

WEC_00113

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METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

February 14, 2008

Via Electronic & U.S. Mail

Ms. LaVerne Kyriss
West-Wide Energy Corridor Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue, Bldg. 900, Mailstop 4
Argonne, IL 60439

Dear Ms. Kyriss:

Notice of Availability of the
Draft Programmatic Environmental Impact Statement
for the Designation of Energy Corridors in Eleven Western States

The Metropolitan Water District of Southern California (Metropolitan) received a copy of the Notice of Availability of the Draft Programmatic Environmental Impact Statement (Draft PEIS) for the Designation of Energy Corridors in Eleven Western States (Project). The U.S. Department of Energy and U.S. Department of Interior, Bureau of Land Management (collectively, Agencies) are the lead agencies for the Project. The Agencies prepared the Draft PEIS to designate corridors for oil, gas, hydrogen pipelines, and electricity transmission and distribution facilities on federal lands in the eleven contiguous western states, including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Metropolitan previously provided comments for the Notice of Intent for the PEIS in a comment letter dated November 28, 2005, a copy of which is enclosed for reference. This letter contains Metropolitan's response to the Draft PEIS as a potentially affected public agency. In sum, Metropolitan wants to ensure that the Draft PEIS addresses its concerns over potential impacts to Metropolitan-owned facilities and rights-of-way that may be affected, including the Colorado River Aqueduct system and 305 miles of 230 kilovolt (kV) transmission lines located in Clark County, Nevada and San Bernardino and Riverside counties.

Background

Metropolitan is a cooperative of 26 cities and water agencies charged with providing a reliable supply of high quality drinking water to 18 million people in six counties in Southern California. One of Metropolitan's major water supplies is the Colorado River that is delivered through the

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Colorado River Aqueduct (CRA). The CRA consists of tunnels, open canals, and buried pipelines. CRA-related facilities also include pumping plants, above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into the Los Angeles basin. Five pumping plants are located along the CRA, which consume approximately 2,500 gigawatt-hours of energy when the CRA is operating at full capacity. The CRA commenced delivery of Colorado River water in 1941.

Concurrent with the construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kV transmission lines which run from the Mead Substation in Southern Nevada, head south, then branch east to Parker, California, and west along Metropolitan's CRA. They were built for the sole and exclusive purpose of supplying power from the Hoover and Parker projects to the five pumping plants along the CRA. Metropolitan's transmission system was energized on November 1, 1938, and most of its capital cost has been paid in full by Metropolitan's member agencies.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. This core function, together with the apparent proximity of certain proposed energy corridors near Metropolitan's CRA, its transmission facilities, or both, form the basis for Metropolitan's comments herein.

Land Use Issues: Potential Impacts on Metropolitan's Electrical Transmission System

Metropolitan is concerned that locating utility corridors near or across its electrical transmission system could have a negative impact on Metropolitan's operations, facilities, and rights-of way. Upon review of maps of the proposed federal energy corridors in the Draft PEIS, Metropolitan identified at least two proposed corridors which could cross Metropolitan's 230 kV transmission lines and right-of-way, and a third that comes in close proximity. Although the mapping data from the West-Wide Energy Corridor Programmatic EIS Information Center Web Site contains significant gaps, Metropolitan was able to prepare the enclosed map, which depicts the proposed corridors in relation to Metropolitan's facilities and property. As shown on the enclosed map, one proposed corridor of concern (referred to as 27-41) parallels Interstate 40 and appears at or just north of Metropolitan's 230 kV Camino Switching Station. Another proposed corridor (referred to as 27-225) appears to run between Interstate 15 and the Colorado River in Clark County, Nevada. A third corridor (referred to as 30-52) comes in close proximity, but does not cross Metropolitan's rights-of-way, running parallel and south of the CRA just south of Interstate 10.

From a reliability and safety aspect, Metropolitan is concerned with projects that may be developed within the proposed corridors (Projects) that would cross or come in close proximity

113-001

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with Metropolitan's transmission system and provides the following specific comments on this topic for the Agencies' consideration and incorporation into the Draft PEIS:

1. Metropolitan could be adversely impacted in meeting its water delivery requirements if development of the proposed corridors would: (1) require de-energization of a portion or all of Metropolitan's electric system; or (2) cause any disruption of Metropolitan's electric system. The Project should be designed to avoid such impacts. 113-002
2. Any designation of proposed corridors affecting Metropolitan property should not lessen or remove the Agencies' responsibility to ensure that any ensuing Projects do not cause physical damage to, frustrate, or interfere with Metropolitan's operation of its facilities. We suggest that the Agencies discharge this responsibility by requiring the Project sponsor's compliance with: (1) prudent energy utility practice; (2) Metropolitan's engineering and construction requirements; and (3) Western Electricity Coordinating Council/North American Electric Reliability Corporation (WECC/NERC) reliability standards; and (4) applicable transmission planning processes. 113-003
3. Any new facilities resulting from the Project should not increase Metropolitan's cost or responsibilities in meeting WECC/NERC reliability requirements without appropriate compensation. 113-004
4. Any new facilities resulting from the Project should not impede or increase the cost of any maintenance activities required on Metropolitan's CRA and related transmission lines, including local airfields. 113-005
5. To the extent necessary, cathodic and grounding protection should be provided by any new transmission lines to protect Metropolitan's existing infrastructure, including fencing already in or near Metropolitan's rights-of-way. 113-006
6. In two locations (in Clark County, Nevada in the area south of the Mead Substation and at Metropolitan's Camino Switching Station), the proposed energy corridors (27-225 and 27-41) cross Metropolitan's 230 kV transmission system. At these locations, the proposed transmission system must be designed and installed with properly functioning safety systems to preclude interference or impact to Metropolitan's 230 kV transmission system. 113-007
7. In the area south-south-west of Metropolitan's Hinds Pumping Plant, which is located near Desert Center, California, the proposed energy corridor (30-52) will also cross a Southern California Edison 230 kV transmission line from Hinds Plant to the Mirage Substation. At this point, the proposed transmission system must be designed and installed with properly functioning safety systems to preclude interference or impact to this 230 kV transmission system. 113-008

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Land Use Issues: Potential Impacts on Metropolitan's Water Conveyance Facilities & Rights-of-Way

Metropolitan is also concerned about the Project's potential impacts on its other water conveyance facilities and rights-of-way that may be affected by the proposed energy corridors. Metropolitan owns extensive property in fee and easement along the CRA and its related facilities, including lands along the transmission system. Metropolitan provides the following specific comments on its concerns regarding potential impacts on its facilities and rights-of-way for the Agencies' consideration and incorporation into the Draft PEIS:

- | | |
|---|---------|
| 1. Metropolitan requests that the Draft PEIS note that neither private nor public entities have any entitlements to build over Metropolitan's fee-owned rights-of-way or properties. | 113-009 |
| 2. Metropolitan's facilities and fee-owned or permanent easement rights-of-way should be considered in planning and in the Draft PEIS, and the Project should avoid potential impacts that may occur due to implementation of the Project. | 113-010 |
| 3. Any new facilities arising out of the Project should not impact accessibility to existing facilities or impede the use of existing facilities, including the CRA system and the local airstrip, as shown on the enclosed map. | 113-011 |
| 4. Metropolitan is concerned with potential impacts to its facilities associated from any future excavation, construction, utilities or any development that may result from implementation of the proposed Project. | 113-012 |
| 5. Development associated with the proposed Project must not restrict any of Metropolitan's day-to-day operations and/or access to its facilities. | 113-013 |
| 6. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our facilities and properties at all times in order to repair and maintain our system. | 113-014 |
| 7. In order to avoid potential conflicts with Metropolitan's rights-of-way, Metropolitan requires that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Approval of the Project where it could impact Metropolitan's property should be contingent on Metropolitan's approval of design plans for the Project. | 113-015 |
| 8. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564. | 113-016 |
| 9. To assist in preparing plans that are compatible with Metropolitan's facilities, easements, and properties, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California." | 113-017 |

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10. All submitted designs or plans must clearly identify Metropolitan’s facilities and rights-of-way. | 113-018

Environmental Issues

Metropolitan is also concerned about any potential environmental impacts from siting of the proposed corridors across or in close proximity of its facilities and rights-of-way. Metropolitan provides the following specific comments on potential environmental issues for the Agencies’ consideration and incorporation into the Draft PEIS:

1. The Project should not increase the potential harm to water quality from chemicals entering subsurface water tables as has been seen with hexavalent chromium (or Chromium 6) from natural gas pumping plants, liquid petroleum, or hydrogen pumping plants. | 113-019

2. The Project should not increase the potential to harm water quality from new pipelines carrying hazardous material. | 113-020

3. Hazardous material pipelines, if any, should be placed underground when they cross the CRA. | 113-021

4. Any change in flow or drainage from new facilities should not cause erosion or damage to Metropolitan’s facilities (i.e., aqueduct, transmission tower footings, roads, fencing, and other surface facilities). | 113-022

5. The Project must not adversely affect Metropolitan’s Hayfield Groundwater Storage and Recharge Project that is located south of the CRA near the Hinds Pumping Plant and in the vicinity of the southernmost proposed energy corridor. | 113-023

6. The final PEIS also needs to take into account cumulative effects of the Project on Metropolitan’s facilities, properties, and rights-of-way, both in the various phases of installations and taking into consideration the various types of uses along the proposed corridors. | 113-024

Socioeconomic Issues

Finally, the final PEIS should assess the socioeconomic impacts of any avoidable impacts on Metropolitan’s and its downstream member agencies’ operations, including any financial impacts arising out of the Project, for example, any costs due to potential interruptions of service. | 113-025


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We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this Project. If we can be of further assistance, please contact Brenda Marines at (213) 217-7902.

Very truly yours,



PER Delaine W. Shane
Manager, Environmental Planning Team

BSM/bsm
(Public Folders/EPU/Letters/8-FEB08A.doc -LaVerne Kyriss, Westwide Energy Corridor)

Enclosures: November 28, 2005 Letter
Map
Planning Guidelines

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Via Facsimile

Office of Electricity Delivery and Energy Reliability
Room 8H-033
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Sir or Madam:

Notice of Intent to
Prepare a Programmatic Environmental Impact Statement for the West-wide Energy Corridor

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Notice of Intent (Notice) to Prepare a Programmatic Environmental Impact Statement (PEIS) for the West-wide Energy Corridor (Project). The Energy Policy Act of 2005 (the Act), Public Law 109-58 (H.R. 6), enacted August 8, 2005, directs the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior (the Agencies) to designate under their respective authorities corridors on Federal land in the 11 Western States for oil, gas and hydrogen pipelines and electricity transmission and distribution facilities (energy corridors). The Agencies intend to prepare a PEIS entitled "Designation of Energy Corridors on Federal Land in the 11 Western States" (DOE/EIS-0386) to address the environmental impacts from the proposed action and the range of reasonable alternatives. This letter contains Metropolitan's response to the Notice as a potentially affected agency.

Metropolitan provides half of the water used by the 18 million residents of the six-county southern California coastal plain. The infrastructure to supply this critical resource includes Metropolitan owned aqueducts, pipelines, tunnels, reservoirs, treatment plants, electrical transmission lines and other facilities located in the California counties of Los Angeles, Orange, San Bernardino, Riverside, and San Diego, and Clark County, Nevada. Metropolitan also relies on water delivered through the State Water Project operated by the California Department of Water Resources (CDWR). The State Water Project transports water from Lake Oroville in northern California to water agencies located throughout California.

The Notice and attached maps do not provide specific locations or routes for proposed utility corridors; without this information, Metropolitan cannot determine potential impacts to its or CDWR's facilities. Therefore, our comments at this time will be of a general nature and will focus on Metropolitan-owned facilities.

Metropolitan owns and operates the 242-mile Colorado River Aqueduct (CRA) and associated features. Most of the CRA is located in the rural, desert regions of San Bernardino and Riverside

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counties. The CRA consists of tunnels, open canals and buried pipelines. The CRA also includes large electrical pumping plants, above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. To support the electrical demands of the CRA, Metropolitan owns and operates over 300 miles of 230-kV transmission lines located in Clark County, Nevada and San Bernardino and Riverside Counties.

Locating utility corridors near or across CRA facilities could have a negative impact on our operations. Construction activities could damage or limit access to our facilities, dust or spills at construction sites could impact water quality or Metropolitan employees and their families, changing the runoff patterns could lead to overtopping or washing out portions of the CRA, utility corridor activities could impact local plants, animals and habitat in such a way as to impose more restrictions on Metropolitan's operations, and leaks or releases from oil or fuel pipelines could contaminate water in our underground storage projects. Such negative impacts pose significant operating risks.

Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our facilities and properties at all times in order to repair and maintain our system. Metropolitan requests that the Draft PEIS note that neither private nor public entities have any entitlements to build over our fee-owned rights-of-way or properties. Additionally, Metropolitan requests that you consider our facilities and fee-owned or permanent easement rights-of-way in your planning and in the Draft PEIS, and avoid potential impacts that may occur due to implementation of the Project. In order to avoid potential conflicts with Metropolitan's rights-of-way, we require that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Approval of any projects where they could impact Metropolitan's property should be contingent on Metropolitan's approval of design plans. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564.

While most potential impacts to Metropolitan's facilities are presumed likely to occur in the rural areas noted above, the possibility exists there could be impacts to facilities located in the urbanized areas of southern California. Metropolitan has an extensive water infrastructure throughout Los Angeles, Orange, and the western portions of Riverside, San Bernardino, and San Diego Counties. The impacts noted previously could also occur here. Metropolitan requests copies of future environmental documentation on this Project.

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We appreciate the opportunity to provide input to your planning process. If we can be of further assistance, please contact me at (213) 217-6242.

Very truly yours,

Laura J. Simonek
Manager, Environmental Planning Team

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(Public Folders/EPU/Letters/16-NOV-05A.doc – Office of Electricity Delivery and Energy Reliability)

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Guidelines for Developments in the
Area of Facilities, Fee Properties, and/or Easements
of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

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3. Maintenance of Access Along Metropolitan's Rights-of-Way

a. Proposed cut or fill slopes exceeding 10 percent are normally not allowed within Metropolitan's fee properties or easements. This is required to facilitate the use of construction and maintenance equipment, and provide access to its aboveground and belowground facilities.

b. We require that 16-foot-wide commercial-type driveway approaches be constructed on both sides of all streets crossing Metropolitan's rights-of-way. Openings are required in any median island. Access ramps, if necessary, must be at least 16-foot-wide. Grades of ramps are normally not allowed to exceed 10 percent. If the slope of an access ramp must exceed 10 percent due to the topography, the ramp must be paved. We require a 40-foot-long level area on the driveway approach to access ramps where the ramp meets the street. At Metropolitan's fee properties, we may require fences and gates.

c. The terms of Metropolitan's permanent easement deeds normally preclude the building or maintenance of structures of any nature or kind within its easements, to ensure safety and avoid interference with operation and maintenance of Metropolitan's pipelines or other facilities. Metropolitan must have vehicular access along the easements at all times for inspection, patrolling, and for maintenance of the pipelines and other facilities on a routine basis. We require a 20-foot-wide clear zone around all above-ground facilities for this routine access. This clear zone should slope away from our facility on a grade not to exceed 2 percent. We must also have access along the easements with construction equipment. An example of this is shown on Figure 1.

d. The footings of any proposed buildings adjacent to Metropolitan's fee properties and/or easements must not encroach into the fee property or easement or impose additional loading on Metropolitan's pipelines or other facilities therein. A typical situation is shown on Figure 2. Prints of the detail plans of the footings for any building or structure adjacent to the fee property or easement must be submitted for our review and written approval as they pertain to the pipeline or other facilities therein. Also, roof eaves of buildings adjacent to the easement or fee property must not overhang into the fee property or easement area.

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e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.

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c. Absolutely no trees will be allowed within 15 feet of the centerline of Metropolitan's existing or future pipelines and facilities.

d. Deep-rooted trees are prohibited within Metropolitan's fee properties and/or easements. Shallow-rooted trees are the only trees allowed. The shallow-rooted trees will not be permitted any closer than 15 feet from the centerline of the pipeline, and such trees shall not be taller than 25 feet with a root spread no greater than 20 feet in diameter at maturity. Shrubs, bushes, vines, and ground cover are permitted, but larger shrubs and bushes should not be planted directly over our pipeline. Turf is acceptable. We require submittal of landscape plans for Metropolitan's prior review and written approval. (See Figure 3).

e. The landscape plans must contain provisions for Metropolitan's vehicular access at all times along its rights-of-way to its pipelines or facilities therein. Gates capable of accepting Metropolitan's locks are required in any fences across its rights-of-way. Also, any walks or drainage facilities across its access route must be constructed to AASHTO H-20 loading standards.

f. Rights to landscape any of Metropolitan's fee properties must be acquired from its Right of Way and Land Division. Appropriate entry permits must be obtained prior to any entry on its property. There will be a charge for any entry permit or easements required.

6. Fencing

Metropolitan requires that perimeter fencing of its fee properties and facilities be constructed of universal chain link, 6 feet in height and topped with 3 strands of barbed wire angled upward and outward at a 45 degree angle or an approved equal for a total fence height of 7 feet. Suitable substitute fencing may be considered by Metropolitan. (Please see Figure 5 for details).

7. Utilities in Metropolitan's Fee Properties and/or Easements or Adjacent to Its Pipeline in Public Streets

Metropolitan's policy for the alinement of utilities permitted within its fee properties and/or easements and street rights-of-way is as follows:

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a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alignment as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

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g. Overhead electrical and telephone line requirements:

1) Conductor clearances are to conform to the California State Public Utilities Commission, General Order 95, for Overhead Electrical Line Construction or at a greater clearance if required by Metropolitan. Under no circumstances shall clearance be less than 35 feet.

2) A marker must be attached to the power pole showing the ground clearance and line voltage, to help prevent damage to your facilities during maintenance or other work being done in the area.

3) Line clearance over Metropolitan's fee properties and/or easements shall be shown on the drawing to indicate the lowest point of the line under the most adverse conditions including consideration of sag, wind load, temperature change, and support type. We require that overhead lines be located at least 30 feet laterally away from all above-ground structures on the pipelines.

4) When underground electrical conduits, 120 volts or greater, are installed within Metropolitan's fee property and/or easement, the conduits must be incased in a minimum of three inches of red concrete. Where possible, above ground warning signs must also be placed at the right-of-way lines where the conduits enter and exit the right-of-way.

h. The construction of sewerlines in Metropolitan's fee properties and/or easements must conform to the California Department of Health Services Criteria for the Separation of Water Mains and Sanitary Services and the local City or County Health Code Ordinance as it relates to installation of sewers in the vicinity of pressure waterlines. The construction of sewerlines should also conform to these standards in street rights-of-way.

i. Cross sections shall be provided for all pipeline crossings showing Metropolitan's fee property and/or easement limits and the location of our pipeline(s). The exact locations of the crossing pipelines and their elevations shall be marked on as-built drawings for our information.

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j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assist others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

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m. Cathodic Protection requirements:

1) If there is a cathodic protection station for Metropolitan's pipeline in the area of the proposed work, it shall be located prior to any grading or excavation. The exact location, description and manner of protection shall be shown on all applicable plans. Please contact Metropolitan's Corrosion Engineering Section, located at Metropolitan's F. E. Weymouth Softening and Filtration Plant, 700 North Moreno Avenue, La Verne, California 91750, telephone (714) 593-7474, for the locations of Metropolitan's cathodic protection stations.

2) If an induced-current cathodic protection system is to be installed on any pipeline crossing Metropolitan's pipeline, please contact Mr. Wayne E. Risner at (714) 593-7474 or (213) 250-5085. He will review the proposed system and determine if any conflicts will arise with the existing cathodic protection systems installed by Metropolitan.

3) Within Metropolitan's rights-of-way, pipelines and carrier pipes (casings) shall be coated with an approved protective coating to conform to Metropolitan's requirements, and shall be maintained in a neat and orderly condition as directed by Metropolitan. The application and monitoring of cathodic protection on the pipeline and casing shall conform to Title 49 of the Code of Federal Regulations, Part 195.

4) If a steel carrier pipe (casing) is used:

(a) Cathodic protection shall be provided by use of a sacrificial magnesium anode (a sketch showing the cathodic protection details can be provided for the designers information).

(b) The steel carrier pipe shall be protected with a coal tar enamel coating inside and out in accordance with AWWA C203 specification.

n. All trenches shall be excavated to comply with the CAL/OSHA Construction Safety Orders, Article 6, beginning with Sections 1539 through 1547. Trench backfill shall be placed in 8-inch lifts and shall be compacted to 95 percent relative compaction (ASTM D698) across roadways and through protective dikes. Trench backfill elsewhere will be compacted to 90 percent relative compaction (ASTM D698).

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o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

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10. Drainage

a. Residential or commercial development typically increases and concentrates the peak storm water runoff as well as the total yearly storm runoff from an area, thereby increasing the requirements for storm drain facilities downstream of the development. Also, throughout the year water from landscape irrigation, car washing, and other outdoor domestic water uses flows into the storm drainage system resulting in weed abatement, insect infestation, obstructed access and other problems. Therefore, it is Metropolitan's usual practice not to approve plans that show discharge of drainage from developments onto its fee properties and/or easements.

b. If water must be carried across or discharged onto Metropolitan's fee properties and/or easements, Metropolitan will insist that plans for development provide that it be carried by closed conduit or lined open channel approved in writing by Metropolitan. Also the drainage facilities must be maintained by others, e.g., city, county, homeowners association, etc. If the development proposes changes to existing drainage features, then the developer shall make provisions to provide for replacement and these changes must be approved by Metropolitan in writing.

11. Construction Coordination

During construction, Metropolitan's field representative will make periodic inspections. We request that a stipulation be added to the plans or specifications for notification of Mr. _____ of Metropolitan's Operations Services Branch, telephone (213) 250-_____, at least two working days prior to any work in the vicinity of our facilities.

12. Pipeline Loading Restrictions

a. Metropolitan's pipelines and conduits vary in structural strength, and some are not adequate for AASHTO H-20 loading. Therefore, specific loads over the specific sections of pipe or conduit must be reviewed and approved by Metropolitan. However, Metropolitan's pipelines are typically adequate for AASHTO H-20 loading provided that the cover over the pipeline is not less than four feet or the cover is not substantially increased. If the temporary cover over the pipeline during construction is between three and four feet, equipment must be restricted to that which

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imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

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2) In order to ensure compliance with the regulations implementing CEQA where Metropolitan is not the Lead Agency, the following minimum procedures to ensure compliance with the Act have been established:

a) Metropolitan shall be timely advised of any determination that a Categorical Exemption applies to the project. The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

b) Metropolitan is to be consulted during the preparation of the Negative Declaration or EIR.

c) Metropolitan is to review and submit any necessary comments on the Negative Declaration or draft EIR.

d) Metropolitan is to be indemnified for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

b. When Environmental Documents Have Been Prepared

If environmental documents have been prepared for your project, please furnish us a copy for our review and files in a timely manner so that we may have sufficient time to review and comment. The following steps must also be accomplished:

1) The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

2) You must agree to indemnify Metropolitan, its officers, engineers, and agents for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

15. Metropolitan's Plan-Review Cost

a. An engineering review of your proposed facilities and developments and the preparation of a letter response

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giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.

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17. Additional Information

Should you require additional information, please contact:

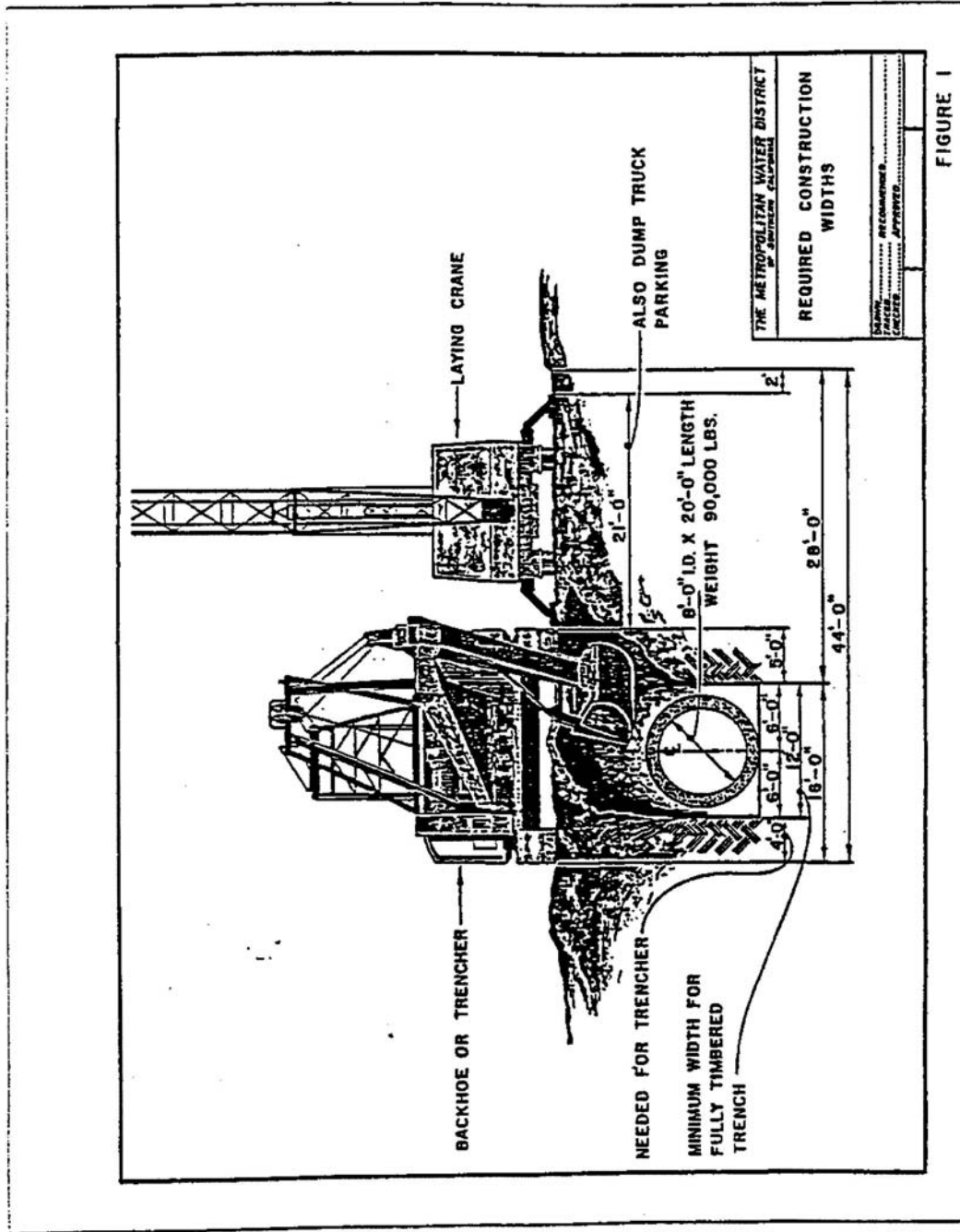
Civil Engineering Substructures Section
Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153
(213) 217-6000

JEH/MRW/lk

Rev. January 22, 1989

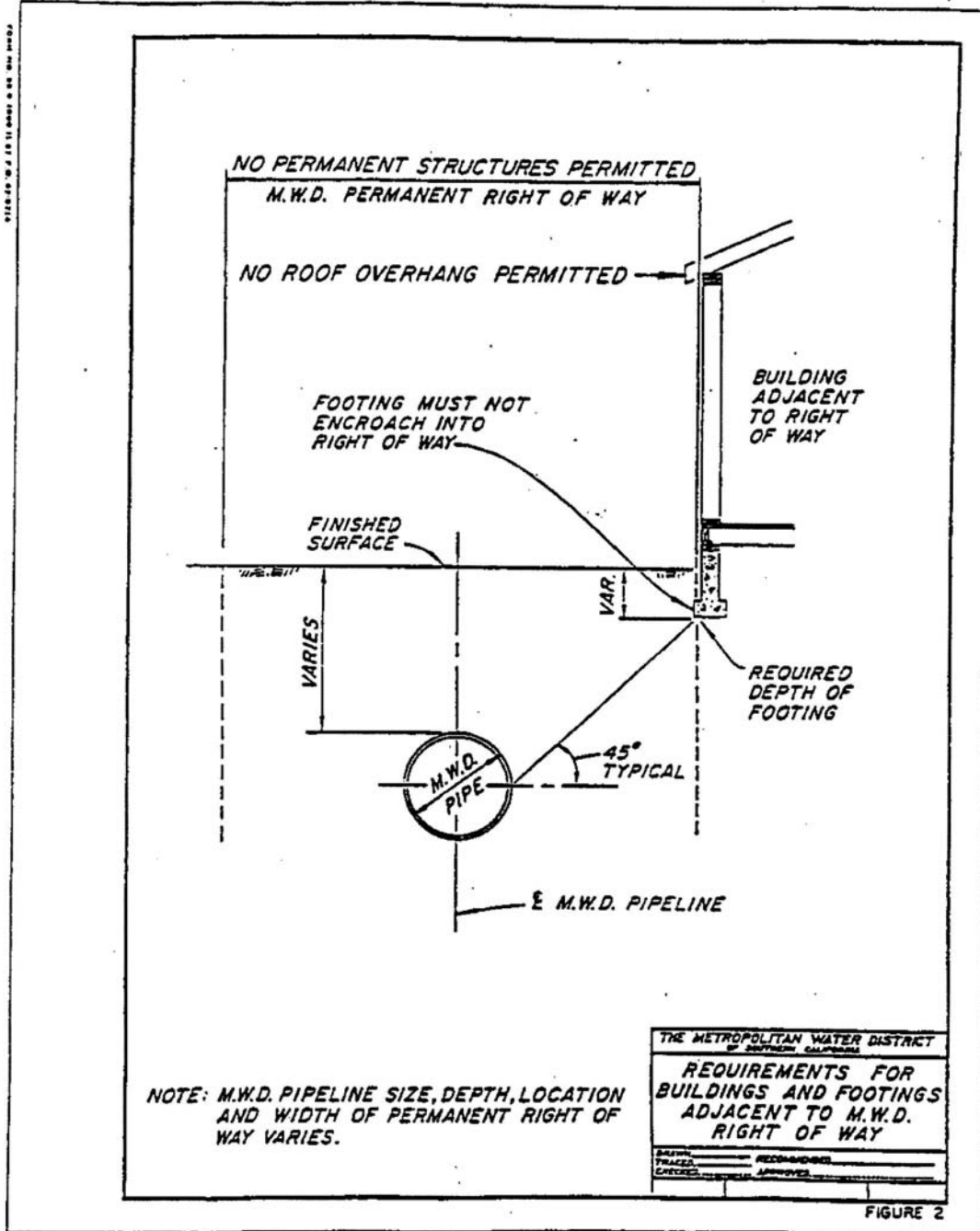
Encl.

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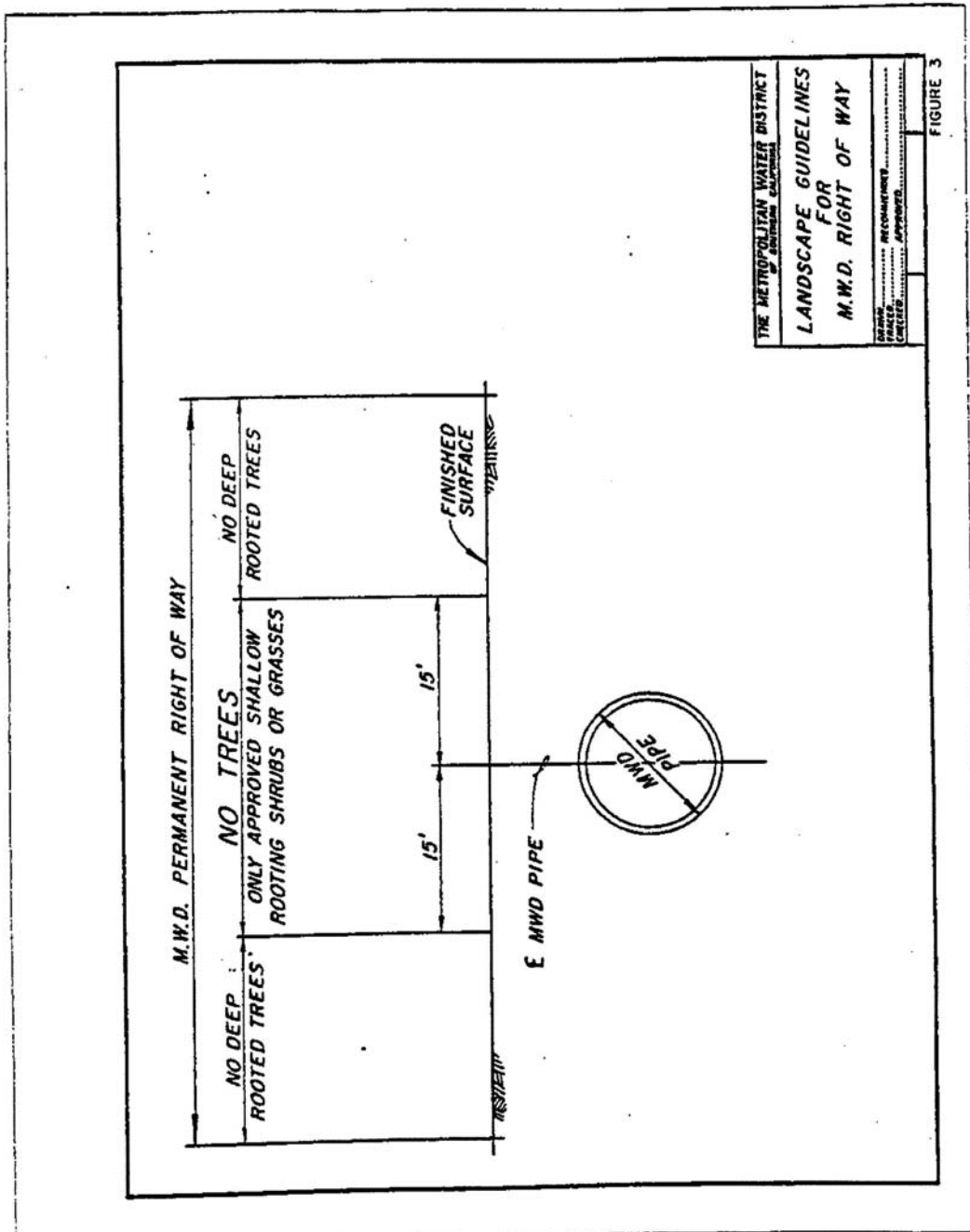


111-62 HYDRA-PLOT CLEARPRINT 100E

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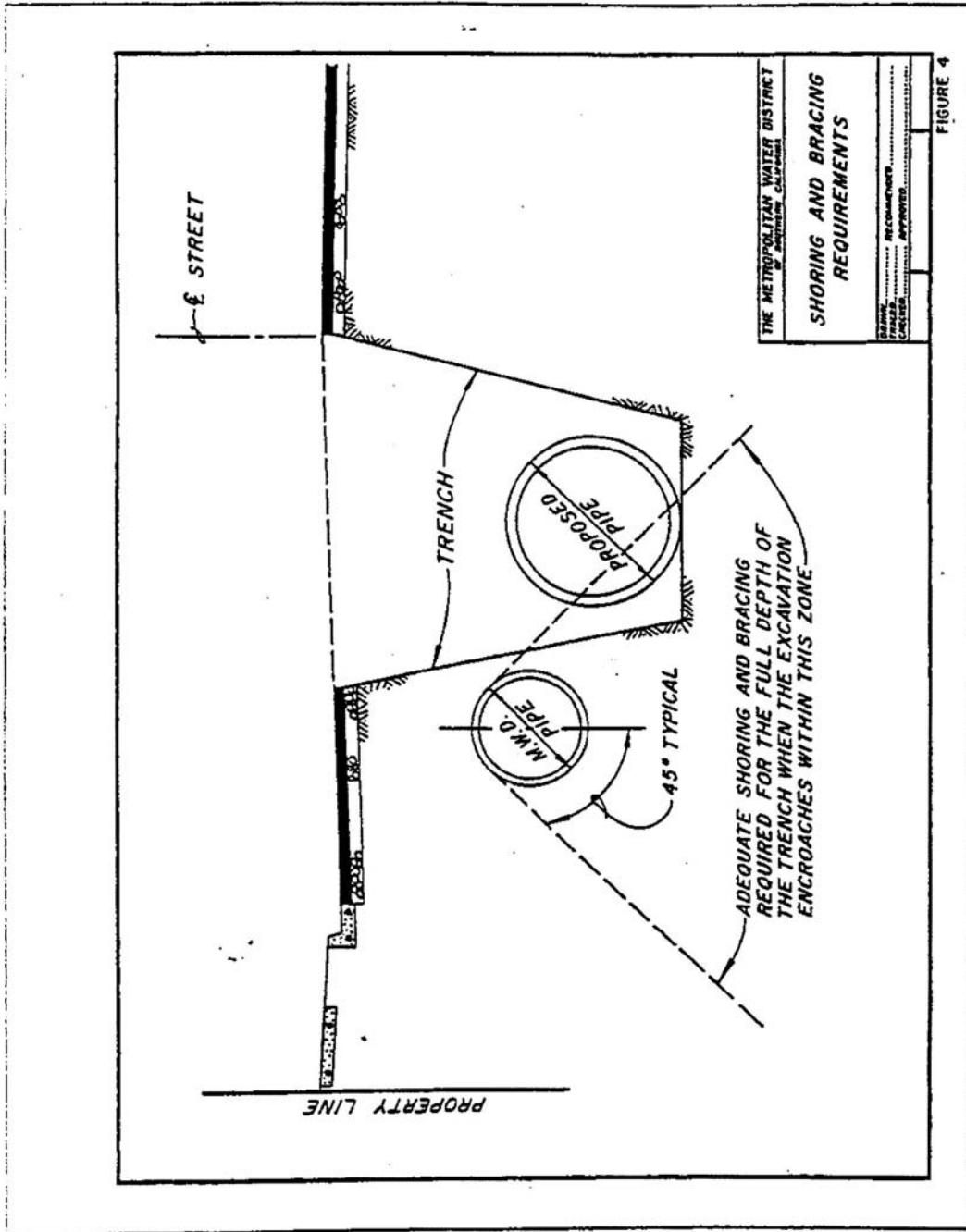
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11-04 BIEZANER.PWT CLEARPRINT 1003

FIGURE 304 14.8 12000 11.00 0.01 W.D. 08.08.08

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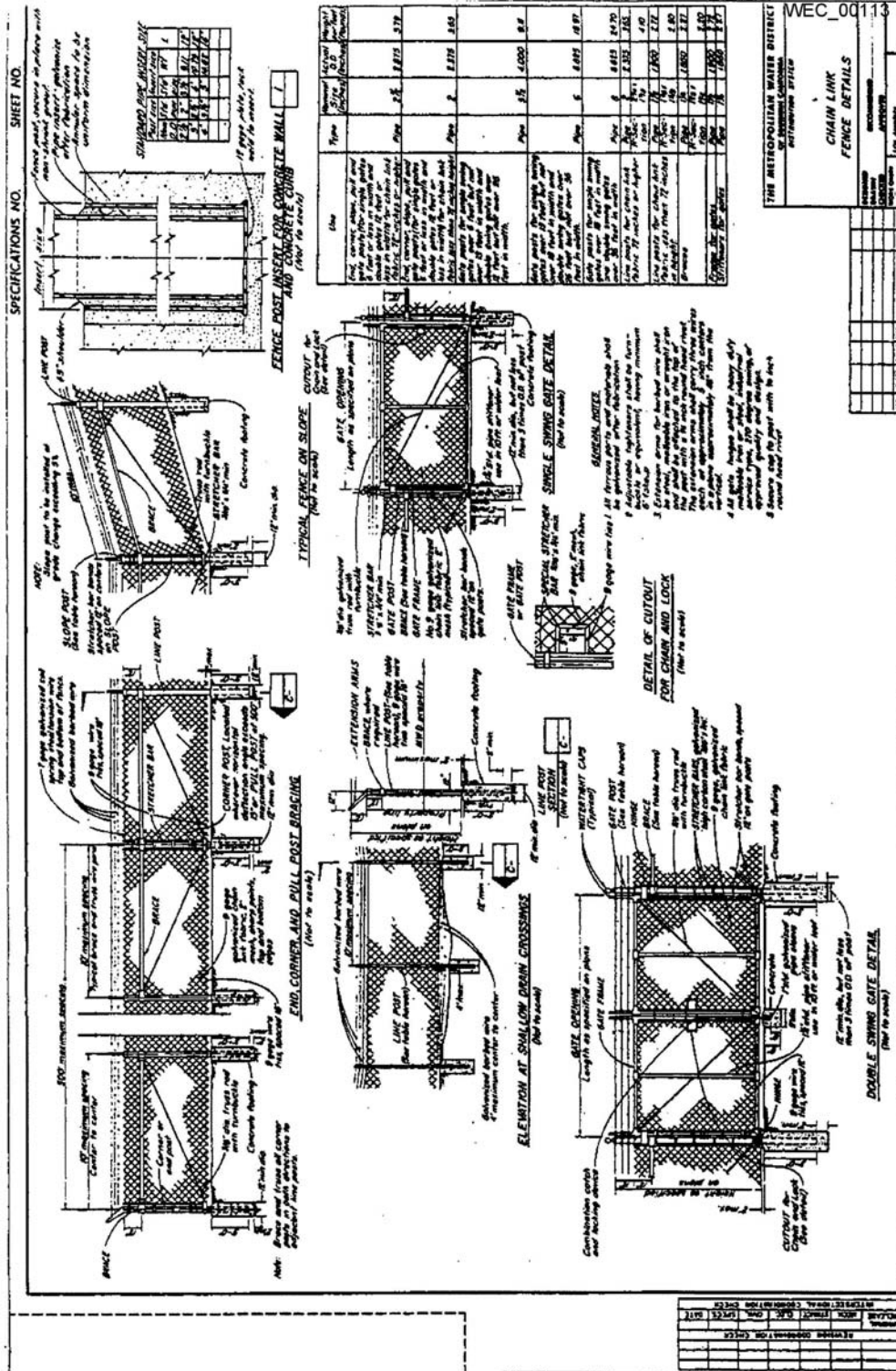
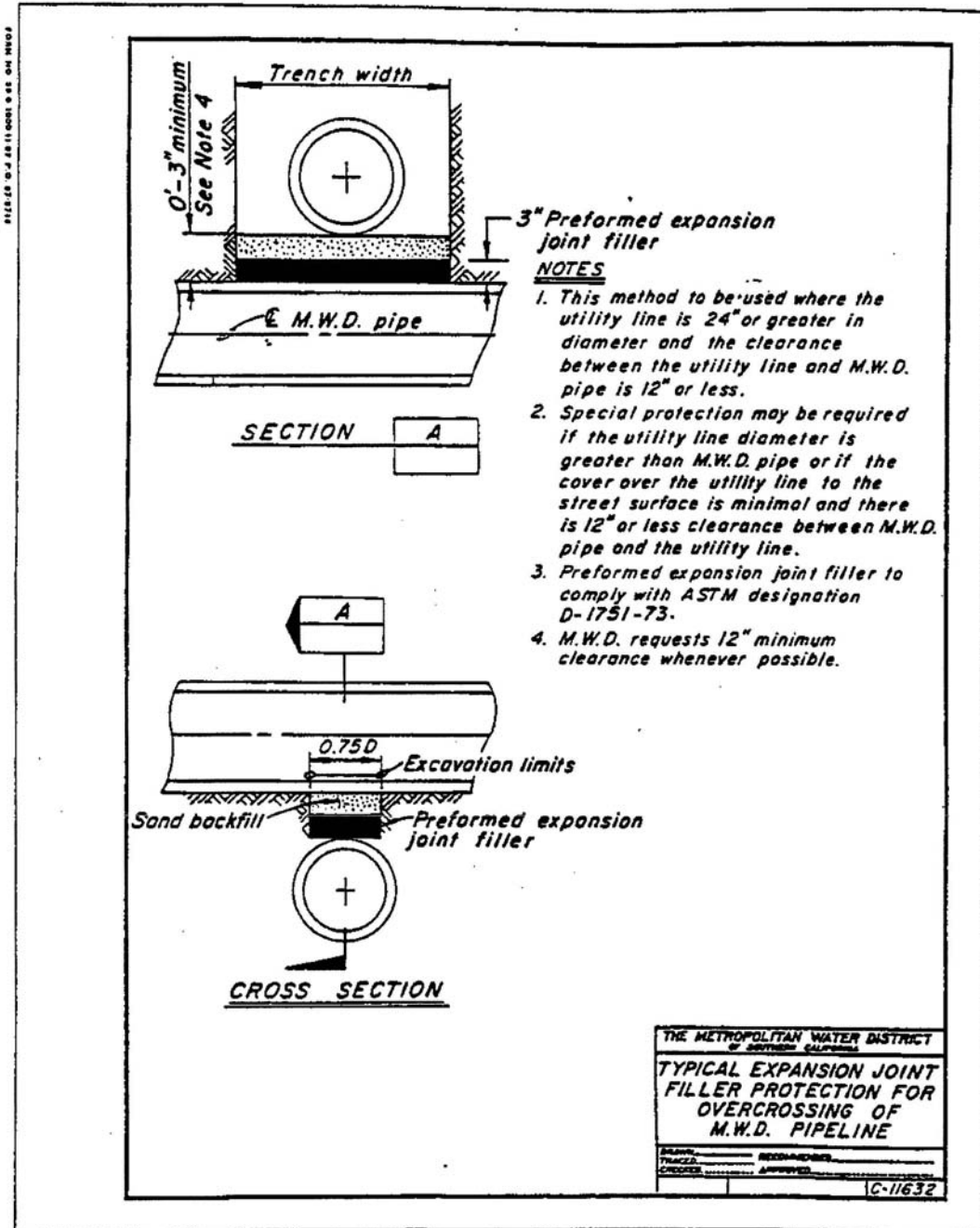
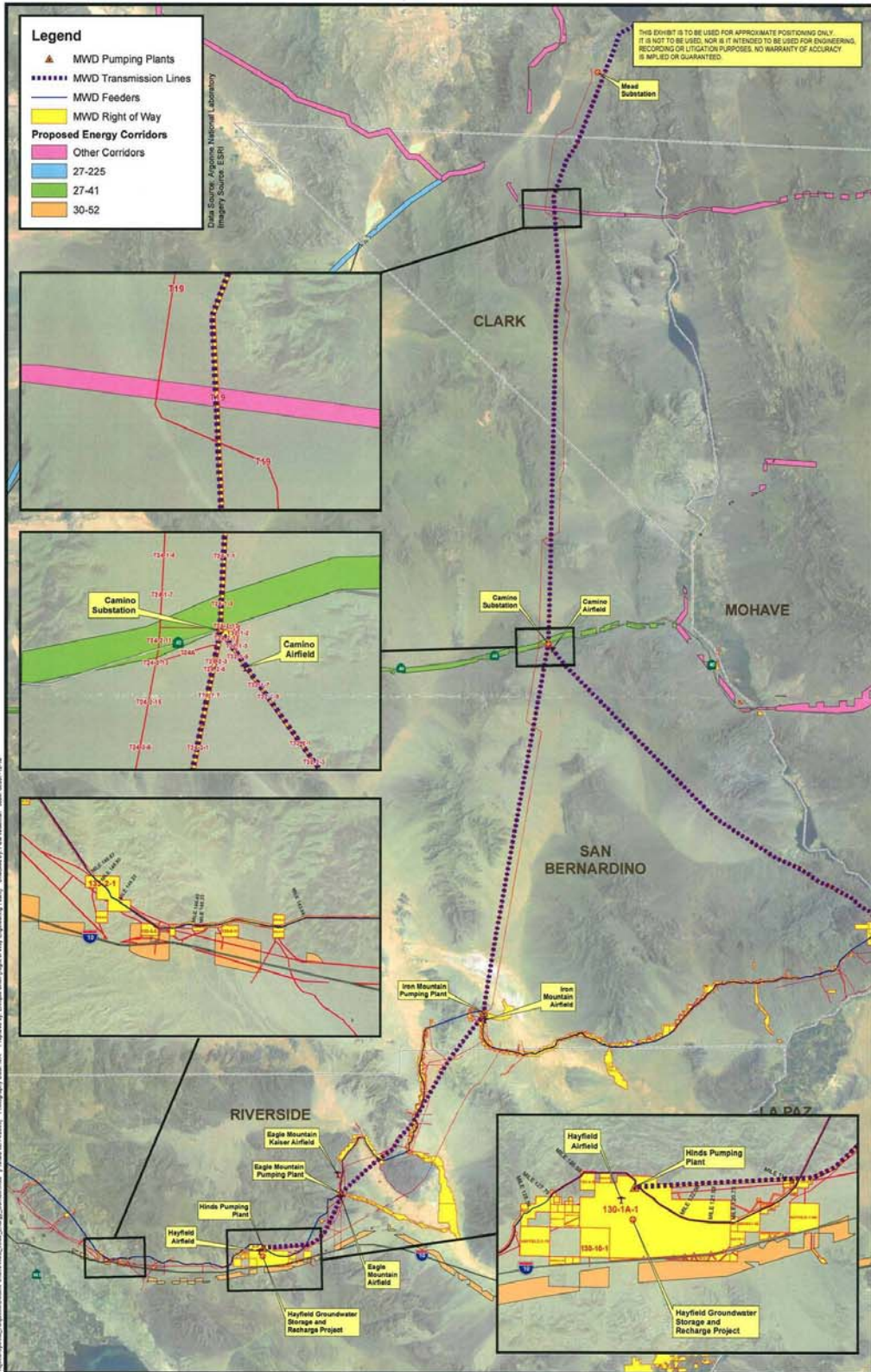


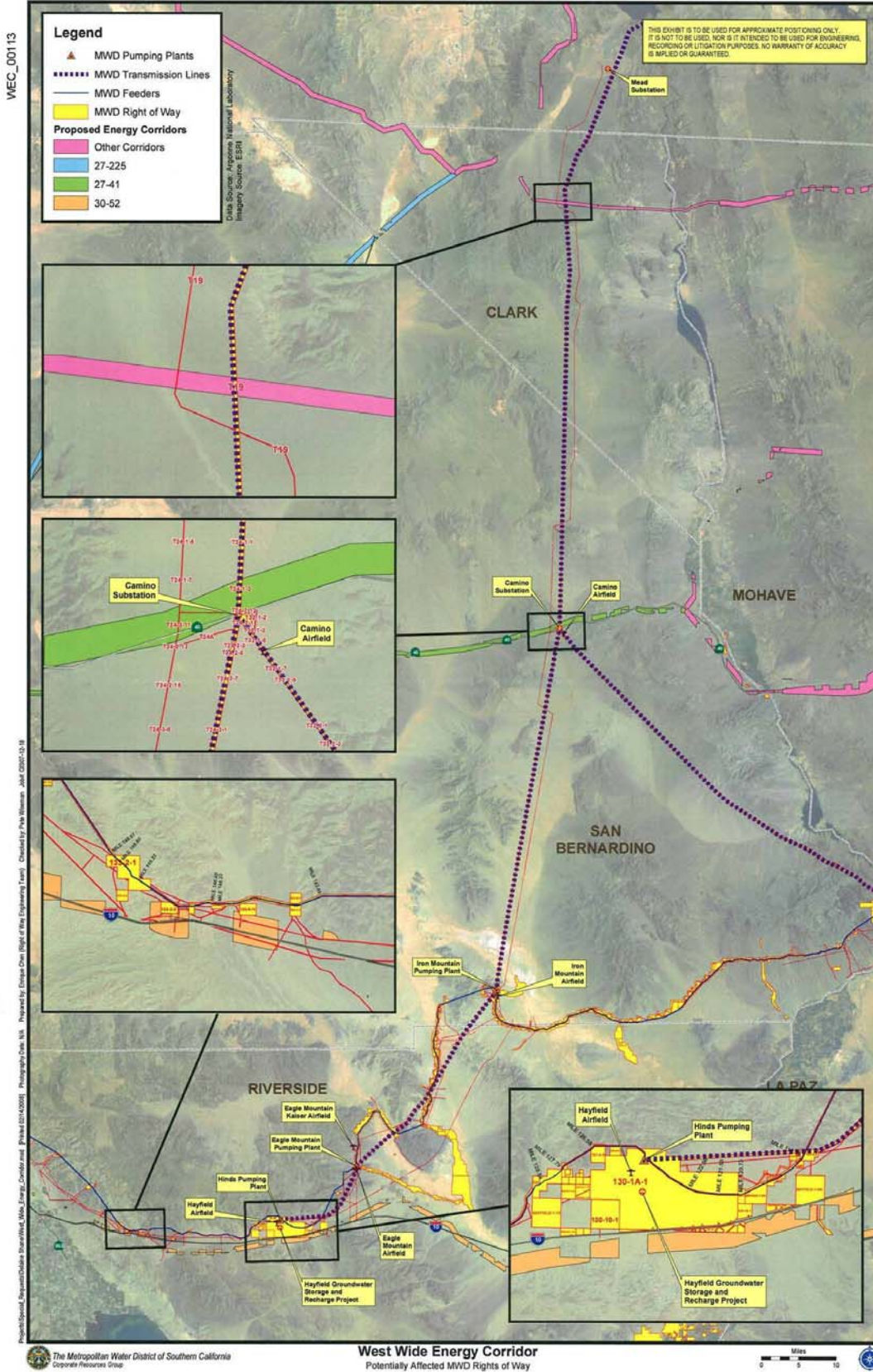
FIGURE 5

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