 335+00 AND 352+00

MANHOLE DETAIL SHEET

DT-3
SHEET
8
OF
13

H:\PDATA\134205\CADD\WATER\DLV\1MPROVE\134205-DT-03.DWG ROLDAN, RICHARD 7/16/2015 8:52 AM