

**International Boundary and Water Commission
United States and Mexico
United States Section**



**Final Environmental Assessment
Implement International Agreement for Deliveries
to Tijuana, Baja California
of a Part of Mexico's Colorado River Waters
Through the Southern California Aqueducts
August 17, 2001**

**INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES SECTION**

Implement International Agreement for Deliveries to Tijuana, Baja California, of a Part of Mexico's Colorado River Waters Through the Southern California Aqueducts; Notice of Final Finding of No Significant Impact

AGENCY: United States Section, International Boundary and Water Commission, United States and Mexico

ACTION: Notice of Availability of a Final Finding of No Significant Impact and a Final Environmental Assessment

SUMMARY: Based on the draft Environmental Assessment (EA) and the comments received, the United States Section (U.S.) finds that the proposed action of implementing an international agreement with the Government of Mexico through the International Boundary and Water Commission (IBWC) to provide emergency deliveries to Tijuana, Baja California, of a part of Mexico's Colorado River water allotment through the Southern California aqueducts, is not a major federal action that would have a significant adverse effect on the quality of the human environment. An environmental impact statement will not be prepared for the project. The final Finding of No Significant Impact (FONSI) and final EA have been forwarded to the United States Environmental Protection Agency and various Federal, State and local agencies and interested parties for information only. No comments are requested. The Notice of Availability of a FONSI is being published in the *Federal Register*. The documents are on the USIBWC Home Page at <http://www.ibwc.state.gov> under "What's New" and are at the San Diego Central Library, 820 "E" St.; City of San Diego, Environmental Services Library, Ste. 130, 9601 Ridgehaven Court; Otay Mesa Branch Library, 3003 Coronado Ave., San Diego; San Ysidro Public Library, 101 West San Ysidro Blvd.; Civic Center Branch Library, Eastlake Public Library, 365 F St., Chula Vista; and San Diego County Libraries at the Casa de Oro Branch, 9628 Campo Road # L, Spring Valley and at 1043 Elkelton Blvd., Spring Valley. A limited number of hard copies are available upon request from Mr. Fox at the above address, e-mail stevefox@ibwc.state.gov or at (915) 832-4736.

The purpose of the proposed action is to arrange emergency deliveries of a portion of Mexico's Colorado River water allocation through the Southern California aqueduct system to the Tijuana water distribution system under the terms of an international agreement. The proposed action would alleviate some of the current water shortage in Tijuana, with a population of about 1.3 million, and conditions that could lead to serious public health and economic problems that may impact inhabitants on both sides of the international boundary.

The emergency water deliveries would be made under the terms of a Minute of the IBWC utilizing the existing facilities in the United States. A minute is an international agreement of the IBWC. The agreement will provide terms and conditions for the emergency deliveries. The IBWC may conclude such agreements under the terms of

the United States/Mexico Treaty of 1944 (1944 Water Treaty). The U.S. Commissioner of the IBWC is authorized to arrange such agreements in the United States by the Act of August 19, 1935 (U.S. Congress, 1935) and the American--Mexican Treaty Act of September 13, 1950, (U.S. Congress, 1950).

The alternative is no action. The City of Tijuana is considering improvements to their system. The Southern California agencies that operate and maintain the Southern California aqueducts are willing and able to make deliveries under emergency conditions.

The proposed five year emergency water deliveries would begin during 2002 and would consist of deliveries to Tijuana of a portion of the waters allotted to Mexico under the 1944 Water Treaty. The waters are for use in Tijuana, Baja California. Conveyance will be by means of aqueducts owned and operated by the Metropolitan Water District (MWD) and the San Diego County Water Authority (SDCWA). Emergency water deliveries to Mexico from the Southern California aqueducts will be through pipelines and other facilities, including those belonging to the Otay Water District (OWD), up to a maximum rate of 0.6 m³/sec (14 mgd) during peak demand periods in Tijuana. The delivery to Mexico, based on Mexico's request, not to exceed conveyance system capacity, would use the existing emergency connection located at the international boundary about 6.3 miles (10.1 km) east of the Otay port-of-entry, on Otay Mesa, San Diego, California.

The final conveyance point to Mexico requires use of an existing line to be replaced at Mexico's expense. This line to Mexico requires the replacement of an approximately 80-foot segment of existing 14-inch pipeline that was initially installed as a temporary measure. Up to about 120 feet of deteriorated 24-inch pipeline will also be replaced. Therefore, a maximum of approximately 200 linear feet of pipeline will be replaced, in the area of the OWD meter and in the area between the international boundary fence and the secondary fence, with 24-inch pipeline consistent with the remainder of the OWD pipeline. The project work includes the upgrade in diameter of the 14-inch diameter section of pipeline and the installation of a meter and backflow prevention facility on a small (approximately 1,300 square foot) concrete pad with security fence. All pipeline and backflow prevention construction, as well as completed facilities, will be located within the existing 30-foot wide OWD easement on the site which is accessible by existing roads. This improvement facilitates the City of Tijuana's peak demand of approximately 4.0 m³/sec (91 mgd) by the Comision Estatal de Servicios Publico de Tijuana's (CESPT) system. The surface area of the above ground structures will be approximately 1,300 ft² (121 m²) and the area of the temporary land disturbance (i.e., construction) will be about 3,050 ft² (283 m²).

Under the no action alternative, the City of Tijuana could experience a water supply shortage lasting upwards of several days. There could be the public health risk of illnesses attributed to water shortages which could have an impact on communities on both sides of the international boundary. Under another alternative, not considered in the EA, is that for water supply expansion in the City of Tijuana by Mexico. The

responsible agencies in Mexico are evaluating alternative sources of water for the region such that emergency water deliveries would be needed until they can be constructed. Of the alternatives considered, the proposed action is most compatible with the responsibilities and powers of the United States Section, IBWC, in implementing United States/Mexico agreements of the IBWC and does not significantly affect the environmental resources.

The detailed air quality analysis indicated project-related pollutants will be at the threshold for some of the criteria pollutants. The proposed action will be in compliance with San Diego Air Pollution Control District (APCD) Rules and Regulations. The overall air emissions impacts will be consistent with applicable ambient air quality standards. An application was submitted by the OWD to the APCD in May 2000 for a permit to increase operation of the three natural gas engines that will be required to deliver the water to Mexico. The staff plans to purchase specific equipment to continue the District's practice of equipment standardization and to obtain the best, proven engine and air pollution control technology. The APCD adopted revisions to Rule 69.4.1 in November 2000, six months after submittal of the original permit application to APCD. The revisions to APCD Rule 69.4.1 implement more stringent California state-mandated Best Available Retrofit Control Technology (BARCT) requirements to further reduce nitrogen oxide (NOx) emissions in San Diego County that will take full effect in 2002. OWD has determined that retrofitting existing engines to meet the new emission guidelines and deliver the water to Mexico will be cost prohibitive; therefore, OWD will purchase new engines with Best Available Control Technology (BACT)[(i.e., with new Caterpillar engines and non-selective catalytic reduction (NSCR) and NOx emissions controls)] that will more reliably and cost-effectively meet these new emission standards. OWD has committed to purchasing equipment that is the best, proven technology for accomplishing OWD purposes that will meet APCD requirements. OWD is currently in the process of purchasing the necessary engines and BACT in order to deliver the water to Mexico; however, due to the timing of the APCD mandate relative to Rule 69.4.1 and the date when water will need to be delivered to Mexico, OWD will be required to obtain a variance from APCD in order to operate the existing engines without BARCT until the new engines with BACT are installed, tested, and permitted. OWD will off-set or otherwise mitigate the emissions allowed during the APCD variance consistent with the terms and conditions of the variance as well as existing APCD rules and regulations. The mitigation is for use of the old pumps while new pumps are installed, tested and permitted.

Based on the conformity determination made under 40 Code of Federal Regulations (CFR) Part 51.858, the Federal action will be in conformity with the specific requirements and the purposes of the California Ambient Air Quality Standards pursuant to the United States Section's affirmative obligation under Section 176(c) of the Clean Air Act in accordance with the requirements of 40 CFR, Ch. 1, Part 51, Subpart W. The Federal action will be in compliance with the Clean Air Act and California's compliance requirements for air quality resources.

The proposed project complies with all requirements of Federal Statutes, executive

orders and other statutes, regulations and applicable permits, including the National Environmental Policy Act (NEPA), the United States Section's NEPA implementing procedures and the California Environmental Quality Act (CEQA) because there will be no significant project impacts. Project coordination on air quality and all other resources, including cultural, biological, and any Federally threatened and endangered species or habitats is being completed by United States Section and SDCWA for NEPA and CEQA compliance.

This final EA, "Implement International Agreement for Deliveries to Tijuana, Baja California, of a Part of Mexico's Colorado River Waters Through the Southern California Aqueducts" documents the assessment of the potential impacts of the proposed action and its alternatives. No significant adverse affects to the resources of the connecting facilities, Otay Mesa, delivery facilities, Colorado River, City of Tijuana, biological, archaeological, historical and other cultural resources, water, air quality, environmental justice, energy, and induced growth are expected by implementing the proposed action.

Based upon the results of the final Environmental Assessment, it has been determined that the proposed action will not have a significant adverse effect on the environment and an Environmental Impact Statement is not warranted.

Original Signed

August 17, 2001

William A. Wilcox, Jr.
Attorney-Advisor (General)

Date

**Final Environmental Assessment
 Implement International Agreement for Deliveries to Tijuana, B.C.
 of a Part of Mexico’s Colorado River Waters
 Through the Southern California Aqueducts**

Table of Contents

| | | Page No. |
|--------------|---|-----------------|
| I. | Purpose and Need | 2 |
| II. | Authority | 6 |
| III. | International Considerations | 6 |
| IV. | Alternatives | 7 |
| | A. Proposed Action | 9 |
| | B. No Action | 16 |
| V. | Environment of the Area | 16 |
| | A. Connecting Facilities | 16 |
| | B. Otay Mesa | 16 |
| | C. Southern California Aqueducts | 17 |
| | D. Colorado River Water | 17 |
| | E. City of Tijuana | 18 |
| | 1. General | 18 |
| | 2. Water Supply and Distribution | 18 |
| | 3. Wastewater | 19 |
| | F. Biological Resources | 20 |
| | G. Archaeological, Historical and Other Cultural Resources | 22 |
| | H. Water Resources | 23 |
| | I. Air Quality Resources | 23 |
| | J. Environmental Justice | 25 |
| | K. Energy Resources | 25 |
| | L. Induced Growth | 25 |
| VI. | Environmental Consequences | 26 |
| | A. Proposed Action Alternative | 26 |
| | B. No Action Alternative | 29 |
| VII. | Coordination | 29 |
| VIII. | Finding and Recommendation | 30 |

| | | |
|------------|--------------------------------|-----------|
| IX. | List of Preparers | 30 |
| X. | References | 32 |

Table

| | |
|---|-----------------|
| | Page No. |
| Table | |
| 1. Applicable environmental statutes and regulations | 7 |

Map

| | |
|---|-----------------|
| | Page No. |
| Map | |
| 1. Project emergency connection site | 3 |

Drawings

| | |
|--|-----------------|
| | Page No. |
| Drawings | |
| 1. Project emergency connection site | 4 |
| 2. Backflow preventer, vault and meter planned at emergency connection site | 13 |
| 3. Rough illustration of the area and layout of the structures and shows the replacement pipe with associated trenching at emergency connection | 14 |

Photographs

| | |
|--|-----------------|
| | Page No. |
| Photographs | |
| 1. Project emergency connection site. (Source: San Diego County Water Authority, 1999) | 5 |
| 2. Pipe replacement site at emergency connection. (Source: San Diego County Water Authority, 1999) | 11 |
| 3. Area of pipe replacement site at emergency connection. (Source: San Diego County Water Authority, 1999) | 12 |
| 4. United States - Mexico Emergency Water Deliveries Connection. Site of pipe replacement and site of backflow prevention and | |

| | |
|--|----|
| metering facilities at emergency connection (Source: SDCWA, 2001) | 15 |
| 5. Aerial view of the existing environment at emergency connection Date: January 4, 2000. Scale 1" = 120' (Source: RECON, Inc.)(Landiscor Aerial) | 21 |

Appendices

| | Page No. |
|--|----------|
| APPENDIX | |
| A. Federally endangered, threatened, candidate, proposed species list | 36 |
| B. Biological resources survey | 39 |
| C. Clean Water Act, Section 404 form | 49 |
| D. Cultural resources survey | 54 |
| E. Clean Water Act, Section 401 form | 64 |
| F. Correspondence, comments requested, and letters of contact and comments | 69 |
| G. Officials, agencies and others from which comments were requested | 151 |
| H. Officials, agencies and others receiving the Final Environmental Assessment | 160 |
| I. Other correspondence, comments requested, and letters of contact | 170 |

Final Environmental Assessment Implement International Agreement for Deliveries to Tijuana, Baja California, of a Part of Mexico's Colorado River Waters Through the Southern California Aqueducts

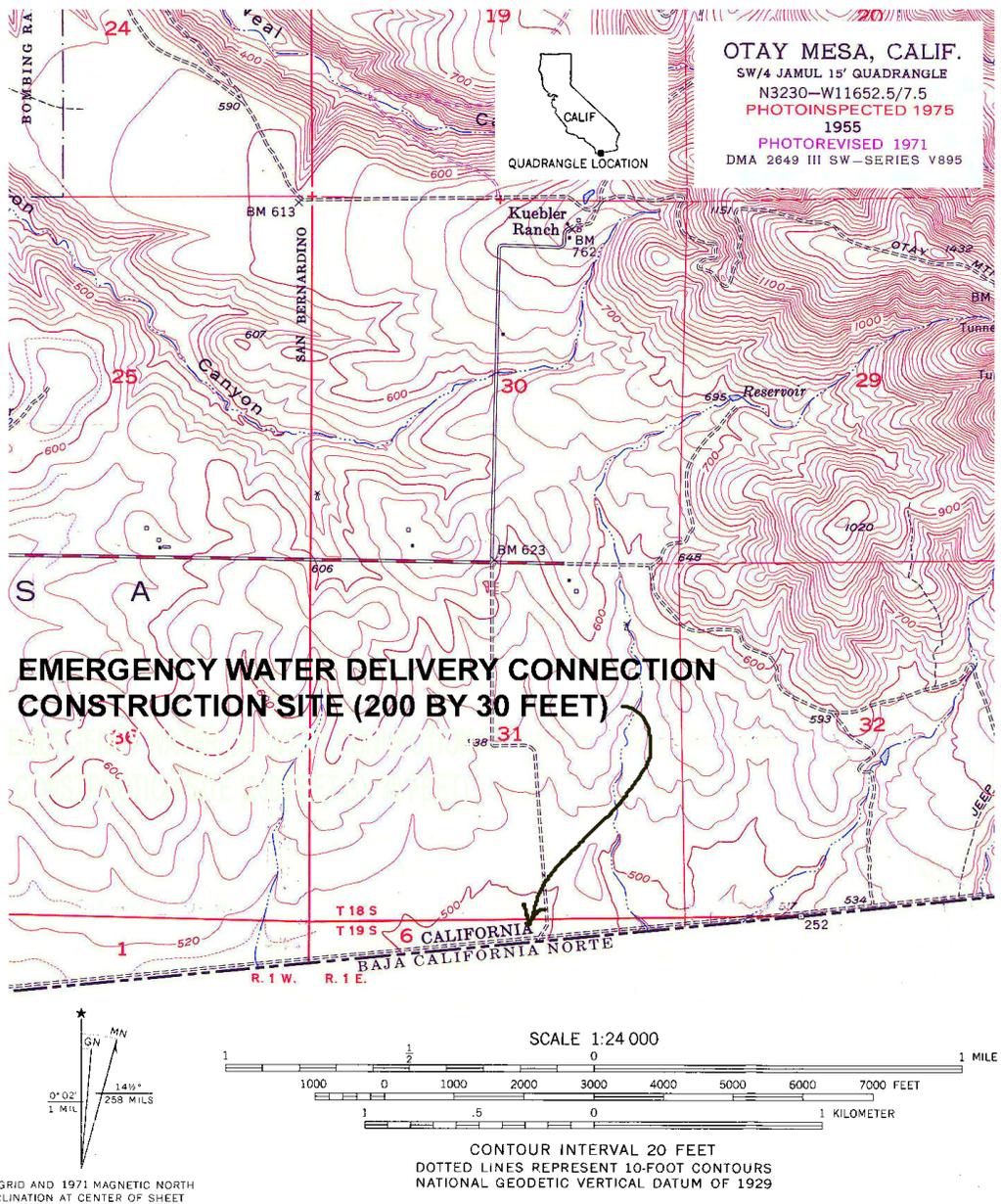
I. Purpose and Need

The City of Tijuana, Baja California, obtains most of its domestic water supply through an aqueduct system in Mexico that conveys a portion of Mexico's Colorado River waters diverted in Mexico through 76.5 miles (122 kilometers) of canals, tunnels and pipelines. The system has been in operation for approximately 20 years and requires pumping to lift the waters some 3,772 feet (1,150 meters) above sea level across the Sierras de Juarez mountains. The system is subject to breakdowns which can result in short-term interruptions of water deliveries to the City of Tijuana. Needs include 1) augmentation of water supply due to low water levels in exiting reservoirs and declining levels in the groundwater aquifer, and 2) stabilization of the water supply system during development of new water resources for the Tijuana-Rosarito area.

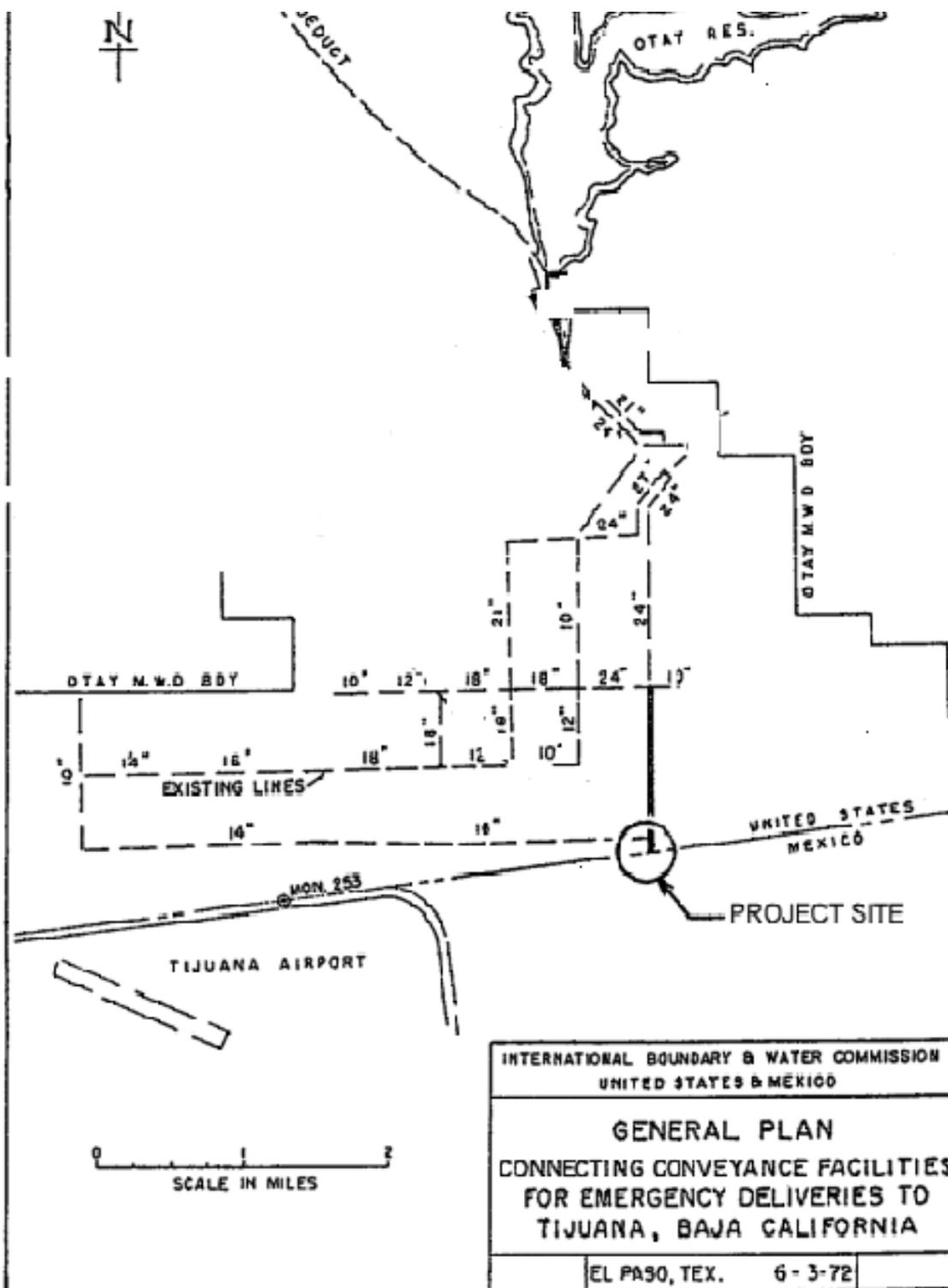
The purpose of the proposed action of implementing an international agreement is to arrange emergency water deliveries of a portion of Mexico's Colorado River water allocation through the Southern California aqueduct system to the Tijuana water distribution system under the terms of a Minute of the International Boundary and Water Commission (IBWC), an international organization under the United States and Mexico, according to the 1944 Water Treaty (IBWC. 1944). The proposed action would alleviate some of the current water shortage in Tijuana. A water shortage in Tijuana, with a population of about 1.3 million, could lead to serious public health and economic problems that could impact inhabitants on both sides of the border.

A connection exists at the international boundary (**Map 1, Drawing 1, Photograph 1**) between the Colorado River to San Diego County aqueduct system and the Tijuana water distribution system, which would again be utilized to make emergency deliveries of a portion of Mexico's Colorado River waters through the Southern California aqueduct system. A United States/Mexico international agreement to permit such deliveries was concluded in 1972, but expired in 1982. The terms of that agreement and its subsequent amendments were applied in 1989 to arrange emergency deliveries to Tijuana when the Mexican aqueduct system experienced a breakdown.

The Mexican aqueduct again experienced a breakdown in 1992 which would have resulted in suspension of water deliveries to Tijuana for at least three days in early October 1992 but an agreement [(Minute No. 287 dated October 6, 1992)(IBWC. 1992)] ensured emergency deliveries. Continued population growth in the Tijuana region, low



Map 1. Project Emergency Connection Site.



Drawing 1. Project Emergency Connection Site.



Photograph 1. Project Emergency Connection Site. (Source: San Diego County Water Authority, 1999)

water supplies, and drought conditions have resulted in seasonal demands for water exceeding the capacity of the existing Mexican aqueduct during summer months.

The City of Tijuana is evaluating water supply expansion. Agencies in Mexico are seeking alternative sources of water for the region, however, emergency deliveries would be needed until they can be constructed. The Southern California agencies that operate and maintain the Southern California aqueducts are willing and able to make such deliveries under emergency conditions.

II. Authority

The principles for emergency deliveries of Colorado River water to Tijuana are established in IBWC Minute No. 240 of June 13, 1972 (IBWC. 1944), as amended and extended in IBWC Minutes Nos. 243 of September 25, 1973; No. 245 of May 15, 1974; No. 252 of August 31, 1976; No. 256 of February 22, 1977; No. 259 of July 27, 1978; No. 260 of August 11, 1979; No. 263 of August 6, 1980, No. 266 of August 3, 1981; and No. 287 of October 6, 1992 (IBWC).

The proposed action of implementing an international agreement for five year emergency deliveries to Tijuana beginning in 2002 of a portion of Mexico's Colorado River water allocation through the Southern California aqueducts would be made under the terms of a Minute of the IBWC. The deliveries require utilization of existing facilities in the United States. The agreement will provide terms and conditions for the emergency deliveries. The IBWC may conclude such agreement under the terms of the 1944 Water Treaty (TS 994; 59 Stat. 1214). The U.S. Commissioner of the IBWC is authorized to make arrangements in the United States for implementation of such agreements by the Act of August 19, 1935 (49 Stat. 660; 22 USC 277a-d)(IBWC. 1935) and the American--Mexican Treaty Act of September 13, 1950 (64 Stat. 846)(22 USC 277d-3)(IBWC. 1950).

III. International Considerations

The IBWC is charged with applying the various United States/Mexico boundary and water treaties, along with regulation and exercise of the rights and obligations assumed by both governments under these treaties, as well as settlements of differences in the application of those treaties. The "United States Section Procedures For Implementation of the National Environmental Policy Act of 1969" (IBWC. 1981) are in the Federal Register of September 2, 1981. The proposed action is exempt from provisions of Executive Order 12114 of January 4, 1979 (U.S. President. 1979), regarding environmental effects abroad of major federal actions, since the IBWC jointly develops

and carries out projects with the Government of Mexico.

IV. Alternatives

Table 1 gives pertinent environmental requirements that guided EA development.

Table 1.
Applicable Environmental Statutes and Regulations

Environmental Regulation

Federal Statutes

Act of August 19, 1935 (USIBWC. 1935)
American—Mexican Treaty Act of September 13, 1950 (IBWC. 1950)
Archeological and Historic Preservation Act
Clean Air Act, as amended¹
Clean Water Act, as amended²
Endangered Species Act, as amended³
Fish and Wildlife Coordination Act, as amended
Land and Water Conservation Fund Act, as amended
National Historic Preservation Act, as amended⁴
National Environmental Policy Act, as amended⁵
Farmland Protection Policy Act
Federal Land Policy and Management Act
The Treaty of February 3, 1944 for “Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande” (United States/Mexico Treaty of 1944)(1944 Water Treaty)(IBWC. 1944)
Energy Policy Act of 1992 (PL 102-486)(Comprehensive Federal Energy Program)

Executive Orders

Executive Order 12114 of January 4, 1979 (Environmental Effects Abroad of Major Federal Actions)(United States President. 1979)
E.O. 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)
E.O. 11990 (Protection of Wetlands)
Executive Order 12759 of 17 April 1991 (establishes new federal energy goals)
Indian Sacred Sites (Executive Order 13007)⁴

Secretarial Order

Indian Trust Assets (Secretarial Order 3175)⁴

Statutes, Regulations, or Applicable Permits

California Environmental Quality Act ¹
California Air Quality Standards ¹

¹ San Diego County Water Authority (SDCWA) is completing CEQA compliance requirements and the Otay Water District (OWD) will ensure that water deliveries will comply with Federal Clean Air Act and State requirements concurrently to the U.S. Sections' ⁵ NEPA and other Federal statutes compliance requirements and coordination. Although OWD completed Categorical Exemption for the proposed action in August 2000, this exemption will cover the installation of OWD facilities and not the emergency water deliveries in total. Consistent with Sections 15221, 15225, and others) of CEQA, the SDCWA will adopt the EA/FONSI consistent with CEQA in place of a Mitigated Negative Declaration. OWD submitted a permit application to retrofit with BCT for increased use of three existing natural gas engines to the San Diego Air Pollution Control District (APCD) in May 2000 (**See Appendix F**), and this is deemed complete. APCD adoption of Rule 69.4.1 will require OWD to amend the application to apply to new engines that will more easily meet emission standards. The mitigation is for use of the old pumps while the new pumps are being installed, tested and permitted.

² Clean Water Act Section 401 Certification & Section 404 Permit are not applicable as the freshwater marsh (HELIX Job No: SAN-01 of 5/2/01) is located off-site to the west, and would not be affected. The forms are included for details.

³ Coordination is continuing with USFWS on presence/absence of Federally endangered fairy shrimp and ephemeral ponding on project sites. Consultation will be initiated with the USFWS should endangered fairy shrimp be present. Coordination is continuing with USFWS on Federally endangered Quino checkerspot butterfly. The Burrowing owl, a Federal and State sensitive species, mapped within 500 feet of the project site according to the County of San Diego, will also be addressed.

⁴ There are no cultural, historical or other cultural resources associated with the proposed project so Section 106 of the National Historic Preservation Act concurrence on a "no historic properties affected" determination with the CA State Historic Preservation Officer (SHPO) was requested on April 12, 2001, in a separate letter at the time of mailing the Draft EA for the project site except for a portion of the metering facility which was relocated to avoid ponding, and on July 5, 2001 (start 30-day review July 11, 2001). Coordination with the AZ SHPO includes a letter sent on July 17, 2001, and Native American involvement including a letter sent May 30, 2001. Concurrence was obtained from the AZ SHPO on July 24, 2001 on the determination.

A. Proposed Action

Emergency deliveries would be made under the terms of an IBWC Minute utilizing existing facilities in the United States. The deliveries would be for a maximum of five years and would begin in 2002. The waters delivered to Mexico would consist of a portion of the waters allotted to Mexico under the 1944 Water Treaty. The waters are for use in Tijuana, Baja California. The IBWC Minute follows. The basic terms established in earlier IBWC Minutes have been modified to cover terms and conditions under which the California agencies can facilitate emergency water deliveries during 2002. The deliveries would be made under the following terms and conditions:

- (1)** Effective beginning in 2002 and continuing for up to five years, water deliveries can be made through the Southern California aqueducts at up to a maximum rate of 0.6 m³/sec (14 mgd) during peak demand periods.
- (2)** Deliveries will not exceed the capacity available in the Southern California aqueduct system such that deliveries and flows to other agencies are impeded.
- (3)** The United States Section of the IBWC will ensure international agreement terms under which water deliveries and conveyance losses are deducted from Mexico's Treaty water delivered on the boundary section of the Colorado River.
- (4)** The United States Section of the IBWC will ensure international agreement terms under which Mexico will cover all of the costs incurred in making deliveries, all under the supervision of the IBWC.
- (5)** The United States Section of the IBWC will transact payment from Mexico to the SDCWA who distributes to Otay and MWD for the emergency deliveries.
- (6)** The United States Section of the IBWC will ensure international agreement terms under which calculated adjustment for determining the salinity differential under Minute No. 242 (IBWC. 1973) will be made in the salinity content of the Colorado River water delivered to Mexico at the northerly international boundary in the Colorado River to take into account the emergency deliveries of water to Tijuana.
- (7)** The United States Section of the IBWC will ensure international agreement terms under which deliveries to Tijuana will not reduce the minimum rate of deliveries of Colorado River waters to Mexico at the northern international boundary for the purpose of scheduling Mexico's deliveries at that point at

Parker Dam, Siphon Drop Power Plant and Pilot Knob Power Plant.

- (8)** International agreement terms will be considered for the Government of Mexico to provide reimbursement for diversion and deliveries through transfer of electric energy to the United States through existing interconnections along the Baja California and California border area.

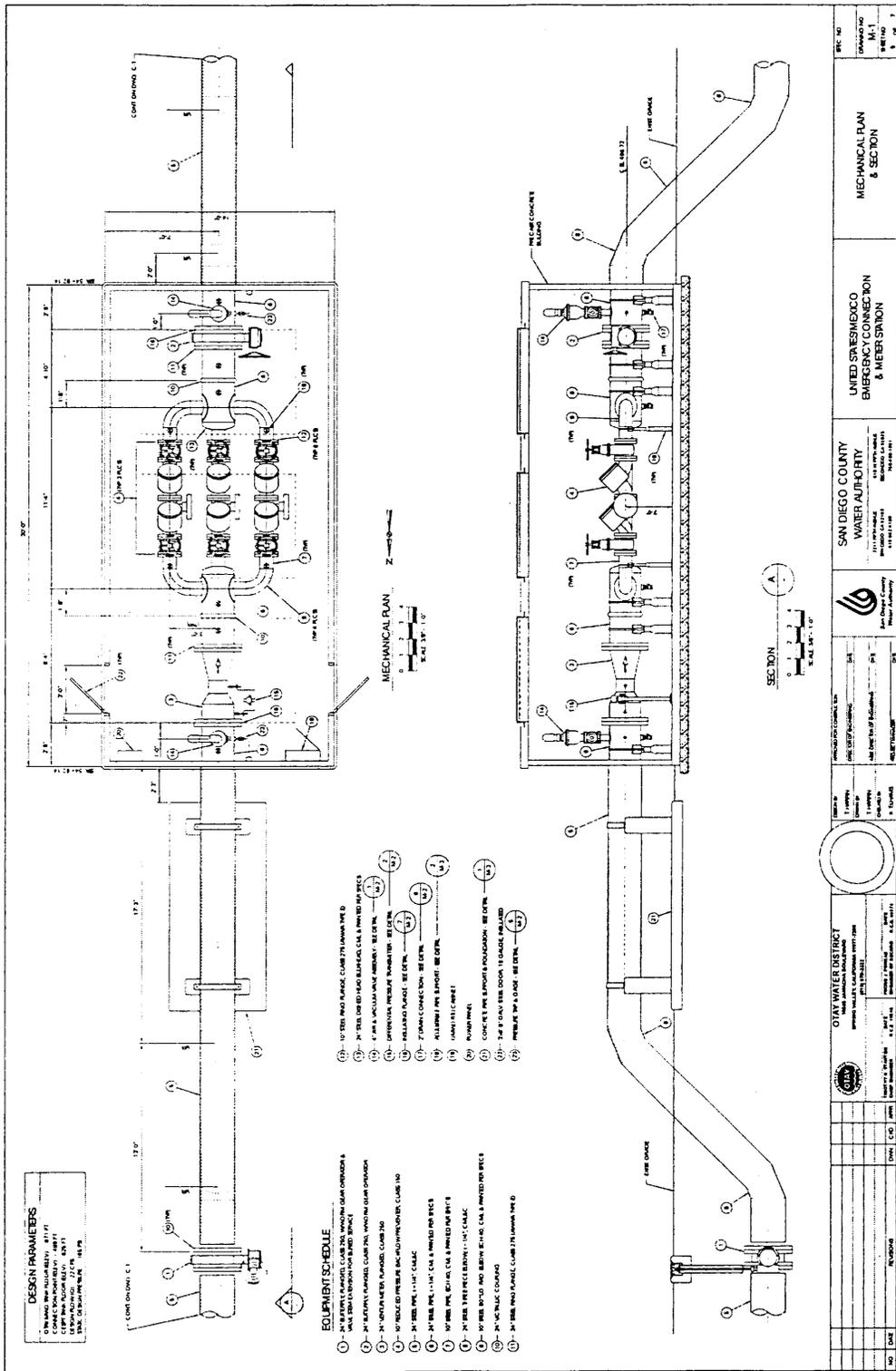
The final conveyance point to Mexico requires use of an existing approximately 80 feet (24.4 m) of 14-inch (36 cm) line and up to 120 feet of 24-inch (61 cm) line in an OWD easement at the border fence (**Photographs 2, 3, 4**) that will be replaced with a 24-inch (61 cm) line at the request of Mexico and at Mexico's cost. This improvement facilitates the City of Tijuana's peak demand of approximately 4.0 m³/sec (91 mgd) for the Comision Estatal de Servicios Publico de Tijuana's (CESPT) system. **Photograph 5** shows the surrounding area of the line. The final conveyance point to Mexico requires the replacement of an 80-foot long segment of existing 14-inch pipeline that was initially installed as a temporary emergency measure. Up to 120 feet of deteriorated 24-inch pipeline will also be replaced. Therefore, a maximum of approximately 200 linear feet of pipeline will be replaced in the area of the OWD backflow preventer and on the area between the international boundary fence and the secondary fence, with 24-inch pipeline consistent with the remainder of the OWD pipeline. The project work includes the upgrade in diameter of 14-inch diameter section of pipeline and installation of a meter and backflow prevention facility on a small (approximately 1,300 square foot) concrete pad with security fence. All pipeline and meter vault construction, as well as completed facilities, will be located within the existing 30-foot wide OWD easement, which is accessible by existing roads, on the site. **Drawing 2** shows these structures as typical backflow preventer, vault and meter and **Drawing 3** roughly illustrates the area and layout of these structures and shows the replacement pipe with associated trenching. The surface area of the above ground structures will be approximately 1,300 ft² (121 m²) and the area of the temporary land disturbance (i.e., construction) will be about 3,050 ft² (283 m²).



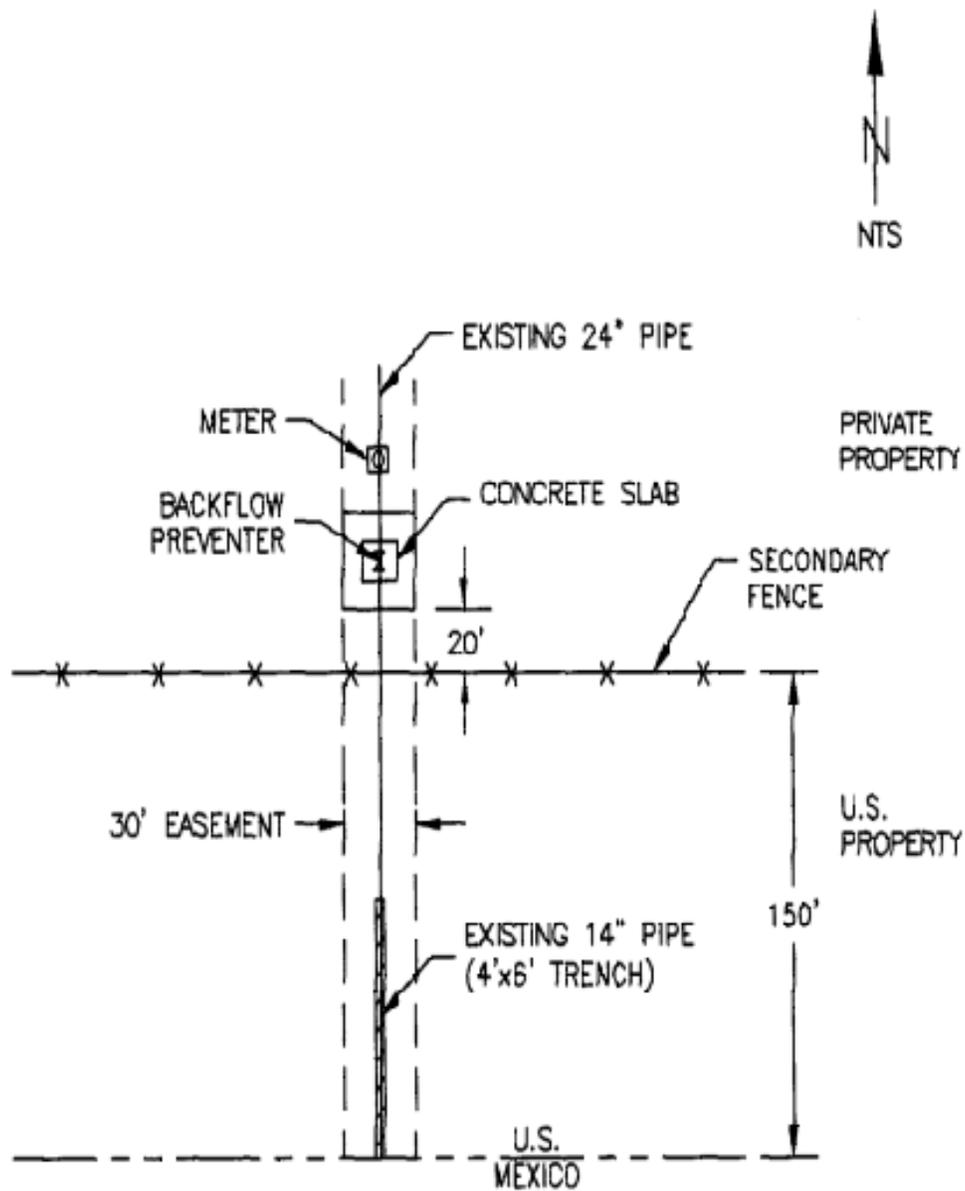
**Photograph 2. Pipe replacement site at emergency connection.
(San Diego County Water Authority, 1999)**



Photograph 3. United States - Mexico Emergency Water Deliveries Connection. Area of pipe replacement site at emergency connection (Source: SDCWA, 1999)



Drawing 2. Typical backflow preventer, vault and meter planned at emergency connection site.



SAN DIEGO / TIJUANA
EMERGENCY CONNECTION FACILITIES

Drawing 3. Rough illustration of area and layout of structures. Shows replacement pipe with associated trenching at emergency connection.



Photograph 4. United States - Mexico Emergency Water Deliveries Connection. Site of pipe replacement and site of backflow prevention and metering facilities at emergency connection (Source: SDCWA, 2001)

B. No Action

In absence of other arrangements to deliver water to Tijuana on an emergency basis, the City of Tijuana could experience a water supply shortage lasting upwards of several days leaving a large number of its approximately one million inhabitants temporarily without water supply. This could result in a serious adverse economic impact on the City of Tijuana resulting from a decrease in tourism. Further, there could be the public health risk of illnesses attributed to water shortages which could have an impact on communities on both sides of the international boundary.

V. Environment of the Area

A. Connecting Facilities

The emergency connecting line is at the international boundary near Otay Mesa, San Diego, approximately 6.3 miles (10.1 km) east of the San Ysidro port-of-entry and generally perpendicular to the United States/Mexico boundary. Elevation at the connection crossing is approximately 500 feet (152 m) above mean sea level. The area is in the peninsular range province (U.S. Army Corps of Engineers, 1999). The emergency connection is located in a low area between gentle slopes.

The available capacity in the line is approximately 1,280 acre-feet per month (1,579,520 m³). It is subject to delivery of only that amount that is available for delivery from the excess capacity of the Southern California aqueduct system.

B. Otay Mesa

Otay Mesa, where the emergency connection site is located, is bound on the south by the international boundary and the Otay River on the north. The mesa is generally flat to slightly rolling, with the exception being the canyon areas to the north and westerly edges of the mesa. The mesa to the east is bound by the San Ysidro mountains. Traditional irrigated agricultural land use in the 1970's has been rapidly replaced by development of industrial parks, particularly since the opening of the Otay Mesa port-of-entry in January 1985.

C. Southern California Aqueducts

Conveyance will be by means of aqueducts owned and operated by the Metropolitan Water District (MWD) and the San Diego County Water Authority (SDCWA). Colorado River waters are diverted into MWD's Colorado River Aqueduct at Lake Havasu for delivery to SDCWA pipelines in northern San Diego County. SDCWA will deliver the water to OWD near the international boundary. Actual emergency water deliveries to Mexico from Southern California will be through pipelines and other facilities belonging to the OWD. No additions or changes to the MWD or SDCWA facilities would be required in order to transport emergency deliveries to Mexico. OWD will replace or reconstruct up to approximately 200 feet of deteriorated 24-inch diameter pipeline to accommodate the delivery.

D. Colorado River Water

Under the 1944 Water Treaty, Mexico is allotted a guaranteed annual quantity of 1.5 million acre-feet (1,850 million m³) of water to be delivered under terms and conditions established in that treaty including a requirement for Mexico to provide a schedule of deliveries. The schedule is provided to the U.S. Bureau of Reclamation through the IBWC, and in turn that agency arranges for those deliveries at the Northerly International Boundary (NIB) near Yuma, AZ and near the Southerly International Boundary (SIB) in the San Luis, Rio Colorado, and San Luis, Sonora area.

The United States by virtue of IBWC Minute No. 242 (IBWC. 1973) delivers approximately 1.36 million acre-feet (1,678 million m³) of those waters at the NIB with an annual salinity content not greater than 115^{+/-} 30 parts per million over the salinity in the Colorado River waters arriving at the last major United States diversion point at Imperial Dam, approximately 35 miles (56.3 km) north of Yuma.

The proposed diversion and delivery of Mexico's Colorado River water allotment could be up to a maximum of approximately 15,000 acre-feet per year. This is based on the capacity of the delivery works.

By virtue of IBWC Minute No. 240 (IBWC. 1972), the United States and Mexico agreed to the emergency deliveries of a portion of those waters for use in Tijuana at a point near the international boundary. That agreement and amendments thereto expired in 1982 and the Minute No. 287 (IBWC. 1992) agreements expired in 1992. The proposed action scale is larger than the past.

E. City of Tijuana

1. General

The City of Tijuana lies immediately south of the City of San Diego, California. Population is concentrated mainly in the narrow valleys and the coastal plain. The central older section of Tijuana adjacent to the Tijuana River was redeveloped in the 1970*s as a result of the channelization of the Tijuana River as part of an international flood control project. The population of Tijuana continues to increase with rapid migration from several areas in Mexico. Tourism is an important part of its economy. Vehicle and pedestrian traffic to and from the United States in this area is funneled through the port of entry at San Ysidro near the ocean and the Otay Mesa port-of-entry. About 71,000 persons a day enter the United States through the San Ysidro port-of-entry and another approximately 11,000 persons a day enter through the Otay port-of-entry. A similar number return to Mexico, resulting in an estimated 60 million crossings by both ways in a year (General Service Administration. 1992).

2. Water Supply and Distribution

The population of Tijuana increased to approximately 1.3 million in 2000 from about 464,000 in 1972. Tijuana had a water requirement of approximately 41,000 acre-feet (51 million m³) per year, when emergency deliveries began to cover a water shortage of 13,000 acre-feet (16 million m³) per year. The Government of Mexico, beginning in 1981, placed into operation its Colorado River to Tijuana aqueduct with a capacity of 3,450 lps (79 mgd). In 1992, the aqueduct supplied 2,100 lps (48 mgd) and wells supplied 100 lps (2.3 mgd) covering the demand for the City of Tijuana. Presently, the entire supply for the region is from the aqueduct [capacity is approximately 3,600 lps (82 mgd)].

Average demands within CESPT service area are approximately 3,000 lps (68 mgd). Peak demands in the summer can reach 4,000 lps (91 mgd) which they are currently unable to meet during peak summer demand periods. The Government of Mexico is exploring various sources, including desalting of sea water and adding another aqueduct line to meet a demand in 2010 of 5,000 lps (114 mgd).

Beginning in 1988, the Government of Mexico undertook a rehabilitation

of its water supply system. Under this project, the Colorado river aqueduct water is treated at the El Florido plant before incorporation into the distribution network. The water supply system from Rodriguez Reservoir has a capacity of 300 lps (6.9 mgd), but is unreliable since it depends on rainwater into the reservoir. This reservoir is for all practical purposes empty at this time because approximately 10 million m³ (8,100 acre-feet) remains.

The water distribution system was rehabilitated as two storage tanks and 11 interconnecting main lines, which feed into 10 central tanks. Under the rehabilitation, the 45 smaller pumping stations were replaced with three booster pumping stations. In addition, smaller distribution lines were constructed to increase the city's coverage from 49% in 1985 to 80% in 1992. Also, Mexico undertook measures to reduce the volume of unmetered water from 35% in 1988 to 25% in 1995.

3. Wastewater

The Government of Mexico, parallel to the water supply project, undertook the rehabilitation and expansion of its wastewater collection system. The major collection components near the international boundary and the first stage treatment facilities for Tijuana sewage through 1995 are incorporated in IBWC Minute No. 270 of April 1, 1985 (IBWC. 1985). These consist of collectors along the Tijuana River to convey a portion of the 1,100 lps (25 mgd) stage I flows to a pumping station near the border. These discharges and those along canyon and coastal areas are then conveyed by pressure lines and open canals to a treatment plant located 4.8 miles south of the boundary. The treated effluent is discharged one mile further south into the ocean. For the second stage of disposal of Tijuana sanitary wastewaters, the United States and Mexico, by virtue of IBWC Minute No. 283 of July 2, 1990 (IBWC. 1990) agreed to the construction, immediately north of the boundary in the United States, of an international wastewater treatment plant with Mexican participation to handle the second stage discharges of Tijuana sewage estimated in 1990 to be at least 1,100 lps (25 mgd). The plant will provide secondary treatment and ocean outfall disposal.

The Parallel line is essentially complete, but the second component, rehabilitation of the Mexican Treatment Plant, is just under call for bids and is approximately two years from construction. Minute No. 298 of December 2, 1997 (IBWC. 1997) describes the wastewater project. Minute No. 298 extends the Minute No. 270 (IBWC. 1985) transboundary

pollution safeguards to the Parallel line and treatment plant.

Mexico is examining alternatives for handling wastewater in excess of the combined 2,200 lps (50 mgd) treatment. Mexico will continue its sanitation measures to guard against beach contamination in the San Diego/Tijuana area.

F. Biological Resources

See **photograph 5** of January 2000 for an aerial view of the existing environment. The lands around the emergency connection are greatly disturbed due to agricultural production, travel through the area and urban development.

The predominant vegetation type prior to agriculture and more recently, was grassland. Characteristic species of this community include 11 goldentop (*Lamarckia aurea*), soft chess (*Bromus mollis*), Bermuda grass (*Cynodon dactylon*), and slender wild oat (*Avena barbata*), and some of these species may be present. Non-native, invasive species that might be associated with this habitat include Russian-thistle (*Salola* sp.), yellow sweetclover (*Melilotus indicus*), wild mustard (*Brassica campestris*), and star-thistle (*Centaurea melitensis*)(U.S. Immigration and Naturalization Service. 1990).

Vernal pools are natural habitats of the region (Zedler.1987) and vernal pool morphology occurs within the project area, but not on the project site. On the southern terraces, the pools are in claypan substrates (Otay Mesa) or occur in both cemented hardpan and claypan substrates (Kearny Mesa)(Zedler.1987). No vernal pools have been observed at the project site, nor are they expected to occur. A list of Federally Endangered, Threatened, Candidate and Proposed Species which may be found in the general vicinity of the proposed emergency connection site are in **Appendix A**.

No Federally listed endangered or threatened species are known to occur on the project emergency connection site, based on the biological resources survey, provided in **Appendix B**, conducted by RECON, Inc. on July 14, 2000. The emergency connection site is located near the international boundary north of the secondary fence on private property in the Otay easement. The site contains disturbed vegetation and the area is developed roads. No significant biological resources were observed on the site or roads. HELIX reports (no. SAN01) resources on roads and in the area (see **Appendix I**, letter of May 31,



Photograph 5. Aerial view of the existing environment at emergency connection. Date: January 4, 2000. Scale: 1" = 120' (Source: RECON, Inc.)(Taken From: Landiscor Aerial Information).

2001). There are no ephemeral pools on the emergency connection site.

Regarding the deliveries from the Colorado River, any change in conditions on the biological resources of the Colorado River as a result of proposed diversion and deliveries of up to 15,000 acre-feet per year is insignificant over the five year life of the proposed action relative to the existing conditions. No impacts to sensitive Colorado River faunal species are expected due to the emergency water deliveries.

The United States Section will conclude biological resources coordination with the U.S. Fish and Wildlife Service by letter. Otay completed a CEQA exemption with San Diego County Records Office, filed on August 30, 2000 (See **Appendix F**) for minor facilities improvements.

Appendix C consists of an Application for a U.S. Army Corps of Engineers Permit. This is provided for information only in order to provide specific details not included in this EA on the emergency connection site. The Application is for coordination only, because Section 404 of the Clean Water Act is not applicable.

G. Archaeological, Historical and Other Cultural Resources

The area of the emergency connection near the international boundary was previously surveyed for archaeological sites and several of these were located in the Otay area. (Schilz. 1989). None of these are close enough to the emergency connection to be disturbed by the past operation and maintenance activities at the connection.

In September 1996 an EA was prepared for 25 miles of road and ranch rights of way on Otay Mountain from Otay Mesa to Dog House Junction. Of the 11 sites identified by a records search and intensive field survey, 10 were determined to be of unknown eligibility and one was determined to be eligible for inclusion in the National Register of Historic Places (NRHP)(U.S. Army Corps of Engineers. 1999).

A literature search and standard cultural resources survey of the area of the emergency connection site was conducted by RECON, Inc. (See **Appendix D**). The surveys were performed on July 14, 2000, and in July 2001 for the presence/absence of cultural resources at Otay Mesa. No cultural resources were located in the area of potential effects (APE). There are no resources listed in the NRHP which may be found at the emergency connection site. This conclusion is substantiated in the County of San Diego project report no. 11070010 (County of San Diego. 1993).

The United States Section requested concurrence from the CA SHPO and AZ SHPO by letters under the NHPA expedited consultation under 36 CFR part 800.3(g) on the Section's determination under 36 CFR part 800.4(d)(1) that there will be no historic properties affected. Concurrence was received on the determination from the AZ SHPO on July 24, 2001, and coordination is continuing with the CA SHPO. The U.S. Section conducted by letter and with the draft EA, Native American involvement. No significant concerns were received as a result of the Native American involvement.

H. Water Resources

The water quality in the project area is generally considered poor due to urban run-off and fugitive sewage flows from the City of Tijuana. Regional groundwater quality is low because of high chlorine and sodium levels (U. S. Army Corps of Engineers. 1997).

There are no water quality concerns associated with the proposed action. **Appendix E** consists of a Water Quality Certification Application, provided for information only in order to give specific details not included in this EA on the emergency connection site. The Application is for coordination only, because Section 401 of the Clean Water Act is not applicable. Otay filed a Notice of Exemption (**Appendix F**) August 30, 2000 for improvements to minor facilities.

The demand on the water supply of Otay will increase from the proposed project. The system has excess capacity of 0.7 m³/sec (16 mgd), however, it will only be able to provide 0.3 m³/sec (7 mgd) to 0.6 m³/sec (14 mgd) due to existing commitments for excess capacity. This rate of flow will decrease over time as the demands grow.

I. Air Quality Resources

The proposed emergency water deliveries' pumps and emergency connection site along the international boundary lie within the San Diego Air Basin. The three pumps run on natural gas. An increase in use will be required for the emergency deliveries.

A detailed air quality analysis on OWD's proposed increase in pump usage was performed to determine compliance with *de minimus* air quality standards for criteria pollutants. Preliminary coordination was conducted by telephone on July 18, 2000 by the United States Section with an Air Pollution Control Officer of the

San Diego Air Pollution Control District on OWD's intent regarding the permitting of engines needed to drive the pump.

The detailed air quality analysis indicated project-related pollutants will be at the threshold for some of the criteria pollutants. The proposed action will be in compliance with San Diego Air Pollution Control District (APCD) Rules and Regulations. The overall air emissions impacts will be consistent with applicable ambient air quality standards. An application (See **Appendix F**) was submitted by the OWD to the APCD in May 2000 for a permit to increase operation of the three natural gas engines that will be required to deliver the water to Mexico. Staff plans to purchase specific equipment to continue the District's practice of equipment standardization and to obtain the best, proven engine and air pollution control technology.

The APCD adopted revisions to Rule 69.4.1 in November 2000, six months after submittal of the original permit application to APCD, which has mandated revisions to the original permit application. The revisions to APCD Rule 69.4.1 implement more stringent California state-mandated Best Available Retrofit Control Technology (BARCT) requirements to further reduce nitrogen oxide (NOx) emissions in San Diego County. These emission standards will take full effect in 2002. OWD has determined that retrofitting existing engines to meet the new emission guidelines and deliver the water to Mexico, as originally planned, will be cost prohibitive. Therefore, OWD will purchase new engines with Best Available Control Technology (BACT)(i.e., with new Caterpillar engines and NSCR and NOx emissions controls) that will more reliably and cost-effectively meet these new emission standards. OWD has committed to purchasing equipment that is the best, proven technology for accomplishing OWD purposes that will meet APCD requirements.

OWD is currently in the process of revising the permit applications and purchasing the necessary engines and BACT in order to deliver the water to Mexico. Due to the timing of the APCD mandate relative to Rule 69.4.1, and the date when water will need to be delivered to Mexico, both of which were beyond OWD's control, OWD will be required to obtain a variance from APCD in order to operate the existing engines without BARCT until the new engines with BACT are installed, tested and permitted. OWD will off-set or otherwise mitigate the emissions allowed during the APCD variance consistent with the terms and conditions of the variance as well as existing APCD rules and regulations.

Based on the conformity determination made under 40 Code of Federal Regulations (CFR) Part 51.858, the Federal action will be in conformity with the specific requirements and the purposes of the California Ambient Air Quality Standards pursuant to the United States Section's affirmative obligation under Section 176(c) of the Clean Air Act in accordance with the requirements of 40 CFR, Ch. 1, Part 51, Subpart W. The Federal action will be in compliance with

the Clean Air Act and California's compliance requirements for air quality resources.

J. Environmental Justice

None of the proposed action alternatives would temporarily or permanently displace local poor persons. There would be no change to the number of available jobs in the area of the proposed action.

K. Energy Resources

The Energy Policy Act of 1992 (P. L. 102-486) is a comprehensive program requiring implementation of efficient measures, such as technologies, which have a ten-year payback. The Energy Policy Act was considered in the proposed action.

The power requirements of MWD for the proposed diversion and deliveries of 15,000 acre-feet per year would be approximately 30,000 megawatt-hours per year. This figure is about one percent of the total power used by MWD for Colorado River Aqueduct diversions and deliveries.

The proposed action would consider energy management to use energy efficiently. It is possible for Mexico to provide a potential energy transfer for power.

The statewide energy system can not always meet the demand during peaks. Reliable power is essential for use during times of peak demand. The proposed action would use reliable, efficient, power.

The provision of power by Mexico is being considered as an optional source of energy for the emergency deliveries. Additional evaluations will be required to determine its viability.

L. Induced Growth

The population of Tijuana continues to increase. Peak summer water demand periods in Tijuana are not met. The Government of Mexico is exploring

various sources to meet demands. None of the proposed action alternatives would temporarily or permanently result in induced growth or change the socioeconomics in Tijuana.

VI. Environmental Consequences

A. Proposed Action Alternative

The proposed action would have the overall benefit of acceding to the request of a neighboring country to deliver water at relatively little inconvenience to the United States in order to prevent public health and economic problems that could impact both the United States and Mexico. There would be no modifications to the Southern California aqueduct system facilities and, therefore, no added local environmental impact can be expected from use of these facilities.

The capacity for water deliveries to Tijuana over that of previous emergency deliveries' arrangements would not increase and, in fact, would be limited to only what the Southern California agencies determine can be delivered to Tijuana in the time frame agreed by those agencies.

The environmental consequences will:

- (1)** not significantly affect sewage discharges into the Tijuana River or the Pacific Ocean since the deliveries of water will be only during times of peak demand during the summer/fall months or when Mexico's aqueduct is out of service. In the event that there is a breakdown in the Tijuana system, then, although proposed deliveries could occur year-round and allow water to be placed in storage, the environmental consequences would be insignificant;
- (2)** not affect the quantity of water allocated to each country under the 1944 Water Treaty;
- (3)** not affect the water flow of the Colorado River downstream of Parker Dam, power generation loss and salinity differential impact, since the annual volume of up to 15,000 acre-feet of water diversion at Parker Dam for a duration of five years in comparison to the total annual diversion of 1.5 million acre feet to Mexico is insignificant, and also due to the existing day-to-day variability in Colorado River flow;
- (4)** take into account an adjustment in the salinity of the waters of the Colorado River delivered to Mexico under the provisions of Minute No. 242 for solution of the Colorado River salinity problem;

(5) require very minor use of labor resources and existing facilities, but Mexico would compensate agencies in the United States for these costs;

(6) result in no adverse impacts to Federally-listed species or their habitat from proposed Colorado River water diversion and deliveries and improvements at the border connection site;

(7) be no long-term cumulative impacts to the biological resources of the Colorado River from the proposed action;

(8) not effect the state-wide energy system since the proposed demand is insignificant compared to the energy system and because of potential energy transfer by Mexico;

(9) not result in short or long-term growth inducement;

(10) be a small (approximately 20%) percentage of Tijuana's water demand and water deliveries would be for short-term emergency conditions to alleviate current water shortages;

(11) benefit a neighboring country's request to deliver water to prevent public health and economic problems that could impact both countries;

(12) not affect historic properties because there are no historical, archaeological or other cultural resources identified in the area of potential effects (APE) at the emergency connection site. Concurrence on a "no historic properties affected" determination by the SHPO's of California and Arizona were requested by the United States Section;

(13) not affect air quality resources. The APCD adopted revisions to Rule 69.4.1 in November 2000, which has mandated revisions to the original permit application. This is due to the fact that the revisions to APCD Rule 69.4.1 will implement more stringent California state-mandated BARCT requirements in order to further reduce NOx emissions in San Diego County. These emission standards will take full effect in 2002. OWD has determined that retrofitting the existing engines to meet the new emission guidelines and deliver the water to Mexico, as originally planned, will be cost prohibitive. Therefore, OWD will purchase new engines with BACT that will more reliably and cost-effectively meet the new emission standards. OWD is currently in the process of revising the permit applications and purchasing the necessary engines and BACT in order to deliver the water to Mexico. Due to the timing of the APCD mandate relative to Rule 69.4.1, and the date when water will need to be delivered to Mexico, both of which were beyond OWD's control, OWD will be

required to obtain a variance from APCD in order to operate the existing engines without BARCT until the new engines with BACT are installed, tested, and permitted. OWD will off-set or otherwise mitigate the emissions allowed during the APCD variance consistent with the terms and conditions of the variance as well as existing APCD rules and regulations. The environmental consequences will comply with APCD Rules and Regulations relative to permitting and emissions. Based on the conformity determination made under 40 Code of Federal Regulations (CFR) Part 51.858 using analytical methods, the Federal action will be in conformity with the specific requirements and the purposes of the California Ambient Air Quality Standards pursuant to the United States Section's affirmative obligation under Section 176(c) of the Clean Air Act in accordance with the requirements of 40 CFR, Chapter 1, Part 51, Subpart W. The Federal action will be in compliance with the Clean Air Act and California's compliance requirements for air quality;

(14) will be coordinated as follows: CEQA coordination addressed resources of concern under OWD's jurisdiction at the final conveyance point to Tijuana, which are the emergency connection site improvements between the two border fences in their easement. Also under OWD's jurisdiction is the site immediately north of the secondary fence in their easement consisting of U.S. Border Patrol developed roads and private property. OWD's coordination effort on site and engine improvements is being completed concurrent to United States Section's NEPA and CEQA (by SDCWA) compliance requirements and coordination for implementation of international arrangements for project actions under the terms and conditions of the IBWC Minute. Though OWD completed a Categorical Exclusion under CEQA for the project in August 2000, the exemption only covers the installation of OWD facilities that would facilitate the emergency water delivery. The potential impacts resulting from the emergency water delivery were not covered by OWD. The SDCWA, consistent with CEQA Section 15221, will act as the CEQA lead agency for the overall project by adopting the EA/FONSI consistent with CEQA. The SDCWA will publish a Notice of Intent to Adopt the EA/FONSI in place of a Mitigated Negative Declaration consistent with CEQA Sections 15072 and 15225. Supporting documentation necessary for this action to occur, will be provided by the SDCWA consistent with CEQA. Upon completion of the public review period and the completion of the EA/FONSI by the USIBWC, the SDCWA Board will adopt the EA/FONSI in place of a Mitigated Negative Declaration for the project, consistent with the sections noted within the CEQA Guidelines. This will complete CEQA compliance for the project.

(15) not result in long-term cumulative impacts to the resources in the United States. The proposed activity is for a maximum five year duration and is a short-term emergency action.

B. No Action Alternative

In absence of other international arrangements to implement delivery of waters to Tijuana on an emergency basis, the City of Tijuana would suffer a water supply shortage for several days leaving a large number of its approximately 1.3 million inhabitants temporarily without water supply. This could result in a serious adverse economic impact on the City of Tijuana resulting from a decrease in tourism. Further, there would be the public health risk of illnesses attributed to water shortages which could have an impact on communities on both sides of the international boundary.

VII. Coordination

Appendix F is correspondence, comments requested and letters of contact and comments during the draft EA development and comment period. **Appendix G** is a list of the officials, agencies and others from which comments were requested for the draft EA comment period. **Appendix H** is a list of officials, agencies and others receiving the Final EA. **Appendix I** is other correspondence, comments requested and letters of comment which are not part of the draft EA public review comment period.

The United States Section has contacted and received letters of support from the U.S. Bureau of Reclamation (USBOR. 2000), MWD (MWD. 2000) and San Diego County Water Authority (SDCWA. 1999) on their views on the conditions for the proposed action of implementation of international emergency water deliveries. In one past consultation, the U.S. Commissioner (IBWC. 1992) explored the possibility in order to meet Mexico*s most immediate needs for deliveries in October 1992 and the agencies confirmed their advice of 1989 and provided conditions under which they were willing and able to make the emergency deliveries to Tijuana, Mexico.

The United States Section maintained coordination with the SDCWA, the MWD, the USBOR, the Otay, and City of San Diego on consideration of emergency water deliveries to Tijuana on a standby basis in 1989 and 1990 (United States Section, IBWC. 1989). The SDCWA (SDCWA. 1990), MWD (MWD. 1989), USBOR (USBOR. 1989) and San Diego County(San Diego County. 1989) provided their preliminary views on conditions that might permit them to resume emergency deliveries to Tijuana on a stand by basis.

VIII. Finding and Recommendation

The finding of this assessment is the proposed action does not constitute a major federal action causing a significant local, regional, or national adverse impact to the environment.

The overall beneficial impact of the United States is meeting the request of a neighboring country to delivery emergency water. The proposed action would prevent adverse economic and health impacts that could be felt on both sides of the international boundary at little inconvenience to the United States or the agencies supplying that water. Any maintenance work would be relatively minor and have no significant impact on the local area.

Compliance with APCD rules and regulations will occur with implementation of the proposed best available control technology and air permit and variance stipulations. No significant air quality impacts will result. The Federal action will be in compliance with the Clean Air Act and California's compliance requirements for air quality resources.

None of the alternatives would significantly encounter or disturb the resources consisting of connecting facilities, Otay Mesa, delivery facilities, Colorado River water, City of Tijuana including water supply and distribution and wastewater, biological including Federally threatened or endangered species or habitats, archaeological, historical and other cultural resources, water, air quality, environmental justice, energy, and induced growth. None of the alternatives would cause permanent detrimental effect to the resources.

It is recommended that a Final Finding of No Significant Impact (FONSI) be adopted and no Environmental Impact Statement be prepared. The Notice of Availability of a Final FONSI is included in this final EA.

For further information contact: International Boundary and Water Commission United States Section, Ms. Sylvia A. Waggoner, Division Engineer, Environmental Management Division, 4171 N. Mesa, C-310, El Paso, TX 79902-1441.

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