

**Meeting of the Central Valley Flood Protection Board  
July 27, 2012**

**Staff Report – Encroachment Permit**

**City of Bakersfield**

**Habitat Mitigation Plantings, Kern County**

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**1.0 – ITEM**

Consider approval of Permit No. 18748. (Attachment B)

**2.0 – APPLICANT**

**City of Bakersfield**

**3.0 – LOCATION**

This project is located within the right and left bank overflow areas of the Kern River Designated Floodway at river mile(s) 120.2 and 120.8 which is approximately 1.5 and 0.9 miles downstream of the U.S. Highway 99 Bridge crossing of the Kern River in Bakersfield, Kern County. (See Attachment(s) A)

**4.0 – DESCRIPTION**

The project consists of site preparation and the planting of various types of vegetation and installing minimal irrigation for mitigation of vegetation removed from the floodway to facilitate construction of the Mohawk Street Bridge and the Truxtun Tie-In. (See Attachment C)

**5.0 – PROJECT ANALYSIS**

The project involves removal of debris, non-native species of vegetation and minor grading/earthwork and the planting of 408 woody plants/trees and the installation of minor irrigation system. The proposed project conforms to all Title 23 standards.

### **5.1 – Hydraulic Analysis**

This project mitigates for vegetation which had been removed from the Kern River Designated Floodway to facilitate construction of public infrastructure. A hydraulic analysis has been performed that indicates there will not be an adverse impact to the floodway. (See Attachment D)

### **5.2 – Geotechnical Analysis**

The scope of work for this project does not require a geotechnical analysis.

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has been received for this application. The USACE District Engineer has no objection to the project, subject to conditions. The letter is incorporated into the permit as Exhibit A.
- The applicant is the maintaining agency of the floodway.

## **7.0 – CEQA ANALYSIS**

Board staff has prepared the following CEQA Findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Draft Environmental Impact Report (DEIR, SCH No. 2002121014, March 2006), Final Environmental Impact Report (FEIR, SCH No. 2002121014, November 2006) and Bakersfield City Council Resolution 321-06, December 2006 (which includes a Statement of Facts, Findings, and Mitigation Measures, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program) for the Westside Parkway Project prepared by the lead agency, the City of Bakersfield. These documents including project design and Resolution 321-06 may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2012/07-27-2012Agenda.pdf> under a link for this

agenda item. The documents are also available for review in hard copy at the Board and City of Bakersfield offices.

The significant impacts and the mitigation measures to reduce them to less than significant are adopted in the Bakersfield City Resolution 321-06, dated December 13, 2006 (which includes a Statement of Facts, Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program). Based on its independent review of the FEIR and Bakersfield City Council Resolution 321-06, the Board finds that for each of the significant impacts described, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR. Moreover, such changes or alterations are within the responsibility and jurisdictions of another public agency, the City of Bakersfield, and such changes have been adopted by that agency.

### **7.1 – Significant Unavoidable Adverse Impacts of the Project**

The following impacts of the proposed project remain significant following adoption and implementation of the mitigation measures described in the FEIR:

Land use - The project will result in the loss of 32 hectares (79 acres) of Prime Farmland. The loss of prime farmland cannot be mitigated, but is consistent with the Metropolitan Bakersfield General Plan and zoning land use designations and ongoing urbanization and residential development in the project vicinity.

Noise - A Noise Study Report evaluated the effectiveness of roadway noise barriers for the project. Noise barriers are considered to be effective if the noise reduction provided is at least 5 dBA. Along the proposed right of way, noise barriers that could reduce noise by at least 5 dBA were identified to protect 285 residences. All of these noise barriers have been recommended for the project. If during final design, conditions have substantially changed, some of these barriers might not be required. Even with the construction of noise barriers, some residential areas along the Westside Parkway right of way are projected to experience a 12 dBA increase in noise over existing conditions and some areas are projected to experience a peak-noise-hour level of 66 dBA.

The City of Bakersfield certified the FEIR with Bakersfield City Resolution 321-06 (which includes a Statement of Facts, Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program).

### **7.2 – Statement of Overriding Considerations**

The Board has independently considered the significant and unavoidable environmental impacts of the proposed project. The Board has also considered the benefits of the project, including reducing congestion and improving connectivity on existing east-west arterials in west Bakersfield. The project will also accommodate potential future multimodal transportation facilities, generate substantial construction employment benefits, and provide monetary savings for the region from improvements in operating efficiency, mobility, and safety of vehicular travel. The Board finds that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects of the project, and the adverse environmental effects are considered acceptable when these benefits of the project are considered.

The Board further finds that none of the significant unavoidable adverse impacts of the project are within the Board's jurisdiction. The Board also finds that the specific economic, legal, social, technological or other benefits of the project, as listed above, outweigh the unavoidable adverse environmental effects, which are considered to be "acceptable."

The documents and other materials which constitute the record of the Central Valley Flood Board's proceedings in this matter are in the custody of Jay Punia, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

### **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the facilities authorized under this permit as regulated by Title 23 have been applied to the review of this application.

3. Effects of the decision on the entire State Plan of Flood Control:

The project a proposed will have a neutral effect on the State Plan of Flood Control.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

There are no foreseeable detrimental effects to the adopted plan of flood control relative to the permitting of this project due to reasonable projected future events.

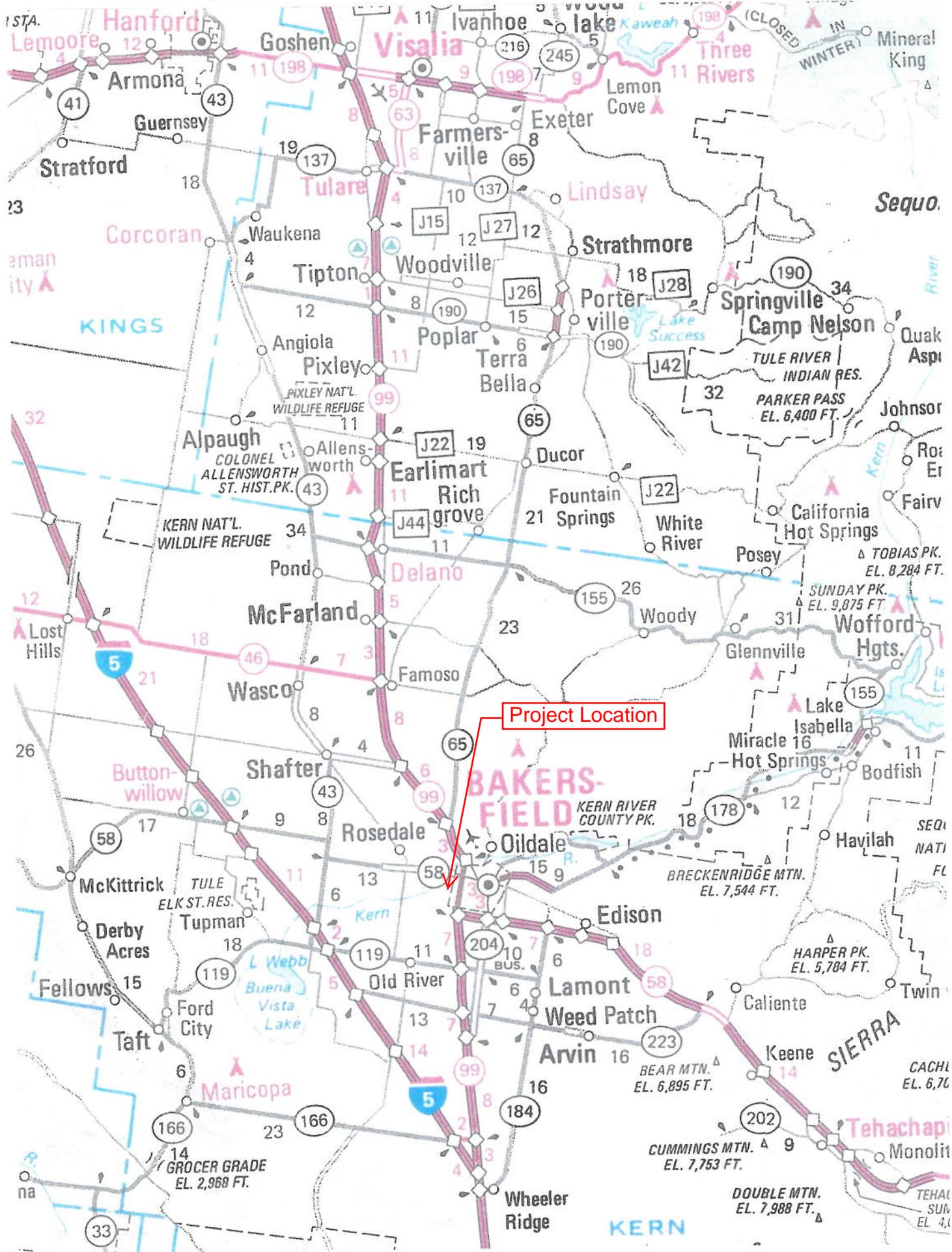
**9.0 – STAFF RECOMMENDATION**

Staff recommends that the Board adopt the CEQA findings, approve Resolution 2012-35 and approve the permit and direct staff to file a Notice of Determination with the State Clearinghouse.

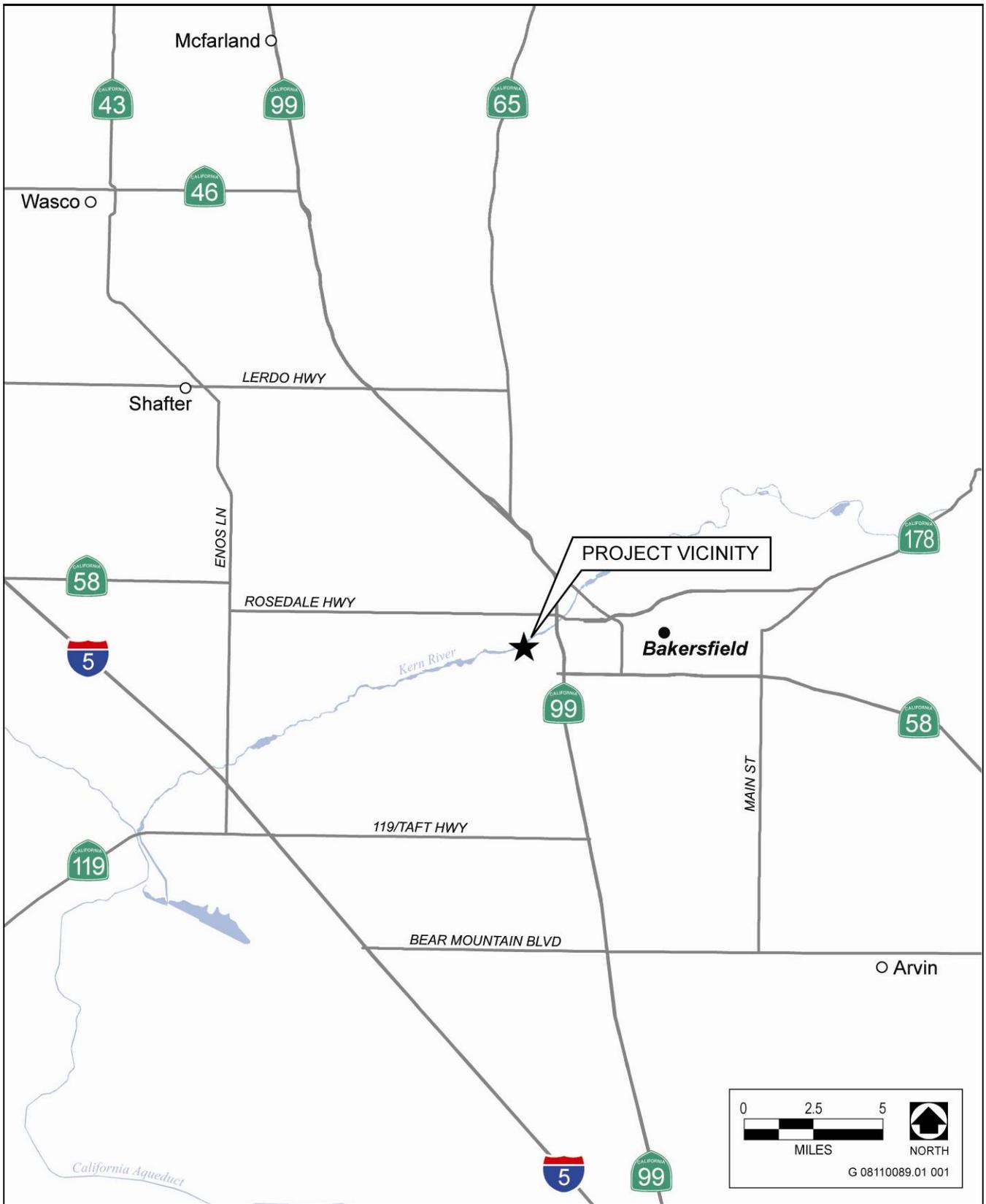
**10.0 – LIST OF ATTACHMENTS**

- A. Location Maps and Photos
- B. Draft Permit No. 18748 without Exhibit A, with Exhibit B
- C. Design Drawings
- D. Hydraulic Analysis
- E. Resolution No. 2012-35

Design Review:	Sterling Sorenson
Environmental Review:	James Herota / Andrea Mauro
Document Review:	Mitra Emami P.E., Len Marino P.E.



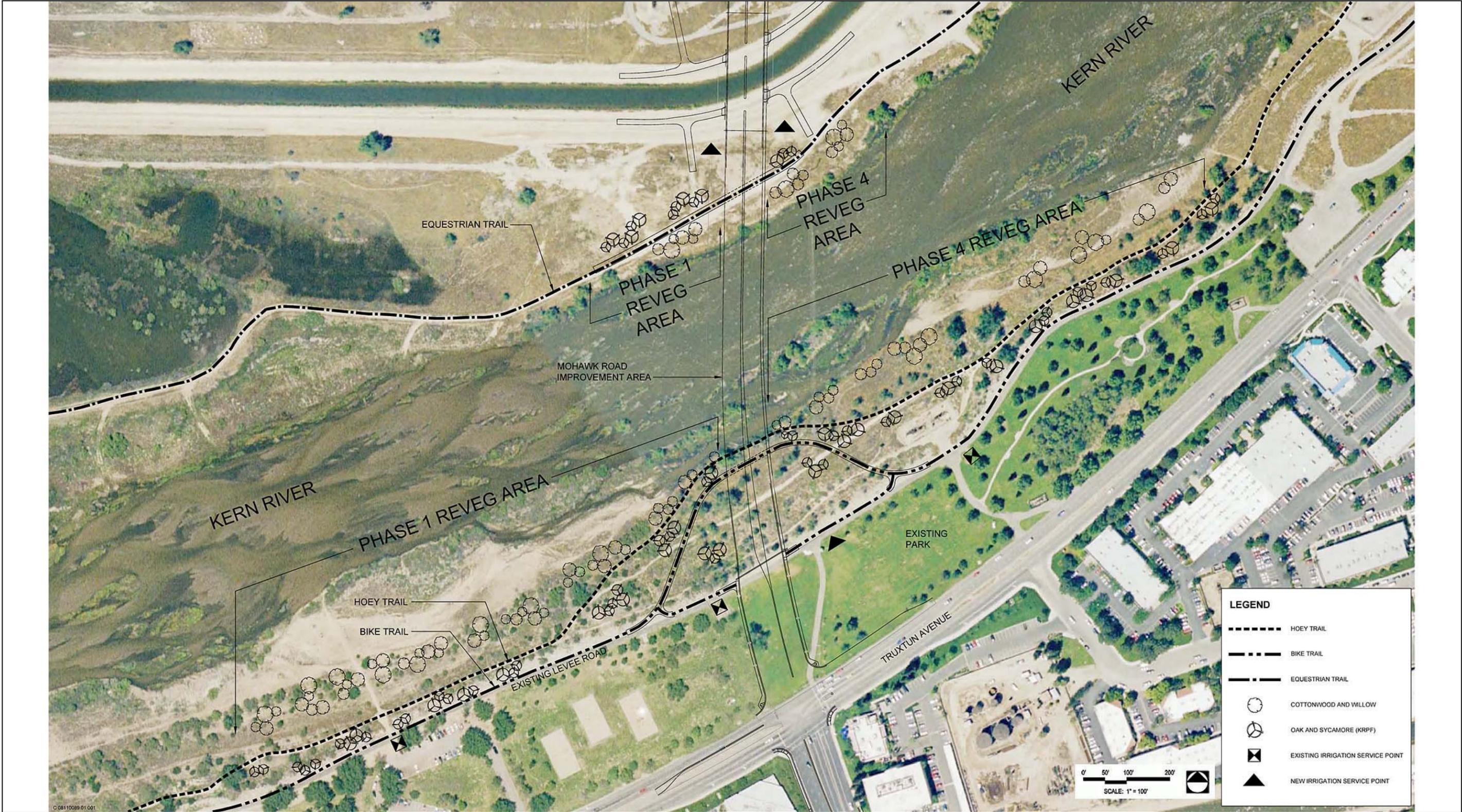
Project Location



Source: EDAW



Source: EDAW



Source: Data adapted by EDAW 2009



STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18748 BD**

**This Permit is issued to:**

City of Bakersfield  
900 Truxton Ave. Ste 200  
Bakersfield, California 93301

Planting approximately 408 riparian trees and shrubs along the north and south banks of the Kern River. The project is located on the north and south bank of the Kern River, adjacent to Mohawk Road in Kern County. (Section 26, 27, T29S, R27E, MDB&M, City of Bakersfield Water Resources Dept., Kern River, Kern County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

**(SEAL)**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15

days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18748 BD**

**THIRTEEN:** All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

**FOURTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**FIFTEEN:** The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**SIXTEEN:** The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

**SEVENTEEN:** No construction work of any kind shall be done during the flood season from November 1st to July 15th without prior written approval of the Central Valley Flood Protection Board.

EIGHTEEN: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1st to July 15th without the express written consent of the Central Valley Flood Protection Board.

NINETEEN: All debris generated by this project shall be properly disposed of outside the Kern River Designated Floodway.

TWENTY: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board, Department of Water Resources, or local maintaining agency. If the permittee does not remove such vegetation or trees upon request, the Central Valley Flood Protection Board reserves the right to remove such at the permittee's expense.

TWENTY-ONE: The permittee shall maintain the herein permitted plantings and the Kern River Designated Floodway within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

TWENTY-TWO: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-THREE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the herein permitted plantings if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the plantings at the permittee's expense.

TWENTY-FOUR: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated July 12, 2012, which is attached to this permit as Exhibit A and is incorporated by reference.



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. Army Engineer District, Sacramento  
Corps of Engineers  
1325 J Street  
Sacramento, California 95814-2922

Flood Protection and Navigation Section (18748)

JUL 12 2012

Mr. Jay Punia, Executive Officer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the City of Bakersfield (application number 18748). This project includes planting approximately 408 riparian trees and shrubs along the north and south banks of the Kern River. The project is located in Bakersfield, adjacent to Mohawk Road, at 35.3662°N 119.0664°W NAD83, in Kern County, California.

The proposed work does not affect a Federally constructed project, however, according to the Kern River Intertie Operation and Maintenance Manual, page 15, section 2, the capacity of the channels that existed prior to the construction of the Intertie Project is required for the Intertie project to function effectively. The channel capacity of the Kern River through Bakersfield was estimated at 8,000 cfs as shown in Table 1, Estimated Channel Capacities. This proposed project shall not affect the ability of the channel to pass the 8,000 cfs.

The proposed work would affect the Kern River project which is currently a part of the Rehabilitation and Inspection Program (RIP) as a Non-Federal levee. The proposed work, if constructed, would affect the City of Bakersfield's eligibility for future PL 84-99 rehabilitation assistance. For this project not to impact the City of Bakersfield's PL 84-99 eligibility, all trees must be compliant with ETL 1110-2-571 and planted at least 15 feet from the levee toe. We recommend that the City of Bakersfield ensure that this project does not impact the City's ability to participate in the RIP or the National Flood Insurance Program (NFIP).

A Section 10 and/or Section 404 permit (SPK-2008-00466) has been issued for this work.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821 and Mr. Arthur Chianello, City of Bakersfield, Department of Water Resources and sponsor of the Kern River Non-Federal Levee Project, 1000 Buena Vista Rd, Bakersfield, CA 93311.

Sincerely,

  
for Meegan G. Nagy, P.E.  
Chief, Flood Protection and Navigation Section

## 4 RESTORATION PLAN

As required by the streambed alteration agreements, the restoration plan consists of two components, woody plants intended to mitigate for trees and shrubs removed during the construction of Westside Parkway Phase 1 and Phase 4 and an erosion control seed mix intended to be applied to areas disturbed during project construction. It is expected that the restoration plan, including the planting of mitigation trees and shrubs, will be implemented entirely within the project area footprint adjacent to the proposed Phase 1 project area. Mitigation plants will be installed as clusters of trees and shrubs within existing areas of riparian vegetation (restoration areas) pursuant to the guidelines described below. The erosion control seed mix will be applied by the project contractor pursuant to the storm water pollution prevent plan (SWPPP) prepared for the project and any requirements specified in this restoration plan. This restoration plan has been reviewed and approved by the Kern River Parkway Foundation.

### 4.1 SITE PREPARATION

All site preparation activities will be conducted in compliance with this restoration plan, the final landscape architect's stamped drawings and specifications prepared for the project, and the SWPPP prepared for the project. Specific activities are described in detail below.

#### 4.1.1 SPECIAL STATUS SPECIES AVOIDANCE AND MINIMIZATION MEASURES

Pursuant to requirements listed in the biological opinion issued by the U.S. Fish and Wildlife Service (USFWS) for the Westside Parkway project on March 22, 1999 (USFWS BO Number 1-1-98-F-139) and amended on February 18, 2005 (1-1-04-F-0194) and December 8, 2009 (8140-2008-F-0368) and 1602 agreements with DFG (referenced previously), preconstruction surveys for potential kit fox dens within restoration areas will be conducted no less than 60 days before restoration project initiation and within two weeks of restoration project initiation if equivalent surveys have not already been conducted for other Westside Parkway construction work. Appropriate measures (USFWS 1999, Appendix C) shall be incorporated into the restoration project to ensure that the potential for adverse affects on kit fox is minimized.

The pre-construction survey will also include the following sensitive plant and animal species: California jewel-flower (*Caulanthus californicus*), Kern mallow (*Eremalche kernensis*), Hoover's eriastrum (*Eriastrum hooveri*), San Joaquin woollythreads (*Monolopia congdonii*), Bakersfield cactus (*Opuntia basilaris* var. *treleasei*), silvery legless lizard (*Anniella pulchra pulchra*), San Joaquin (Nelson's) antelope squirrel (*Ammospermophilus nelsoni*), Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), blunt-nosed, leopard lizard (*Gambelia sila*), loggerhead shrike (*Lanius ludovicianus*), and burrowing owl (*Athene cunicularia*). In compliance with the DFG Streambed Alteration Agreements pertaining to this project, pre-construction surveys will also be conducted for nesting raptors and other nesting birds.

#### 4.1.2 STORM WATER POLLUTION PREVENTION PLAN

A SWPPP will be prepared and implemented by the contractor for the project. The components of a SWPPP include source reduction, erosion and sediment control measures, and best management practices (BMPs) designed to reduce the amount of pollutants that may be discharged to the environment by way of stormwater. It is assumed that the project SWPPP requirements will also generally apply to the implementation of the restoration plan.

#### 4.1.3 WEED CONTROL

Hand removal and other non-chemical methods will be the preferred means of weed control. Herbicides will generally be discouraged because of the potential for adverse affects on kit fox. However, it is recognized that in some instances herbicides are the only feasible, cost-effective method of weed control. In those cases where herbicide use is required, the USFWS and DFG will be consulted to determine the potential for adverse affects on kit fox. In general, herbicides should be as selective as possible for the species targeted for control. Herbicides

shall have low toxicity to wildlife and be approved for use in and around aquatic habitats by the U.S. Environmental Protection Agency (EPA). All herbicides shall be applied by individuals holding a qualified applicators license issued by the California Department of Agriculture, and all herbicide treatments shall be overseen by a State of California licensed pest control advisor.

Specific species that should be targeted for removal during site preparation include: tamarisk (*Tamarix ramosissima*), tree tobacco (*Nicotiana glauca*), red brome (*Bromus madritensis* ssp. *rubens*), black mustard (*Brassica nigra*) and milk thistle (*Silybum marianum*). A sterile grass species (refer to Table 4) will be used in the erosion control seed mix to quickly establish cover and discourage colonization by fast-growing, non-native species in the seeded areas during the maintenance period. Planted areas that are not seeded will require weed removal. Weed monitoring and removal will continue during the Maintenance period as described in Section 6.1.1, “Weed Control.”

#### 4.1.4 SOIL PREPARATION

Soil preparation will occur only within restoration areas. Non-native and invasive plant species will be removed before installation of new plantings, according to Section 4.1.3, “Weed Control.” All planting holes will be excavated, using a mechanical auger or similar device, to approximately 1 foot wide and 3 feet deep. Excavated native soils will be mixed with organic compost at a 2:1 ratio. Compost shall be 100% plant-based compost free of weed seeds and large uncomposted pieces of organic matter (e.g., un-composted leaves or woody material). The native soil-compost mix shall be backfilled into the planting hole as described in Section 4.2.2, “Planting Methods – Woody Plants.” The remaining native-soil compost mix shall be retained for use as described below.

## 4.2 PLANT INSTALLATION

### 4.2.1 PLANT PALETTE AND SPACING

The species mix within each restoration area will vary depending upon proximity to the Kern River channel. Restoration areas closer to the channel (i.e., within 30 feet of the river) will contain more cottonwood and willow trees while areas further from the river bed will contain more oak and sycamore trees. Approximately 30% of the required mitigation plants will be planted within areas in close proximity to the river channel (lower terrace) with the remaining plants scattered throughout the rest of the site (upper terrace). The number and spacing of plants required for each restoration area is summarized in Table 2 and Table 3. A restoration site plan for the project area is shown in Exhibit 4. Conceptual planting plans in plan view (Exhibit 5) and cross-section view (Exhibit 6) have also been included.

Table 2 WSP Phase 1 and Phase 4 Plant List Upper Terrace Planting					
Container Size	Common Name	Scientific Name	Planting Area of Concentration		
			Approximate Percentage	Spacing	Quantity
Trees					
Treepot4	Valley oak	<i>Quercus lobata</i>	13	16’-0”	35
Treepot4	California sycamore	<i>Platanus racemosa</i>	18	16’-0”	50
Treepot 4	Coast live oak	<i>Quercus agrifolia</i>	7	16’-0”	18
Shrubs					
Deepot	Saltbush	<i>Atriplex polycarpa</i>	1	10’-0”	3
Deepot	Mule fat	<i>Baccharis salicifolia</i>	61	10’-0”	166
Note: All container plants must be propagated from Lower Kern River or Southern San Joaquin Valley genetic stock (if Kern River stock is not available).					

**Table 3  
WSP Phase 1 and Phase 4 Plant List Lower Terrace Planting**

Container Size	Common Name	Scientific Name	Planting Area of Concentration		
			Percentage	Spacing	Quantity
<b>Trees</b>					
Treepot4	Fremont's cottonwood	<i>Populus fremontii</i>	13	16'-0"	18
Treepot4	Black willow	<i>Salix gooddingii</i>	13	16'-0"	17
Treepot4	California sycamore	<i>Platanus racemosa</i>	9	16'-0"	12
<b>Shrubs</b>					
Deepot	Buttonwillow	<i>Cephalanthus occidentalis</i>	11	10'-0"	15
Deepot	Mule fat	<i>Baccharis salicifolia</i>	50	10'-0"	68
Deepot	Arroyo willow	<i>Salix lasiolepis</i>	4	10'-0"	6
Note: All container plants must be propagated from Lower Kern River or Southern San Joaquin Valley genetic stock (if Kern River stock is not available).					

A typical plan view of lower and upper terrace restoration area planting clusters has been included as Exhibit 7. These diagrams are intended to illustrate the typical arrangement and location of restoration areas as well as the arrangement of individual plants within those areas. They are not intended to be substitutes for detailed construction documents (i.e., plans and specifications) that should ultimately be prepared for the restoration project. However, final construction documents should follow the general intent of these drawings with modifications to reflect field conditions as required.

Any sloping areas or stream banks disturbed by construction activities will have a seed mix applied (Table 4). A seed mix will not be applied in restoration areas. The seed mix will be provided by the restoration contractor and will not contain any noxious weed seed. Wherever possible, all native plant seed applied within the project area will originate from lower Kern River or Southern San Joaquin Valley genetic stock, if Kern River stock is not available. The seed mix will contain at least three California-native grass species. Up to two sterile, non-native grass species may be included in the seed mix, provided that non-native species do not exceed 25 percent of the total mix. Native wildflower and shrub seeds may be included in the mix as well. A seed mix meeting these requirements is specified in Table 4. Seeding will be completed as soon as possible following project construction, but no later than November 15 of the year that construction ends.

**Table 4  
WSP Phase 1 and Phase 4 Disturbed Area Seed Mix**

Common Name	Scientific Name	Seeding Rate (lbs / acre)
Annual lupine	<i>Lupinus bicolor</i>	3.0
California brome	<i>Bromus carinatus</i> 'Cucamonga'	8.0
Tomcat clover	<i>Trifolium wildenovii</i>	3.0
Creeping wildrye	<i>Leymus triticoides</i>	8.0
Small Fescue	<i>Vulpia microstachys</i>	4.0
Spanish clover	<i>Lotus purshianus</i>	3.0
Fall barley (sterile)	<i>Hordeum vulgare</i>	8.0
<b>Total</b>		<b>35.0</b>
Note: Wherever possible, all native plant seeds must be from Lower Kern River or Southern San Joaquin Valley genetic stock (if Kern River stock is not available).		

## 4.2.2 PLANTING METHODS - WOODY PLANTS

Planting will be conducted before the rainy season, generally sometime in mid to late fall. Planting will not occur in saturated soils or while heavy rain is falling.

Plant materials will be limited to containerized stock. In general, treepot4 containers (4-inch square by 14-inch deep) will be used for trees and deepots (2½ inch diameter x 10-inches long) will be used for shrubs. All plants will be of Lower Kern River or Southern San Joaquin Valley genetic origin, if plants originating from the Lower Kern River are not available, and will be procured from a native plant nursery with a minimum five years experience with the facilities to collect, propagate, store and deliver native plants.

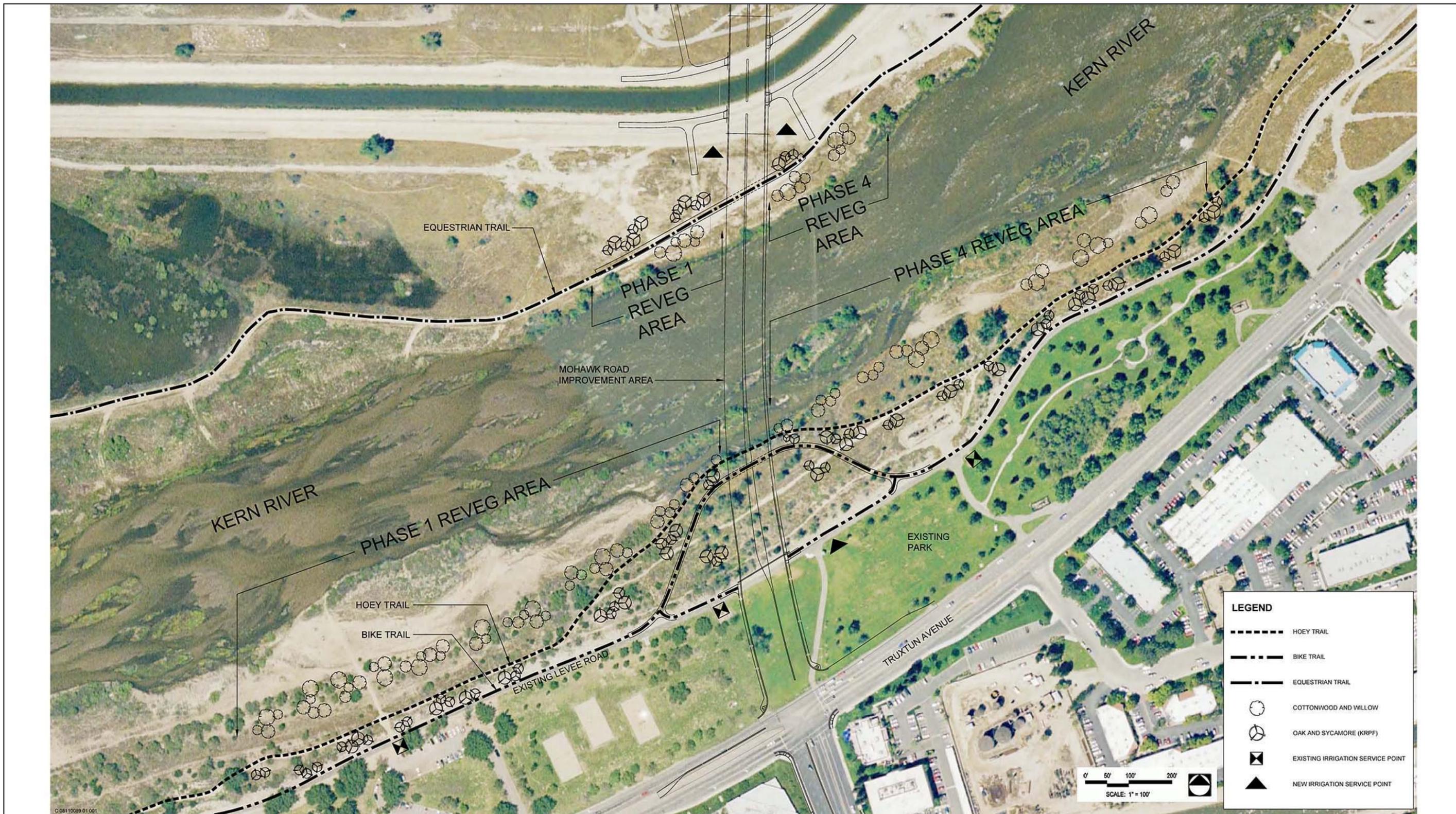
Plants will be grown under similar climatic conditions to those in the locality of the project site. Plant material should be grown for at least several months, but no more than two years, in the containers in which they are delivered and planted at the project site, and all plants will have developed a root system sufficient to completely fill the nursery container. Plants will be free of insects and disease, disfiguring knots, sun-salt injuries, abrasions, or other objectionable defects.

Handling and storage of all plant materials delivered to the site will be the responsibility of the restoration contractor. If needed for prolonged storage, a dedicated and secure storage area will be provided for all plants. During storage, plants will be maintained in optimal health, protected at all times from animal damage, vandalism, sunburn, drought damage, wind damage, frost damage, toxic irrigation water, or any other conditions that would damage or reduce the viability of the plant materials.

Before the start of planting, the locations of restoration areas will be marked in the field. In addition, each plant location will be field-marked for approval before actual plant installation, including planting pit excavation.

Container plants will be installed based on the information provided below. To assure quality installation, onsite workers will be trained and supervised until satisfactory planting techniques (as follows) are achieved:

- ▶ Plant materials will be kept moist at all times before planting.
- ▶ Before the start of planting, the planting area should be cleared of weedy vegetation. Refer to Section 4.2.1 Planting Areas.
- ▶ For sloped planting areas, dig a 12- to 18-inch-wide terrace that slopes back slightly in the hillside. No terrace is needed on level ground.
- ▶ Excavate a planting hole approximately 1 foot wide and 3 feet deep. The sides of the planting hole will be scarified before plant installation. Soils excavated from planting holes will be amended as described in Section 4.1.4 Soil Preparation and used as backfill material.
- ▶ Place ½ ounce of slow-release fertilizer in the bottom of the hole and mix with soil used to back fill the bottom of the hole. Tamp and fill with soil. Add water to planting hole to allow for settling of the soil.
- ▶ Remove the plant from the container without breaking the root ball. Scarify or roughen the sides and loosen the bottom of the root ball if roots are partially root-bound. Unless plants have been pre-inoculated at the nursery, apply an appropriate mycorrhizal inoculum to each plant (i.e., ectomycorrhizal or endomycorrhizal). The restoration contractor shall consult with a native plant restoration specialist if needed to determine the appropriate mycorrhizal inoculums for each species.
- ▶ Place the plant in the hole and back fill with excavated soil. Plant should be installed so that the root crown is ½ inch above the soil of the root ball to allow for settling.



Source: Data adapted by EDAW 2009

**Conceptual Restoration Area Layout**

**Exhibit 4**

**PLANT LEGEND**

SYMBOL	QTY	KEY	SCIENTIFIC NAME	COMMON NAME
<b>TREES</b>				
	9	PL RA	<i>PLATANUS RACEMOSA</i>	CALIFORNIA SYCAMORE
	5	QU LO	<i>QUERCUS LOBATA</i>	VALLEY OAK
	6	QU AG	<i>QUERCUS AGRIFOLIA</i>	COAST LIVE OAK
	3	PO FR	<i>POPULUS FREMONTII</i>	COTTONWOOD
	3	SA GO	<i>SALIX GOODDINGII</i>	BLACK WILLOW
<b>SHRUBS</b>				
	9	CE OC	<i>CEPHALANTHUS OCCIDENTALIS</i>	BUTTONWILLOW
	27	AT PO	<i>ATRIPLEX POLYCARPA</i>	SALTBUSH
	26	BA SA	<i>BACCHARIS SALICIFOLIA</i>	MULE FAT
	9	SA LA	<i>SALIX LASIOLEPIS</i>	ARROYO WILLOW

NOTE:  
THIS PLAN IS DIAGRAMMATIC TO  
INDICATE THE GENERAL RESTORATION  
PLANTING DESIGN INTENT

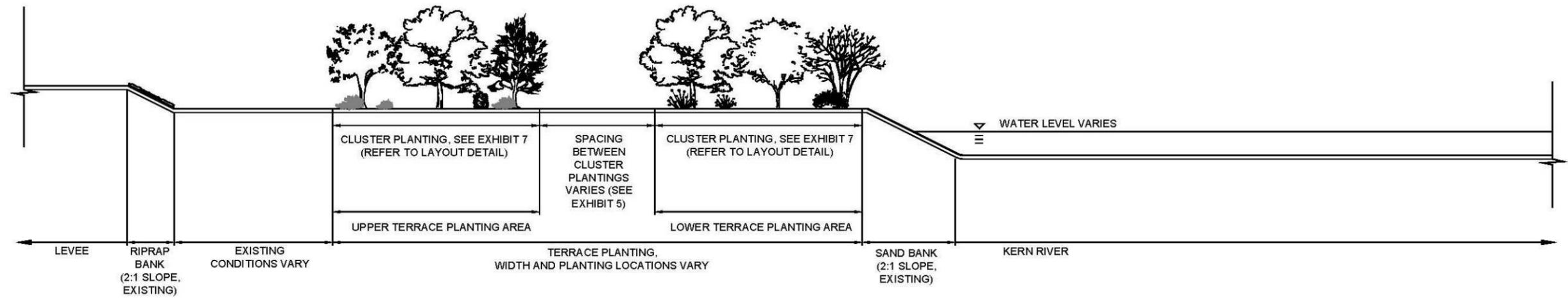
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Source: Data adapted by EDAW 2009

**Conceptual Restoration Area Plant Layout and Spacing**

**Exhibit 5**

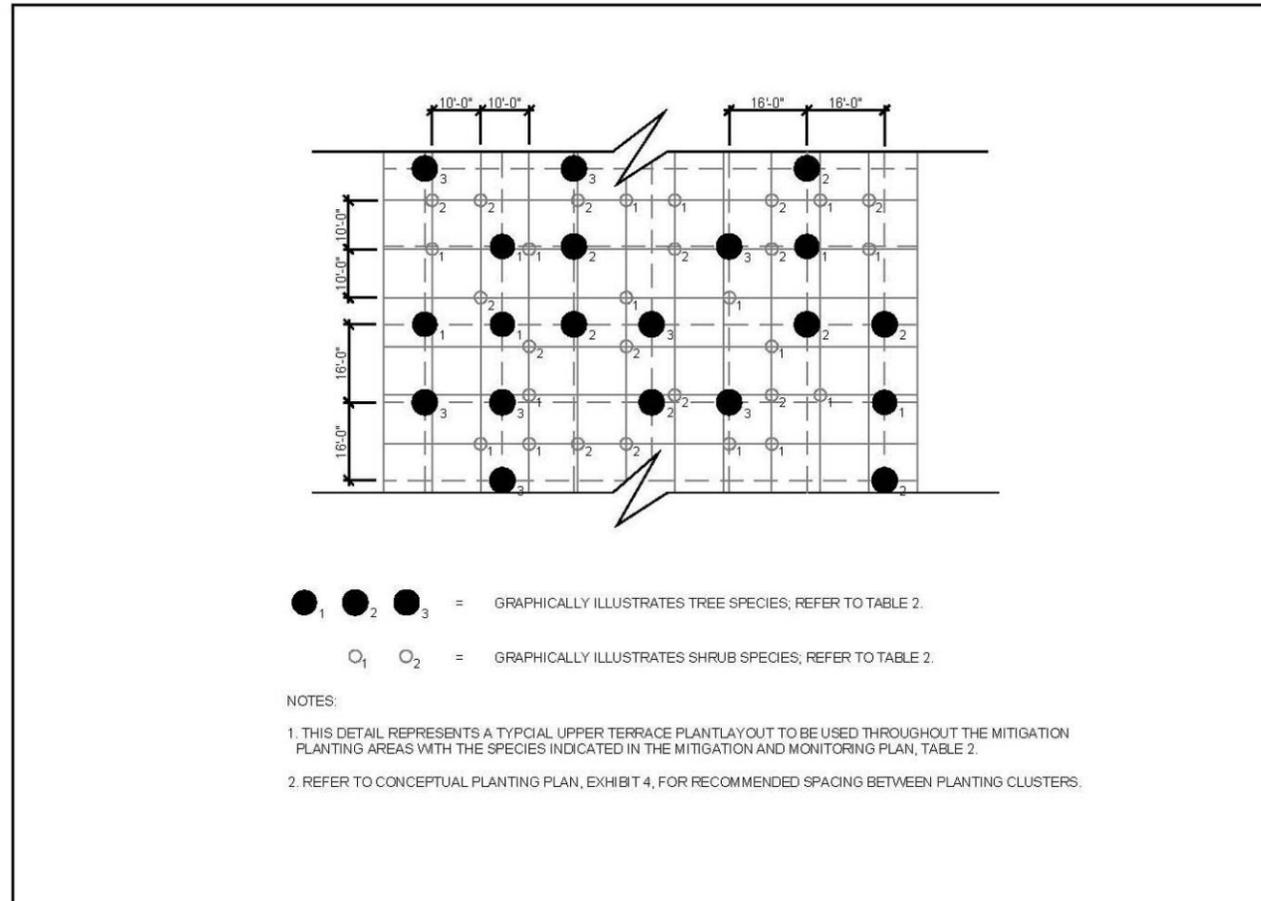


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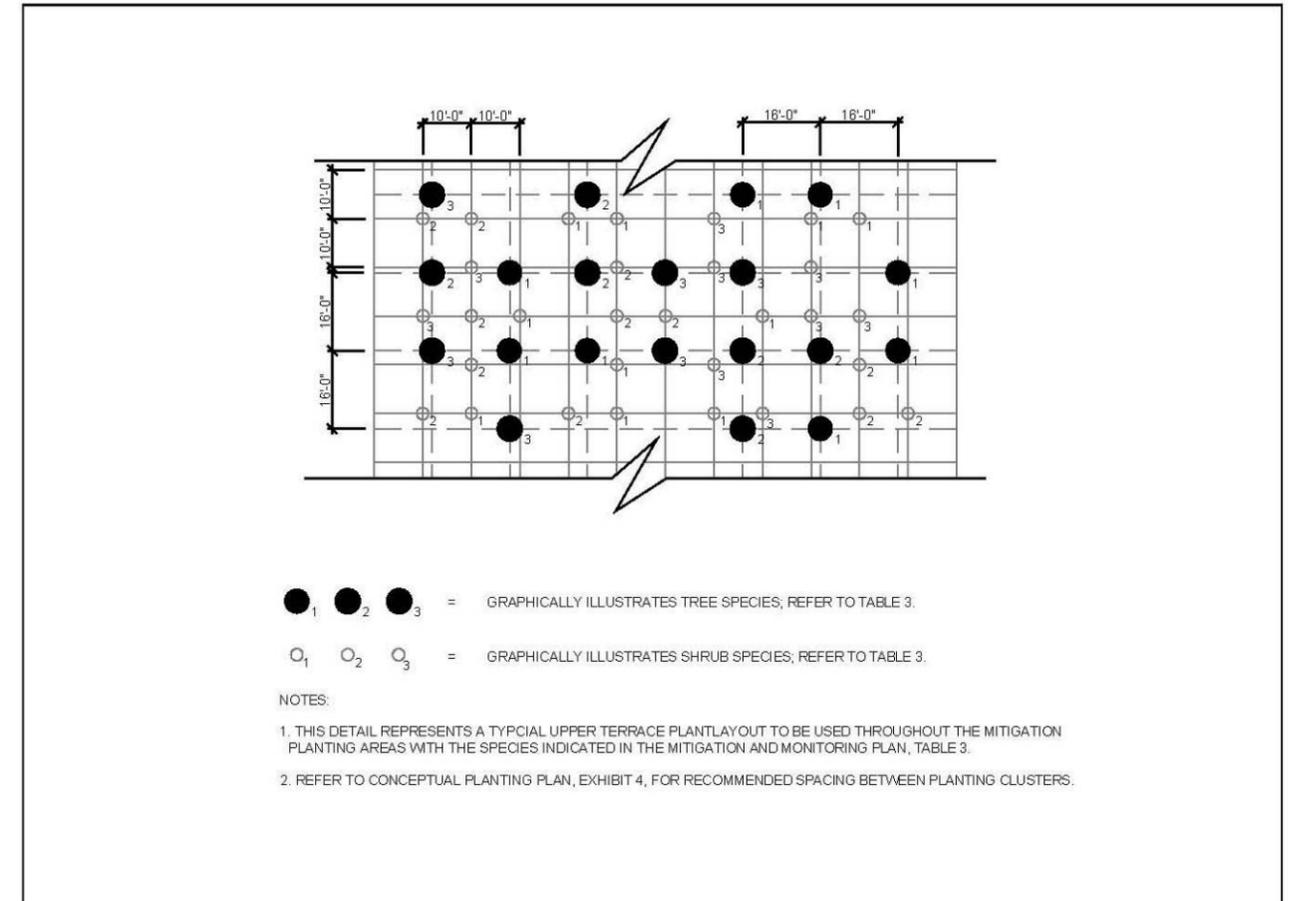
Source: EDAW

**Conceptual Cross-Section View of Restoration Areas**

**Exhibit 6**



1 TYPICAL UPPER TERRACE PLANTING CLUSTER LAYOUT  
 NOT TO SCALE PLAN



2 TYPICAL LOWER TERRACE PLANTING CLUSTER LAYOUT  
 NOT TO SCALE PLAN

C 08110089.01 004

Source: EDAW

Typical Planting Cluster Layout

Exhibit 7

- ▶ Where feasible, watering basins approximately 36 inches in diameter and 4 to 6-inches high will be constructed of the remaining amended native soil around each planting hole.
- ▶ Plant protection shelters will be installed around all individual plantings to protect against predation that would hinder plant survival or development (Exhibit 8). All plant protection shelters will be set vertically and will be installed as detailed in Exhibit 8. The protection shelters will be made of 20-gauge aviary wire with ¾-inch cells, secured to 2, 2-inch diameter posts set 180-degrees apart and perpendicular to the flow of the river. Each shelter will be placed 4-inches below grade, minimum, when installed; the bottom of each shelter will be opened. For plantings on slopes, the protection shelter will be set and staked vertically. The restoration contractor will field adjust the height of the protection shelter to accommodate slope where necessary. The restoration contractor will also be responsible for removing and recycling plant protection shelters off site according to state and local regulations when seedlings emerge from the top of the shelters, if this occurs before the end of the maintenance period, or at the end of the maintenance period for plants not growing above the top of the shelter during the 5-year maintenance period.
- ▶ Place a 4-inch layer of bark mulch in the planting area.
- ▶ Pour 2- to 3- gallons of water into the planting basin. Refer to Section 4.3.1 Watering Methods.
- ▶ Ensure all plants are thoroughly watered immediately after installation, according to Section 4.3, Irrigation.
- ▶ If plants are not installed on the day of arrival at the project site, they should be stored, watered and protected.

### 4.2.3 PLANTING METHODS – EROSION CONTROL SEED MIX

An erosion control seed mix will be applied by a combination of drill seeding (grass seed) and broadcast seeding (broadleaf seed) areas disturbed during project construction. The seed mix will be pre-mixed (one mix for grasses and one mix for broadleaf plants) by the supplier before shipment to the restoration site. At no time will the seed mix contain noxious weed seed. Seed will be maintained in optimal health and protected at all times from animal damage; vandalism; inclement weather conditions, including drought, wind, and frost; toxic water; sunlight; moisture; or contact with vehicles, equipment, and tools and any other conditions that would damage or reduce the viability of the seed. Seed may be stored on the site in the contractor's staging areas, provided a temporary fence is erected for protection. Mulch and similar materials shall be certified weed free.

Areas to be seeded will be tilled to a 6-inch depth, in two directions, before the start of seeding operations. Areas that are heavily compacted, such as haul roads, will be ripped to a depth of at least 12 inches and then tilled. The seed mix specified in Table 4, or a similar mix meeting the requirements described in Section 4.2.1, will be applied. If the seed mix to be used varies from that shown in Table 4, it will be submitted to DFG for approval prior to application.

Grass seed shall be applied at the indicated rate (Table 4) via drill seeding. A rangeland drill seeder will be used to drill grass seed into the soil in rows no more than 8 inches apart. Following installation of grass seed, broadleaf plant seeds will be installed with a broadcast seeder. The seeder will be set to apply seed at the indicated rate (Table 4). At least three passes through the seeding area will be made with the broadcast seeder to ensure even seed distribution. Following seeding, native grass straw or certified weed-free rice straw shall be blown or spread by hand throughout the seeding areas at the rate of 2,000 pounds of mulch per acre. A stabilizing emulsion or tackifier shall be applied to the mulch to minimize erosion during rainfall events. All seeding will be completed as soon as possible, but not later than November 15 of the year construction ends.

At the discretion of DFG, all exposed areas where seeding is considered unsuccessful after 90 days will receive appropriate soil application and a second seed application, straw, or mulch as soon as is practical on a date mutually agreed upon between DFG and the restoration contractor.



## 4.3 IRRIGATION

### 4.3.1 WATERING SCHEDULE

The DFG streambed alteration agreements required no more than three years of irrigation during the first five years of plant establishment. However, this limitation on continuing irrigation may not be realistic given the growing conditions found on the site, the hydrology of the Kern River (which can remain dry for many consecutive years), and the water demands of many woody riparian plants. It is therefore proposed that the restoration plantings be watered for each of the first three years following planting as stipulated by the DFG streambed alteration agreements. Plants will not be watered in the subsequent two years; however, the health and survivorship of plants will continue to be monitored by the restoration contractor throughout the 5-year restoration monitoring period. City of Bakersfield will consult with DFG if additional remedial measures (such as replanting or regular watering beyond the initial 3-year period) are required for the restoration site to meet established success criteria. If approved by DFG, plants showing signs of drought stress will be provided with supplemental irrigation water as required to maintain healthy plant growth.

Supplemental irrigation will generally occur from April through October unless drought conditions warrant a longer period of irrigation to ensure plant survival. The schedule will typically require deep and frequent watering during the first year followed by progressively less-frequent deep watering in subsequent years (Table 5).

1st Growing Season	2nd Growing Season	3rd Growing Season	Subsequent Years	Amount per Plant
Once per week	Once every 10 days	Once every 2 weeks	Every 4 weeks or as needed	20 gallons

### 4.3.2 IRRIGATION SYSTEM

A below-grade bubbler and spray irrigation system will be installed for the restoration project (Exhibit 9). Water will be supplied from both existing irrigation points of connection within the Kern River Parkway and new points that will be installed as part of the TRIP project (see Exhibit 4). The restoration contractor will be responsible for installing, operating, and maintaining this system in proper working order during the initial 5-year plant establishment phase.

The restoration contractor will be responsible for providing and installing the components necessary for the complete irrigation layout in conformance to governing codes and ordinances, including, but not limited, to: connections to existing water service points, backflow preventers, all main and lateral lines; sleeves under any roadways or construction routes (if applicable); controllers; all valves and piping; spray heads at seeding areas and, bubbler nozzles at each container plant.

During the initial 5-year establishment phase, the restoration contractor will further be responsible for making field adjustments as necessary to ensure each plant receives an appropriate amount of water, and will take into account topographic conditions and head losses. Water pressure will be regulated to supply a sufficient amount of water without causing damage to plants or erosion to the watering basins. All parts of the irrigation system, with the exception of the bubbler nozzles, will be installed before any plant material is installed. The bubbler nozzles will be installed immediately after the plantings.

Upon completion of the irrigation system, the restoration contractor will test all aspects of the irrigation system to verify that it is fully operational. Main and lateral lines, pipes, valves, and bubblers will be tested to ensure that there are no leaks. Before testing, the lines will be flushed to remove dirt and other debris that may have accumulated within the irrigation system.

At the end of the 5-year plant establishment period, the restoration contractor will inspect the system to be sure that it is in proper working order, and any deficiencies will be repaired. In subsequent years, the City of Bakersfield will be responsible for maintaining the irrigation system and for ensuring that plants receive supplemental irrigation as needed to survive prolonged periods of drought.

**SITE LEGEND**

- LIMIT OF WORK
- + + + + PROPOSED RESTORATION PLANTING AREA

**IRRIGATION LEGEND**

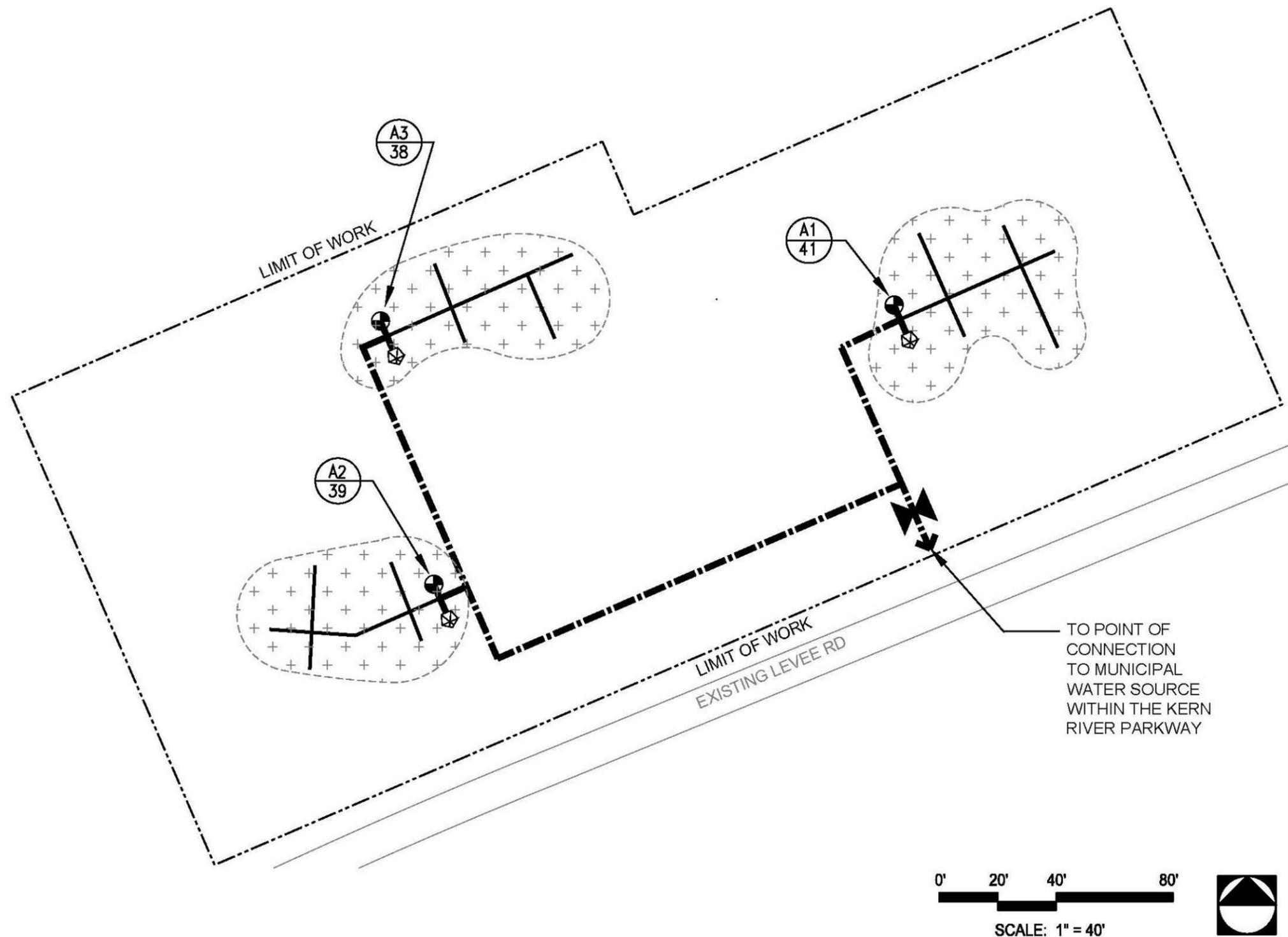
- 2" MAIN LINE PIPE, SET BELOW GRADE
- 1" LATERAL LINE PIPE, SET BELOW GRADE
- ⊠ 1" QUICK COUPLER VALVE
- ⊕ 1½" CONTROL VALVE
- ⊞ 2" SHUT OFF VALVE
- IRRIGATION VALVE INFORMATION  
VALVE NUMBER/PLANTING ZONE
- ⊕ (A1/40) NUMBER OF PLANTS IN PLANTING ZONE

NOTES:

1. THIS PLAN IS DIAGRAMMATIC TO INDICATE THE GENERAL IRRIGATION DESIGN INTENT.
2. ALL COMPONENTS SHALL BE PLACED BELOW GRADE

C 08110089.01 006

Source: EDAW





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## **DRAFT *Technical Memorandum***

**Date:** March 13, 2012  
**To:** Cindy Davis, Project Manager, AECOM  
Steve Chainey, Senior Associate, AECOM  
**From:** Han-Bin Liang, Ph.D., P.E. / Ripen Kaur, P.E. – WRECO  
**Project:** Westside Parkway Project, City of Bakersfield  
**Subject:** Kern River Hydraulic Impact Assessment for the Proposed Restoration Plan

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### **Introduction**

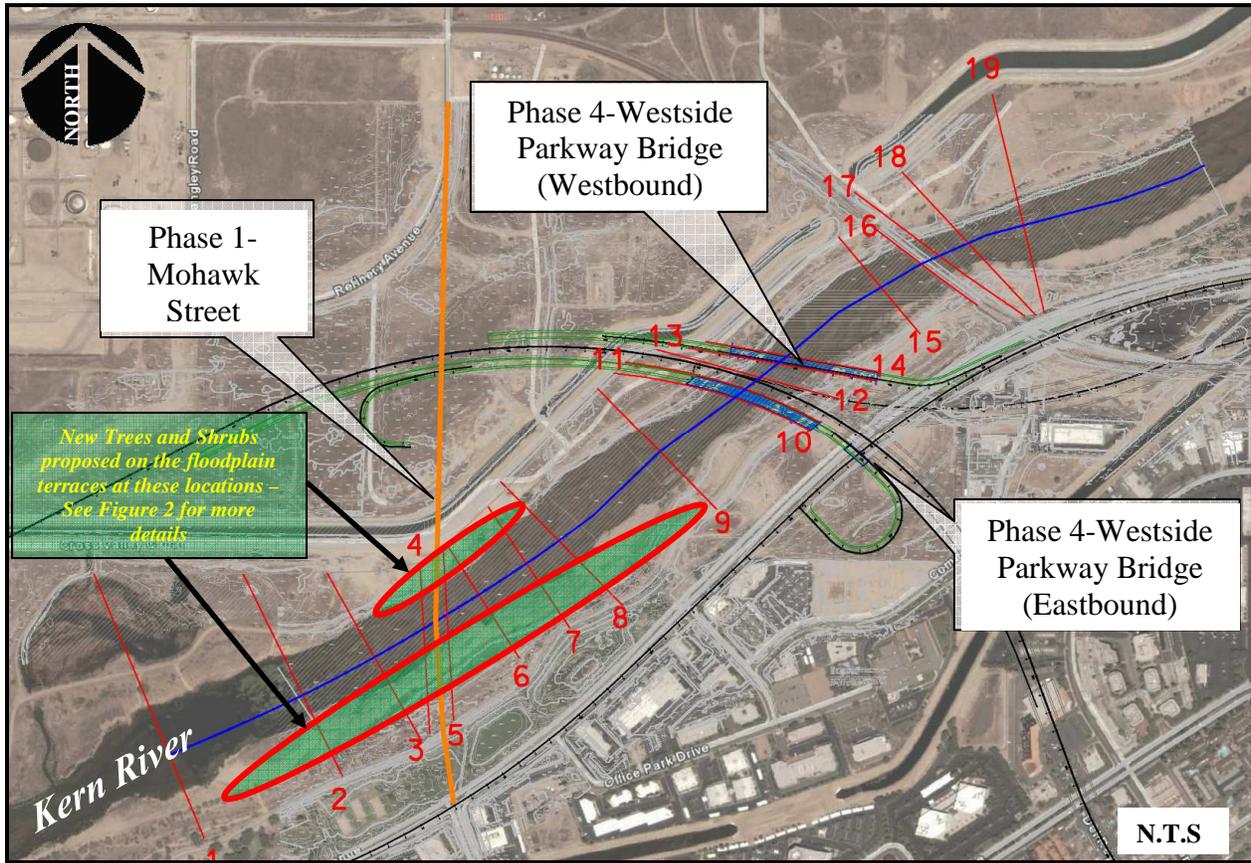
The purpose of this study was to evaluate the impacts to the Kern River hydraulics due to the proposed restoration plan prepared by AECOM (2011). The Westside Parkway is an 8.1 mile east-west route that will be constructed between Heath Road and State Route (SR) 99. Westside Parkway construction will occur in several phases. Two phases of project construction, Phase 1 (Mohawk Street Extension) and Phase 4 (Truxtun Tie-In), include new roadways over the Kern River. During the course of constructing these roadways, a number of trees and shrubs would be removed from riparian areas surrounding the Kern River (see Figure 1). This technical memorandum will focus on the area between the bridge sites impacted by the proposed restoration plan (shown in Figure 2).

Pursuant to Streambed Alteration Agreement numbers 2008-0064-R4 and 2009-0050-R4 issued by the California Department of Fish and Game, the City of Bakersfield was required to prepare a restoration plan describing actions that would be implemented to replace trees and shrubs removed during roadway construction. Per the mitigation ratios specified in the streambed alteration agreement, a total of 408 trees and shrubs would be planted as mitigation for the 136 trees and shrubs that would be removed due to the project (AECOM, 2011, Westside Parkway Phase 1 and Phase 4 Revegetation Plan). Of the total 408 plants planned, 234 are sparsely branched, very flexible shrubs (Mule Fat [*Baccharis salicifolia*]) that do not pose much resistance to flow. The remaining 174 are larger riparian trees (e.g. cottonwood, live oak) and shrubs (e.g. willow species). The larger trees would be planted an average of 16 feet on center or more in rows generally parallel to flow. About 103 trees would be planted on the upper terrace, and 53 on the lower terrace. The bridge project requires removal of about 50 large trees.

As shown in the restoration area layout (Figure 2) developed by AECOM, most of the restoration is planned on the southern floodplain terrace (left bank looking downstream). However, in the vicinity of the proposed Mohawk Street Bridge, new vegetation would be established on both the northern and southern floodplain terraces (Figure 2).



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**Figure 1. Project Location and River Cross Sections**

Sources: Bridge Design Hydraulic Study Report (WRECO, 2010) and Google Earth for Aerial Imagery (accessed in 2009)





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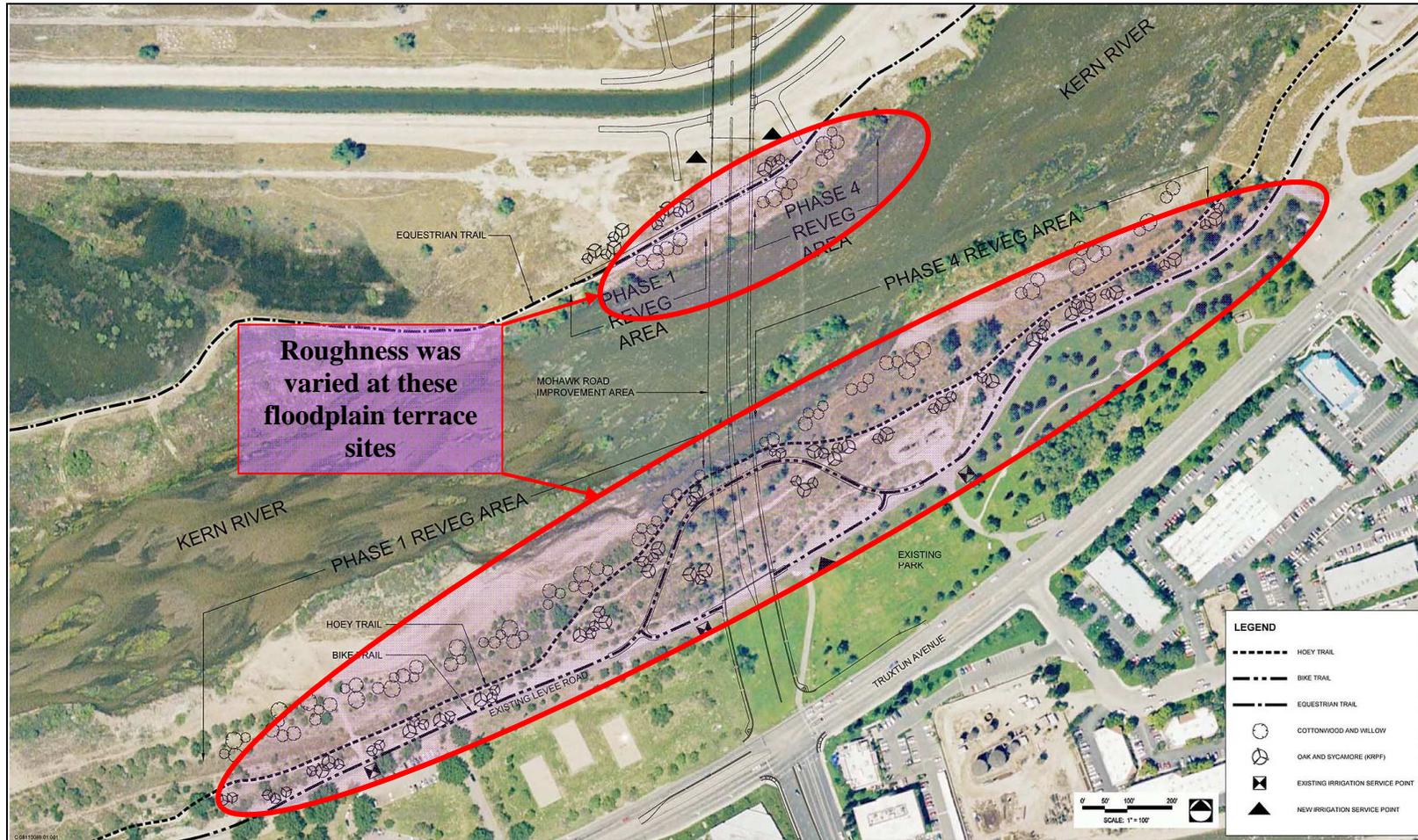


Figure 2. Conceptual Restoration Plan

Source: AECOM, 2011



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## Hydraulic Model Development

The United States Army Corps of Engineers' (USACE) Hydrologic Engineering Centers River Analysis System (HEC-RAS) computer model was used to perform a sensitivity analysis of the water surface profiles during design high flow events and with varying roughness values. The Kern River channel cross sections used in the analysis were taken from the study developed for the *Bridge Design Hydraulic Study* for the Westside Parkway Bridges Project (WRECO, 2010). The vertical elevations reference the North American Vertical Datum of 1988 (NAVD 88).

The design flows analyzed in this study were obtained from two separate sources. The 100-year design flow of the Kern River of 15,000 cfs is from the Allen Road Bridge Construction Project Environmental Impact Report (EIR), which was adopted by the City of Bakersfield as the design flow for the miscellaneous bridge projects, including Allen Road Bridge, Mohawk Street Bridge and Westside Parkway Bridges. At the request of the USACE and the Central Valley Flood Protection Board (CVFPB), WRECO also studied the channel capacity flow of 8,000 cfs from USACE (USACE letter to the City, 2010).

In the 2010 WRECO study, WRECO applied the roughness value (Manning's  $n$ ) of 0.039 for the channel and 0.065 for floodplain terraces. For this study and per AECOM's conceptual restoration plan, WRECO modified the roughness of floodplain terraces to reflect the proposed planting scheme. With the selection of plants, WRECO and AECOM agreed on the increase in roughness values on the floodplain terraces as varying from 0.075 to 0.085, an increase of 0.01 and 0.02 from the original roughness of 0.065.

Table 1 below summarizes the two separate flows and computer model runs with different floodplain terrace roughness values:

**Table 1. Summary of Design Flows and Various Hydraulic Computer Model Runs**

Design Flow Source	Design Flow Designation	Flow Rate (cfs)	Floodplain Terrace Roughness		
			Run 1	Run 2	Run 3
EIR	100-year	15,000	0.065	0.075	0.085
USACE	Channel Capacity	8,000	0.065	0.075	0.085

## Results and Discussions

Table 2 and Table 3 summarize the impacts of the floodplain roughness on water surface elevations in the river by varying the Manning's  $n$  value from 0.065 to 0.075 and 0.085 for the flows of 15,000 cfs and 8,000 cfs, respectively. For both flow scenarios, as the roughness increases with the vegetation density, the water surface elevation also increases. Figures 3 through 6 graphically represent the results shown in Table 2 and Table 3.



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Figure 3 shows the water surface profile comparison for the variation in floodplain roughness with bridges for the flow of 15,000 cfs. Figure 4 shows the water surface profile comparison as shown in Figure 3, vertically exaggerated to highlight the variations in floodplain roughness with the flow of 15,000 cfs.

Figure 5 shows the water surface profile comparison for the variation in floodplain roughness with the flow of 8,000 cfs. Figure 6 shows the water surface profile comparison as shown in Figure 5, vertically exaggerated to highlight the variations in floodplain roughness with the flow of 8,000 cfs.

As indicated in Tables 2 and 3 and Figures 3 through 6 presented above, the water surface profiles for both flows of 15,000 cfs and 8,000 cfs have a very low sensitivity to the changes in the roughness coefficient. This is due to the ample flow area (cross-section) available in the main channel of Kern River to carry the flows and a small volume of flows reaches the level of the floodplain terraces.

As shown in Table 2 (for the flow of 15,000 cfs), the maximum increase in water surface elevation due to the proposed planting scheme is 0.04 ft, which is insignificant compared with the flow depth in the channel. The increase in water surface elevation is observed only in a reach of about 1,500 ft of the Kern River channel in between the Mohawk Street Bridge and Westside Parkway Bridges (see Table 2 and Figures 3 and 4).

For the flow of 8,000 cfs, the maximum increase in water surface elevation is 0.03 ft due to the proposed planting scheme. The lower increase is because the flow of 8,000 cfs does not overflow onto the floodplain terraces within the limits of the proposed plantings.

This study does not involve any calibration or imply any changes to the BDHS Report (2010). It is meant to provide an estimate of the trend of increase in water surface elevation in the Kern River resulting from the potential increase in the roughness of the floodplain terraces per the proposed restoration plan. Based on the analysis, we conclude that the impacts to the water surface profile due to the proposed restoration plan are insignificant. The proposed Mohawk Street Bridge and Westside Parkway Bridges still have the adequate freeboard to meet the City, Caltrans, USACE and CVFPB's freeboard criteria.



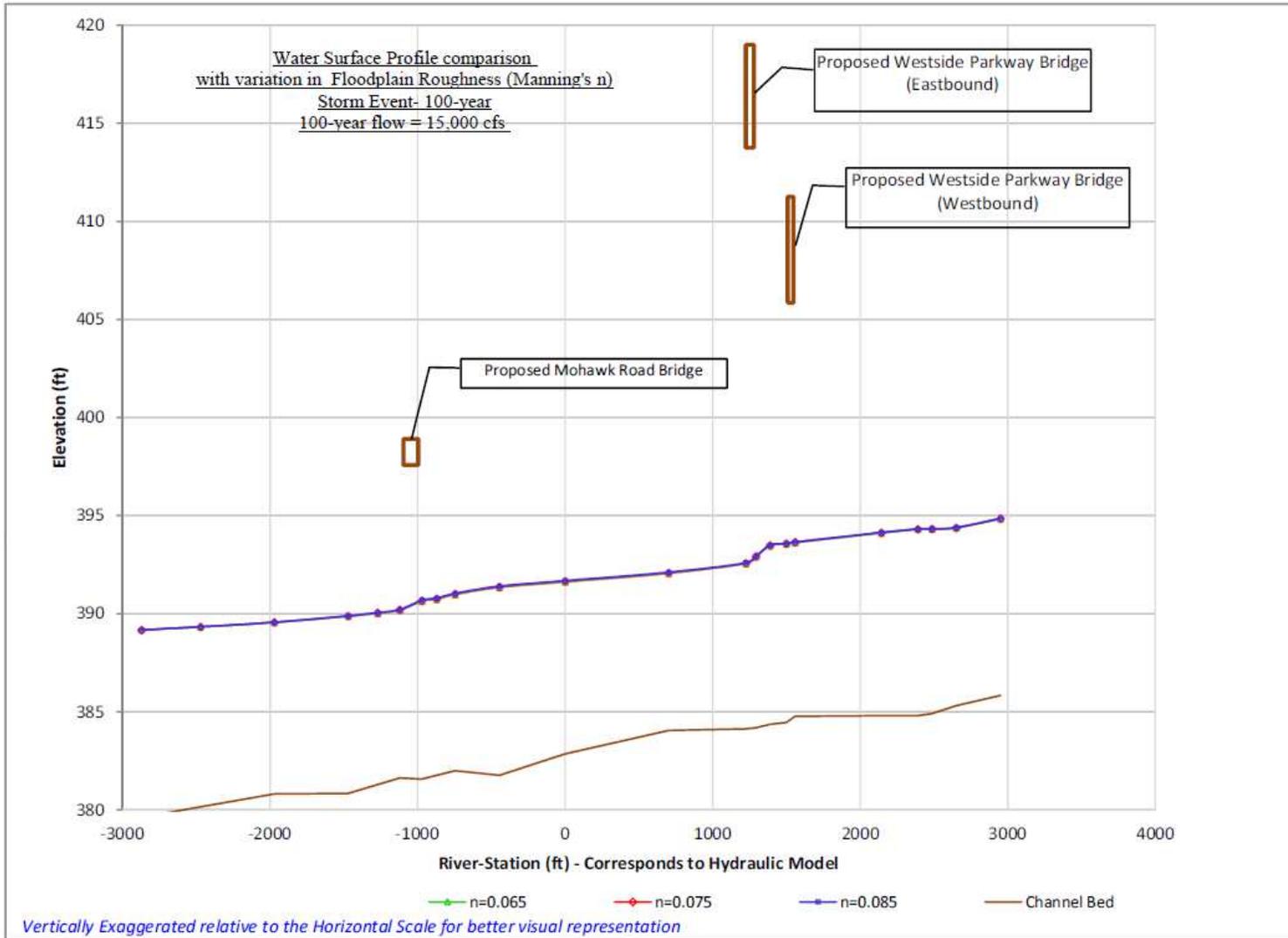
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**Table 2. Water Surface Elevation (WSE) Changes with Variation in Manning’s n for the Flow of 15,000 cfs**

River Sta	Q Total (cfs)	WSE	WSE	WSE	WSE difference (ft)	WSE difference (ft)	
		(ft) n=0.065	(ft) n=0.075	(ft) n=0.085			
		Run 1	Run 2	Run 3	Run 2-Run1	Run 3-Run1	
2950	15000	394.84	394.85	394.85	0.01	0.01	
2649.7	15000	394.37	394.38	394.39	0.01	0.02	
2485.4	15000	394.31	394.32	394.33	0.01	0.02	
2389.28	15000	394.3	394.31	394.31	0.01	0.01	
2142.52	15000	394.11	394.13	394.14	0.02	0.03	
1557.67	15000	393.62	393.64	393.65	0.02	0.03	
1547.37	15000	393.57	393.58	393.59	0.01	0.02	<--Upstream Face of the Westside Parkway Bridge (WB)
1508.37	15000	393.54	393.56	393.57	0.02	0.03	<--Downstream Face of the Westside Parkway Bridge (WB)
1498.17	15000	393.56	393.57	393.58	0.01	0.02	
1388.25	15000	393.47	393.48	393.49	0.01	0.02	
1293.24	15000	392.9	392.92	392.93	0.02	0.03	
1279.3	15000	392.76	392.78	392.79	0.02	0.03	<--Upstream Face of the Westside Parkway Bridge (EB)
1224.22	15000	392.49	392.51	392.53	0.02	0.04	<--Downstream Face of the Westside Parkway Bridge (EB)
1224.1	15000	392.55	392.57	392.59	0.02	0.04	
700.69	15000	392.05	392.08	392.11	0.03	0.06	
0	15000	391.61	391.65	391.68	0.04	0.07	
-446.17	15000	391.33	391.37	391.4	0.04	0.07	
-746.17	15000	390.97	391.01	391.03	0.04	0.06	
-871	15000	390.73	390.76	390.79	0.03	0.06	
-971	15000	390.63	390.66	390.69	0.03	0.06	
-996	15000	390.43	390.46	390.49	0.03	0.06	<--Upstream Face of the Mohawk Road Bridge
-1096	15000	390.18	390.2	390.21	0.02	0.03	<--Downstream Face of the Mohawk Road Bridge
-1121	15000	390.18	390.2	390.21	0.02	0.03	
-1271	15000	390.02	390.04	390.05	0.02	0.03	
-1471	15000	389.87	389.88	389.89	0.01	0.02	
-1971	15000	389.56	389.56	389.56	0	0	
-2471	15000	389.33	389.33	389.33	0	0	
-2871	15000	389.17	389.17	389.17	0	0	



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**Figure 3. Water Surface Profiles for the flow of 15,000 cfs with the proposed bridges.**

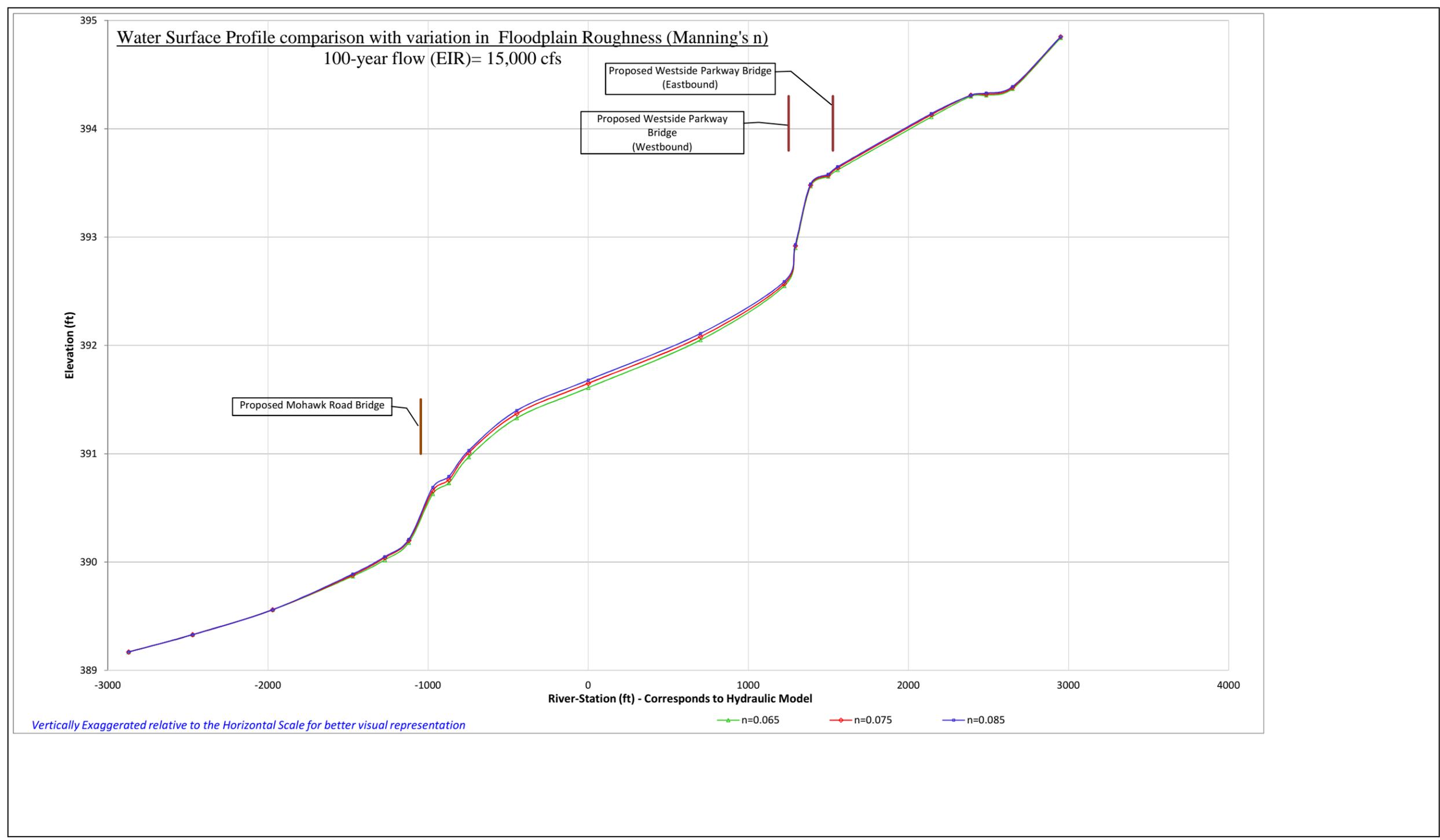


Figure 4. Variation in Water surface elevation profiles for Q=15,000 cfs corresponding to changes in the Manning's roughness coefficient per the Conceptual Restoration Plan.



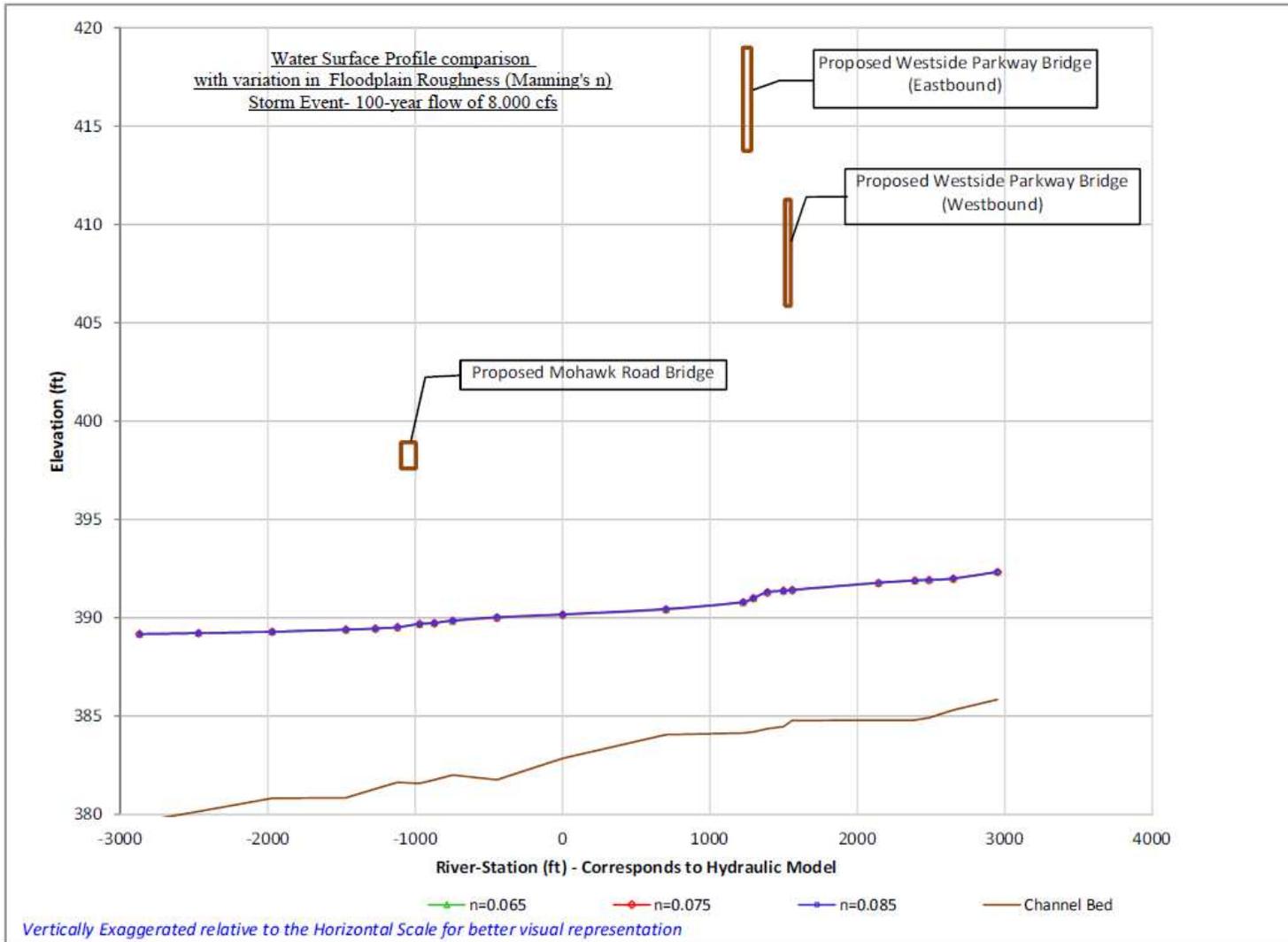
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**Table 3. Water Surface Elevation (WSE) Changes with Variation in Manning’s n for the Flow of 8,000 cfs**

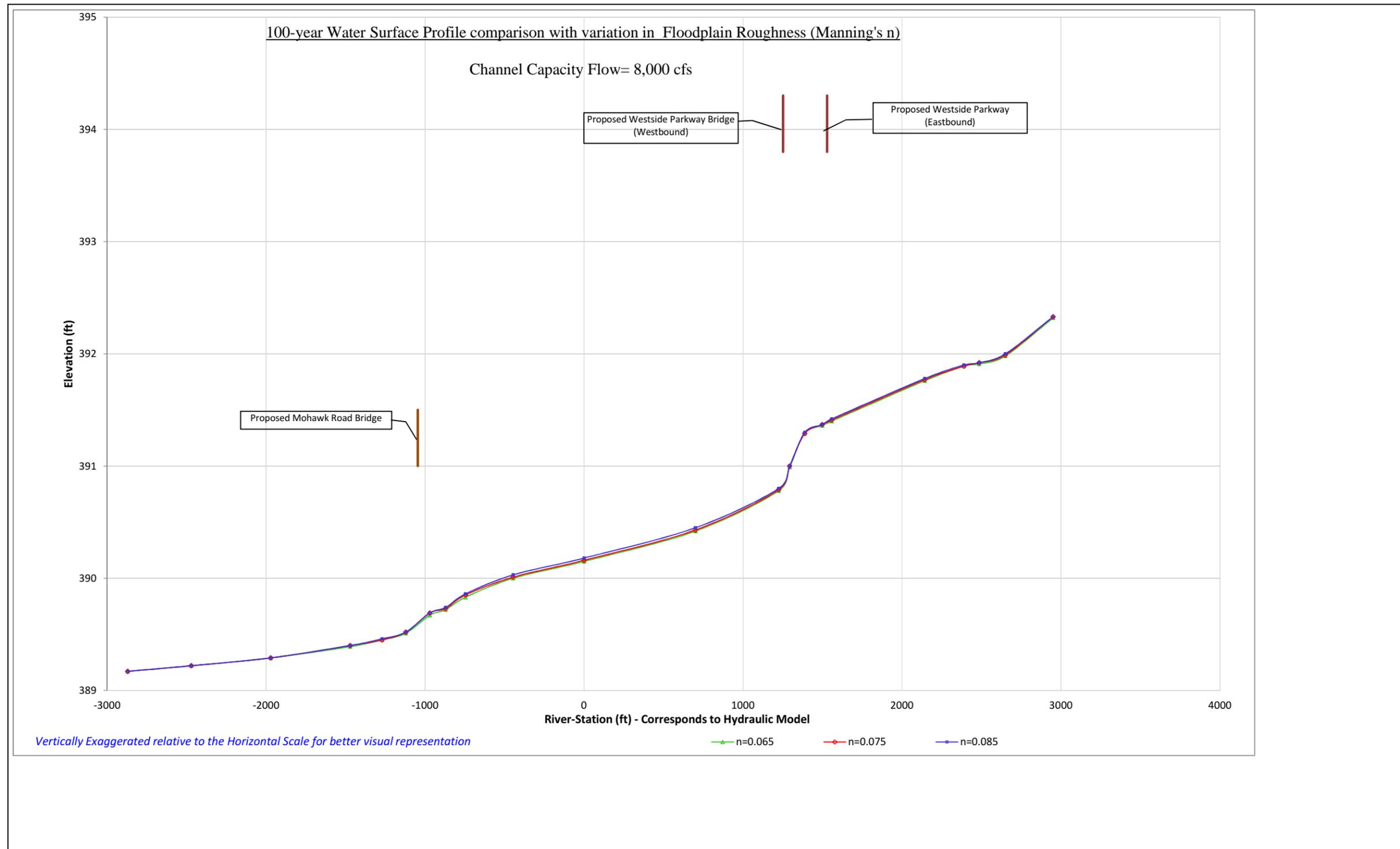
River Sta	Q Total (cfs)	W.S. Elev	W.S. Elev	W.S. Elev	W.S. Elev	W.S. Elev	
		(ft)	(ft)	(ft)	difference	difference	
		n=0.065	n=0.075	n=0.085	(ft)	(ft)	
		Run 1	Run 2	Run 3	Run 2-Run1	Run 3-Run1	
2950	8000	392.32	392.33	392.33	0.01	0.01	
2649.7	8000	391.98	391.99	392	0.01	0.02	
2485.4	8000	391.91	391.92	391.92	0.01	0.01	
2389.28	8000	391.89	391.89	391.9	0	0.01	
2142.52	8000	391.76	391.77	391.78	0.01	0.02	
1557.67	8000	391.4	391.41	391.42	0.01	0.02	
1547.37	8000	391.37	391.38	391.39	0.01	0.02	<--Upstream Face of the Westside Parkway Bridge (WB)
1508.37	8000	391.35	391.36	391.37	0.01	0.02	<--Downstream Face of the Westside Parkway Bridge (WB)
1498.17	8000	391.36	391.37	391.37	0.01	0.01	
1388.25	8000	391.29	391.29	391.3	0	0.01	
1293.24	8000	390.99	391	391	0.01	0.01	
1279.3	8000	390.92	390.93	390.94	0.01	0.02	<--Upstream Face of the Westside Parkway Bridge (EB)
1224.22	8000	390.75	390.76	390.77	0.01	0.02	<--Downstream Face of the Westside Parkway Bridge (EB)
1224.1	8000	390.78	390.79	390.8	0.01	0.02	
700.69	8000	390.42	390.43	390.45	0.01	0.03	
0	8000	390.15	390.16	390.18	0.01	0.03	
-446.17	8000	390	390.01	390.03	0.01	0.03	
-746.17	8000	389.83	389.85	389.86	0.02	0.03	
-871	8000	389.72	389.73	389.74	0.01	0.02	
-971	8000	389.67	389.69	389.69	0.02	0.02	
-996	8000	389.61	389.62	389.63	0.01	0.02	<--Upstream Face of the Mohawk Road Bridge
-1096	8000	389.51	389.52	389.52	0.01	0.01	<--Downstream Face of the Mohawk Road Bridge
-1121	8000	389.51	389.52	389.52	0.01	0.01	
-1271	8000	389.45	389.45	389.46	0	0.01	
-1471	8000	389.39	389.4	389.4	0.01	0.01	
-1971	8000	389.29	389.29	389.29	0	0	
-2471	8000	389.22	389.22	389.22	0	0	
-2871	8000	389.17	389.17	389.17	0	0	



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**Figure 5. Water Surface Profiles for the flow of 8,000 cfs with the proposed bridges.**



**Figure 6. Variation in Water surface elevation profiles for Q=8,000 cfs corresponding to changes in the Manning's roughness coefficient per the Conceptual Restoration Plan.**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
CENTRAL VALLEY FLOOD PROTECTION BOARD

RESOLUTION NO. 2012- 35

FINDINGS AND DECISION AUTHORIZING ISSUANCE OF  
ENCROACHMENT PERMIT NO. 18748  
CITY OF BAKERSFIELD  
HABITAT MITIGATION PLANTINGS, KERN COUNTY

**WHEREAS**, The Central Valley Flood Protection Board at the April 23, 2010 Meeting approved Permit No. 18571 to construct three bridges, (773-foot long, 39-foot wide; 687-foot-long, 53-foot-wide; and 133-foot-long, 42-foot-wide) two bridges across the channel of the Kern River and a third to direct eastbound traffic over Truxtun Avenue; and

**WHEREAS**, The City of Bakersfield submitted Application No. 18748 to the Central Valley Flood Protection Board on March 28, 2012, for the site preparation and the planting of various types of vegetation and installing minimal irrigation for mitigation of vegetation removed from the floodway to facilitate construction of the Mohawk Street Bridge and the Truxtun Tie-In; and

**WHEREAS**, The City of Bakersfield as lead agency under the California Environmental Quality Act, Public Resources Code sections 21000 *et seq.* (“CEQA”) prepared a Draft Environmental Impact Report (DEIR, SCH No. 2002121014, March 2006), Final Environmental Impact Report (FEIR) (SCH No. 2002121014, November 2006) and a Mitigation Monitoring and Reporting Plan (MMRP) on the Westside Parkway Project (incorporated herein by reference and available at the Central Valley Flood Protection Board offices or City of Bakersfield offices); and

**WHEREAS**, On December 13, 2006, the City of Bakersfield approved Resolution 321-06 for the Westside Parkway Project the FEIR, MMRP, approved findings and a statement of overriding considerations pursuant to the CEQA Guidelines (incorporated herein by reference); and

**WHEREAS**, The U.S. Army Corps of Engineers (USACE) 208.10 comment letter has not been received for this application. Staff anticipates receipt of a letter indicating that the USACE District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review to ensure conformity with the permit language and incorporate it into the Permit; and

**WHEREAS**, Board staff completed a technical review of Permit Application No. 18748; and

**WHEREAS**, The Board has conducted a public hearing on Permit Application No. 18748 and has reviewed the Reports of its staff, the documents and correspondence in its file, and the environmental documents prepared by the City of Bakersfield;

NOW, THEREFORE, BE IT RESOLVED THAT,

**Findings of Fact.**

1. The Board hereby adopts as findings the facts set forth in the Staff Report.
2. The Board has reviewed all Attachments, Exhibits, Figures, and References listed in the Staff Report

**CEQA Findings.**

3. The Board, as a responsible agency, has independently reviewed the analyses in the DEIR (SCH No. 2002121014, March 2006) and the FEIR (SCH No. 2002121014, November 2006) which includes the MMRP, the City of Bakersfield Lead Agency findings, and has reached its own conclusions.
4. The Board, after consideration of the DEIR (SCH No. 2002121014, March 2006), the FEIR (November 2006) on the Westside Parkway Project and the City of Bakersfield Lead Agency findings, adopts the project description, analysis and findings which are relevant to the project.
5. **Findings regarding Significant Impacts.** Pursuant to CEQA Guidelines sections 15096(h) and 15091, the Board determines that the City of Bakersfield findings, attached to the Staff Report, and incorporated herein by reference, summarizes the FEIR determinations regarding impacts of the Westside Parkway, before and after mitigation. Having reviewed the FEIR and the City of Bakersfield findings, the Board makes its findings as follows:

- a. **Findings Regarding Significant and Unavoidable Impacts.** The Board finds that the Westside Parkway Project, may have the following significant, unavoidable impacts, as more fully described in the City of Bakersfield findings. Mitigation has been adopted for each of these impacts, although it does not reduce the impact to less than significant. The impacts and mitigation measures are set forth in more detail in the City of Bakersfield findings.

Land use - The project will result in the loss of 32 hectares (79 acres) of Prime Farmland. The loss of prime farmland cannot be mitigated, but is consistent with the Metropolitan Bakersfield General Plan and zoning land use designations and ongoing urbanization and residential development in the project vicinity.

Noise - A Noise Study Report evaluated the effectiveness of roadway noise barriers for the project. Noise barriers are considered to be effective if the noise reduction provided is at least 5 dBA. Along the proposed right of way, noise barriers that could reduce noise by at least 5 dBA were identified to protect 285 residences. All of these noise barriers have been recommended for the project. If during final design, conditions have substantially changed, some of these barriers might not be required. Even with the construction of noise barriers, some residential areas along the Westside Parkway right of way are

projected to experience a 12 dBA increase in noise over existing conditions and some areas are projected to experience a peak-noise-hour level of 66 dBA.

**Finding:** The Board finds that changes or alterations have been required in, or incorporated into, the project which substantially lessen such impacts, as set forth more fully in the City of Bakersfield findings, but that each of the above impacts remains significant after mitigation. Such mitigation measures are within the responsibility of another agency, or the City of Bakersfield, and should implement the described mitigation measures. Specific economic, legal, social, technological or other considerations, rendered infeasible mitigation or alternatives that would have reduced these impacts to less than significant.

**b. Findings regarding Significant Impacts that can be reduced to Less Than Significant.**

The significant impacts and the mitigation measures to reduce them to less than significant are adopted in the City of Bakersfield Resolution 321-06, dated December 13, 2006 (which includes a Statement of Facts, Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program). Based on its independent review of the FEIR and City of Bakersfield Resolution 321-06, the Board finds that for each of the significant impacts described, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the FEIR. Moreover, such changes or alterations are within the responsibility and jurisdiction of another public agency, or City of Bakersfield, and such changes have been adopted by that agency. It is hereby determined that the impacts addressed by these mitigation measures will be mitigated to a less-than-significant level or avoided by incorporation of these mitigation measures into the project.

6. As a responsible agency, the Central Valley Flood Protection Board has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve. The Board confirms that it has reviewed the MMRP, and confirmed that the City of Bakersfield has adopted and committed to implementation of the measures identified therein. The Board agrees with the analysis in the MMRP and confirms that there are no feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment. None of the mitigation measures in the MMRP require implementation by the Board directly, although continued implementation of the MMRP shall be made a condition of issuance of the Permit. However, the measures in the MMRP may be modified to accommodate changed circumstances or new information not triggering the need for subsequent or supplemental analysis under CEQA Guidelines sections 15062 or 15063.
7. **Statement of Overriding Considerations.** Pursuant to CEQA Guidelines sections 15096(h) and 15093, the Board has balanced the economic, social, technological and other benefits of the Project described in Permit Application No. 18748, against its significant and

unavoidable impacts, listed in paragraph 5(a) above, and finds that the benefits of the Project outweigh these impacts and they may, therefore, be considered “acceptable”.

The Board has independently considered the significant and unavoidable environmental impacts of the proposed project. The Board has also considered the benefits of the project, including reducing congestion and improving connectivity on existing east-west arterials in west Bakersfield. The project will also accommodate potential future multimodal transportation facilities, generate substantial construction employment benefits, and provide monetary savings for the region from improvements in operating efficiency, mobility, and safety of vehicular travel. The Board finds that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects of the project, and the adverse environmental effects are considered acceptable when these benefits of the project are considered.

8. **Custodian of Record.** The custodian of the CEQA record for the Board is its Executive Officer, Jay Punia, at the Central Valley Flood Protection Board Offices at 3310 El Camino Avenue, Room 151, Sacramento, California 95821.

**Considerations pursuant to Water Code section 8610.5.**

9. **Evidence Admitted into the Record.** The Board has considered all the evidence presented in this matter, including the original application for Permit No. 18748 and technical documentation provided by the City of Bakersfield on the Westside Parkway Project past and present Staff Reports and attachments, the original Environmental Impact Report on Westside Parkway Project (Draft and Final Versions), City of Bakersfield Resolution 321-06 including findings, Statement of Overriding Considerations, and the MMRP.
10. **Best Available Science.** In making its findings, the Board has used the best available science relating to the issues presented by all parties and the design is in compliance with these standards.
11. **Effects on State Plan of Flood Control.** This project has no negative impacts on the State Plan of Flood Control. Both hydraulic and geotechnical impacts from the project construction are negligible.
12. **Effects of Reasonably Projected Future Events.** There are no other foreseeable projected future events that would impact this project.

**Other Findings/Conclusions regarding Issuance of the Permit.**

13. This resolution shall constitute the written decision of the Board in the matter of Permit No. 18748.

**Approval of Encroachment Permit No. 18748.**

14. Based on the foregoing, the Board hereby conditionally approves issuance of Permit No. 18748 in substantially the form provided in the Staff Report for Permit 18748, subject to receipt of USACE comment letter indicating that the District Engineer has no objection to the project.
  
15. The Board directs the Executive Officer to take the necessary actions to prepare and execute Permit No. 18748 and all related documents and to prepare and file a Notice of Determination under the California Environmental Quality Act for the Westside Parkway Project.

PASSED AND ADOPTED by vote of the Board on \_\_\_\_\_, 2012

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Bill Edgar  
President

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Jane Dolan  
Secretary