

SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA



ITEM: 3.16
(ID # 13361)

MEETING DATE:
Tuesday, September 22, 2020

FROM : TLMA-TRANSPORTATION:

SUBJECT: TRANSPORTATION AND LAND MANAGEMENT AGENCY/TRANSPORTATION
DEPARTMENT: Approval of Amendment No. 1 to the Engineering Services Agreement between the County of Riverside and HNTB Corporation for Grade Separation Improvements on Jurupa Road. District 2. [\$1,865,873 FY 20/21-22/23 Cost, \$7,223,825 Total Cost - State Funds 100%]

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve Amendment No. 1 to the Engineering Services Agreement between the County of Riverside and HNTB Corporation in the amount of \$1,865,873; and
2. Authorize the Chairman of the Board of Supervisors to execute the amendment to the contract on behalf of the County.

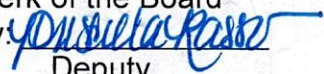
ACTION: Policy


Patricia Romo, Director of Transportation 9/2/2020

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Jeffries, seconded by Supervisor Spiegel and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Jeffries, Spiegel, Washington, Perez and Hewitt
Nays: None
Absent: None
Date: September 22, 2020
xc: Transp.

Kecia R. Harper
Clerk of the Board
By: 
Deputy

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA**

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	\$ 1,415,000	\$ 290,000	\$ 7,223,825	\$ 0
NET COUNTY COST	\$ 0	\$ 0	\$ 0	\$ 0
SOURCE OF FUNDS: SB-132 Funds 100%. No General Funds will be used on this project.			Budget Adjustment: No	
			For Fiscal Year: 20/21-22/23	

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

The Riverside County Transportation Department, in cooperation with the City of Jurupa Valley (City), desires to construct a new grade separation to replace the existing Union Pacific Railroad (UPRR) at-grade crossing located on Jurupa Road in the City, east of Van Buren Boulevard. Jurupa Road is a two-lane arterial highway that provides access to commercial, industrial and residential land uses in the City.

This proposed project will grade separate Jurupa Road and the UPRR mainline tracks with an underpass where it crosses the tracks. This improvement will expand vehicular traffic circulation and safety. The project will also provide uninterrupted and efficient access to motorists, residents, businesses, pedestrians and emergency vehicles in the area. Additionally, the project will enhance the operational characteristics such as speed, efficiency, and reliability of freight and passenger trains throughout Riverside County by eliminating conflicts between railroad operations and vehicular traffic.

In April 2017, the Governor and State Legislators dedicated \$427 million to improve five major transportation projects in Riverside County. The Jurupa Road Grade Separation project was allocated \$108.4 million for the design and construction of a new roadway and structure to grade separate Jurupa Road from the UPRR tracks. Without this approved funding, the project would not have been built for many years. These funds are being distributed through the Riverside County Transportation Commission (RCTC).

On October 24, 2017 (Minute Order 3.14), the Board of Supervisors approved an agreement between the County, the City and RCTC that designated the County as the lead agency to implement the Project.

On March 13, 2018 (Minute Order 3.18), the Board of Supervisors approved an Agreement between the County and HNTB Corporation for engineering and environmental services. The Agreement provides the terms and conditions, scope of work, schedule and budget for the performance of professional and technical services necessary to obtain environmental

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA**

clearance and prepare plans, specifications and estimates suitable for awarding a contract to construct the proposed grade separation.

The original scope and budget for the project was based on a roadway overpass of the UPRR corridor. However, during the project development phase, it was determined that an underpass would better meet the goals of the developing community and would minimize impacts to local businesses. As a result, the Jurupa Valley City Council approved the selection of a roadway underpass alternative. The underpass alternative required several additional features that affected the project design scope and budget, as described below.

- Design of a new Pump Station and significantly expanded drainage design.
- Temporary closure of Jurupa Road is needed for an underpass and requires construction of detour facilities on Rutile Street and Pedley Road.
- Closure of direct access to Hill Place requires design of new connection on 52nd Street to alleviate cut through traffic in residential areas.
- An overpass design requires minimal modifications to railroad track and relatively simple coordination with UPRR. An underpass, however, requires substantial modifications to the track design for both temporary and permanent improvements. Coordination is similarly more intensive.
- In order to provide a track alignment acceptable to UPRR, an extension of the Bly Channel Culvert is required.

This Amendment No. 1 provides additional funding to make the necessary revisions to the environmental and engineering documents. This Amendment No. 1 will increase the funding as follows:

Original authorization	\$5,357,952
Authorized by this Amendment 1	<u>\$1,865,873</u>
Total	\$7,223,825

Construction is expected to begin in early 2021 and take approximately 2 years to complete.

Impact on Residents and Businesses

The Jurupa Road grade separation project will improve vehicular traffic circulation and safety and will provide uninterrupted and efficient access for motorists, residents, businesses, pedestrians and emergency vehicles in the area. Additionally, the project will enhance the operational characteristics such as speed, efficiency, and reliability of freight and passenger trains through Riverside County by eliminating conflicts between railroad operations and vehicular traffic.

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SUPPLEMENTAL:

Additional Fiscal Information

On April 6, 2017, the California Senate approved Senate Bill Number 132 (hereinafter "SB-132") which added appropriation to the budget bill to provide \$427,172,000 for five major transportation projects. SB-132 includes provisions for providing funding in the amount of \$108.4 Million for the construction on the Jurupa Road Grade Separation project. SB-132 funds for the project will be distributed through the RCTC.

The City of Jurupa Valley will be 100% responsible for the funding of the project. No county funds will be used.

Contract History and Price Reasonableness

The contract price was negotiated and is consistent with industry standards.

Attachments:

HNTB Amendment No. 1

Vicinity Map

Rendering 1

Rendering 2



Jason Farin, Principal Management Analyst 9/15/2020



Gregory L. Priarios, Director County Counsel 9/10/2020

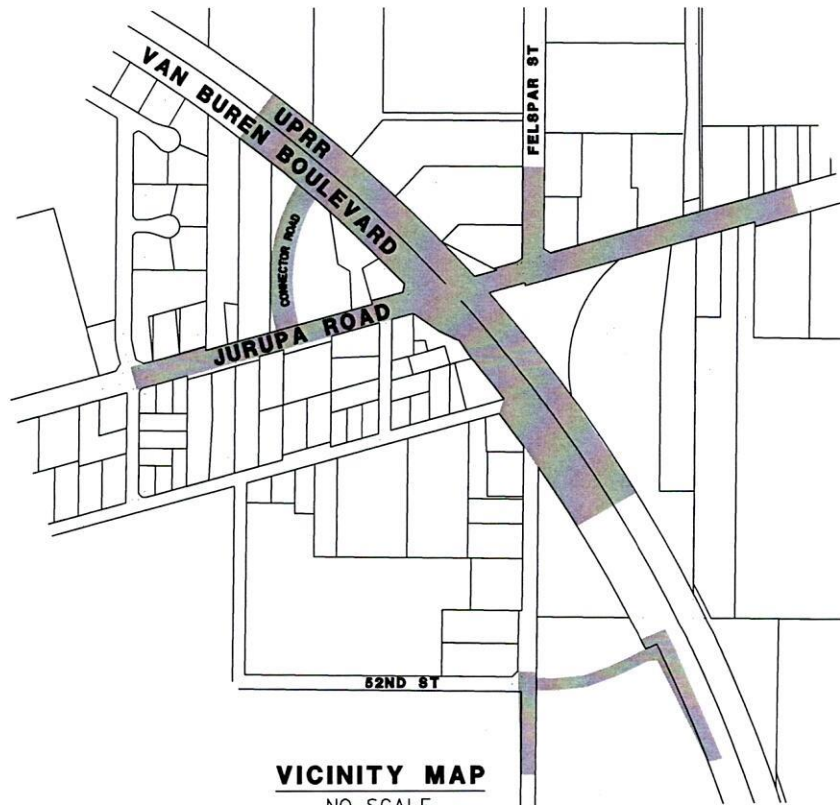
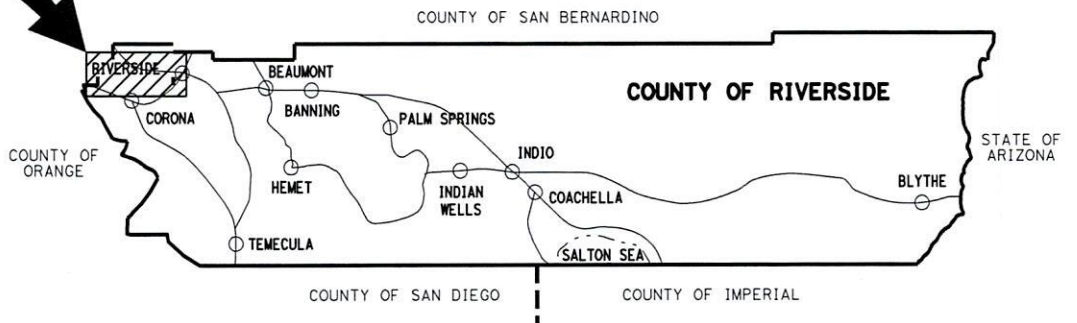
COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT

JURUPA ROAD

UPRR GRADE SEPARATION PROJECT

CITY OF JURUPA VALLEY

PROJECT
SITE



VICINITY MAP
NO SCALE





AMENDMENT NO. 1

AMENDMENT TO ENGINEERING SERVICES AGREEMENT

FOR JURUPA ROAD GRADE SEPARATION PROJECT

THIS AMENDMENT (hereinafter the "Amendment") to an agreement is made and entered into as of this September day of 22nd, 2020, by and between the County of Riverside, a political subdivision of the State of California (hereinafter the "COUNTY"), and HNTB Corporation (hereinafter "ENGINEER").

RECITALS

- A. COUNTY and ENGINEER have entered an agreement entitled Engineering Services Agreement for Jurupa Road Grade Separation Project between County of Riverside • Transportation Department and HNTB Corporation, Inc. that is dated March 13, 2018 (hereinafter the "Agreement"). The Agreement provides the terms and conditions, scope of work, schedule and budget for the performance of professional and technical services necessary to obtain environmental clearance and prepare plans, specifications and estimates suitable for awarding a contract to construct the proposed grade separation.
- B. The original scope and budget for the project was based on a roadway overpass of the Union Pacific Railroad (UPRR) corridor. However, during the project development phase, it was determined that an underpass would better meet the goals of community development and would minimize impacts to the local businesses. As a result, the Jurupa Valley City Council approved the selection of a roadway underpass alternative. The underpass alternative required several additional features that affected the project design scope and budget, as described below.
- Design of a new Pump Station and significantly expanded drainage design.
 - Temporary closure of Jurupa road is needed for an underpass and requires construction of detour facilities on Rutile Street and Pedley Road.
 - Closure of direct access to Hill Place requires design of new connection on 52nd Street to alleviate cut through traffic in residential areas.
 - An overpass design requires minimal modifications to railroad track and relatively simple coordination with Union Pacific Railroad. An underpass, however, requires substantial modifications to the track design for both temporary and permanent improvements. Coordination is similarly more intensive.
 - In order to provide a track alignment acceptable to Union Pacific Railroad an extension of the Bly

Channel Culvert is required.

C. The parties desire to amend the Agreement to modify the scope of services provided by the ENGINEER and increase the contract budget.

D. This Amendment No. 1 provides additional funding to make the necessary revisions to the environmental and engineering document. This Amendment No. 1 will increase the funding as follows:

Original authorization	\$5,357,952
Authorized by this Amendment 1	\$1,665,873
Contingency Authorized by this Amendment 1	<u>\$200,000</u>
Revised Total Authorized	\$7,223,825

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants hereinafter contained, the parties agree as follows:

- Appendix A is amended to include the additional services as described in the attached Scope of Services entitled "AMENDMENT 1 • APPENDIX A1 • SCOPE OF SERVICES".
- Article VI (Compensation) and Appendix C• Article CV are amended by increasing the contract budget by \$1,865,873 for a total revised budget of \$7,223,825 in accordance with the attached Fee Proposal entitled "AMENDMENT 1 • APPENDIX C1 • JURUPA ROAD GRADE SEPARATION AMENDMENT NO. 1 FEE PROPOSAL".
- Except to the extent specifically modified or amended hereunder, all of the terms, covenants and conditions of the Agreement shall remain in full force and effect between the parties hereto.

IN WITNESS HEREOF, the parties hereto have caused this Amendment to the Agreement to be duly executed this day and year first written above.

ARTICLE VIII • APPROVALS

COUNTY Approvals

RECOMMENDED FOR APPROVAL:

 Dated: 9-3-2020

PATRICIA ROMO
Director of Transportation

APPROVED AS TO FORM:

GREGORY P. PRIAMOS, COUNTY COUNSEL

 Dated: 9/3/2020
By Deputy

APPROVAL BY THE BOARD OF SUPERVISORS

 Dated: SEP 22 2020
V. MANUEL PEREZ
PRINTED NAME

Chairman, Riverside County Board of Supervisors

ATTEST:

 Dated: SEP 22 2020

KECIA HARPER-IHEM
Clerk of the Board (SEAL)


ENGINEER Approvals

ENGINEER:

 Dated: 8/18/2020

Thomas Ellis
PRINTED NAME
Southern California Office Leader
TITLE

ENGINEER:

 Dated: 8/19/2020
Kevin A. Haboian, P. E.
PRINTED NAME
Sr. Vice President
TITLE

AMENDMENT 1 • APPENDIX A1 • SCOPE OF SERVICES

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APPENDIX A • ARTICLE AI • INTRODUCTION

A. PROJECT DESCRIPTION

The original scope and budget for the project was based on a roadway overpass of the Union Pacific Railroad (UPRR) corridor. However, during the project development phase, the City of Jurupa Valley approved a roadway underpass alternative. The underpass alternative required several additional features that affected the project design scope and budget, as described below.

Drainage and Pump Station: The overpass required minimal drainage design effort and would have maintained the existing drainage patterns and systems. With an underpass, an extensive drainage analysis is required in order to evaluate higher level storm events, modification of existing drainage systems, addition of new drainage systems and the need for a stormwater pump station to discharge storm flow from the roadway sump created by the underpass. Additional tasks include:

Significantly larger drainage area for hydrology and hydraulic analysis

Evaluation of 10-year, 25-year and 100-year storm events

Design of a new storm drain system north of Jurupa Road within the commercial parcels

Modification of existing storm drain systems in Jurupa Road, west of Van Buren Boulevard and east of Felspar Street

Design of a stormwater pump station, including structural, mechanical, electrical, instrumentation and discharge piping (per scope and budget shift in Contract Modification No. 1)

Expanded Work Areas: To improve circulation both during and post construction, additional improvements were identified beyond the original project limits. As the underpass requires the closure of Jurupa Road, detour routing has become critical for the residents and businesses. The additional improvements include at-grade crossing modifications and widening on Rutile Street; at-grade crossing modifications and widening of Jurupa Road and Pedley Road (design by City consultant); and the extension of 52nd Street from Felspar Street to Van Buren Boulevard. Additional tasks include:

Design and plan preparation of Rutile Street widening and at-grade modifications

Coordination of the Jurupa Road and Pedley Road widening and at-grade modifications

Design and plan preparation for 52nd Street extension

Traffic engineering, including street lighting and traffic signals, both new and modified

Additional UPRR coordination for Rutile Street and Pedley Road at-grade crossings

- 1 Additional CPUC coordination and preparation of GO-88B crossing modification documents for each crossing
- 2 Additional utility coordination, identification of existing utilities and coordination of necessary relocations to
- 3 address conflicts
- 4 Right-of-way requirements mapping
- 5 Expanded biological and cultural area of evaluation
- 6 Increased environmental permitting requirements
- 7 Phase II hazardous materials analysis (project-wide)

8 **Track Design and UPRR Coordination:** In the original overpass design, there are no impacts to the
9 UPRR mainline, siding and spur tracks. As such, per the BNSF & UPRR Grade Separation Guidelines,
10 the extent of coordination with the UPRR is limited, including only three submittals for review. With the
11 change to the underpass design, the effort and coordination increase significantly due to the need for a
12 temporary shoofly of the mainline, siding and spur tracks, permanent realignment of the siding and spur
13 tracks, six track design submittals and four structure design submittals. Additionally, due to the late
14 engagement of the UPRR for reasons outside of RCTD and HNTB's control, the underpass design has
15 required modifications to address UPRR requests and the project design phase has been extended to
16 address the UPRR submittals which are occurring after the remainder of the project has already
17 approached the 100% completion level. Additional tasks include:

- 18 • Temporary track design, including horizontal and vertical alignments, and plan preparation for
19 layout, profiles, typical sections, grading and drainage, phasing and cross sections
- 20 • Permanent track design including horizontal and vertical alignments, and plan preparation for
21 layout, profiles, typical sections, grading and drainage, phasing and cross sections
- 22 • Structural analysis and modifications to address UPRR request to provide 25-foot separation
23 between the Van Buren Boulevard and UPRR bridges
- 24 • Significant alteration to the Van Buren Boulevard construction staging and traffic handling, including
25 temporary traffic signals at the connector road
- 26 • Extended management, administration and coordination
- 27 • Expanded environmental permitting, including biological and cultural area of evaluation

28 **Bly Channel Culvert Extension:** Through the iterative process with the UPRR, it has been determined
29 that the UPRR will not accept any design exceptions regarding their track geometry for the T403 & T404

1 wye tracks. The UPRR preferred geometry shifts the track location where it crosses the channel, requiring
2 the lengthening of the Bly Channel triple box culvert that currently crosses Jurupa Road and the UPRR
3 Crestmore Lead Track. All efforts have been exhausted to avoid this impact to the channel. The work effort
4 related to this triple box culvert extension includes:

5 Structural design of the triple box culvert that will account for rail loading requirements and connection details
6 to the existing box culvert.

7 The structure design will be submitted concurrently to RCFC & WCD and the UPRR for review. As it is
8 considered a structure, it will follow the UPRR process of 30%, 60%, 100% submittals.

9 Hydraulic and scour analysis will be prepared.

10 Plan, profile and details will be prepared for the Bly Channel, including channel modifications, revetment at the
11 outlet, contour grading and modification to the access to both the east and west bank of the channel.

12 It is assumed that no CPUC coordination is required as no new private crossing is being provided.

13 Geotechnical borings and analysis are required.

14 Site reviews and environmental permitting will be updated to include work in this channel.

15 Right-of-way requirements mapping will be required for any permanent or temporary easements
16 required in the RCFC & WCD right-of-way

17 **ARTICLE AII • PROJECT ADMINISTRATION**

18 **A. PROJECT MANAGEMENT PLAN**

19 No Change

20 **B. QUALITY CONTROL PLAN**

21 No Change

22 **C. BUDGETING**

23 Monitor budgets for an additional 9 months.

24 **D. COST ACCOUNTING**

25 Progress Reporting for an additional 9 months.

26 **E. SCHEDULING**

27 Update Schedule for an additional 9 months.

28 **F. CONTRACT ADMINISTRATION AND MEETINGS**

29 1. Project Management and Administration

1 Additional 9 months of project management is required for the continuing design efforts for the UPRR
2 submittal.

3 2. Project Meetings

4 Three (3) additional monthly PDT meetings shall be held to resolve issues and to apprise the affected
5 agencies of the progress of the PROJECT. The CONSULTANT shall attend 15 additional meetings
6 for agency coordination and project coordination.

7 **G. CONTRACT DELIVERABLES**

8 No Change.

9 **H. OUTREACH**

10 No Change

11 **I. UNION PACIFIC PAYMENTS**

12 Union Pacific Railroad (UPRR), as a third-party project stakeholder, shall provide coordination and design
13 submittal reviews and comments. In an effort to avoid the perception of any potential conflicts of interest,
14 the County shall facilitate the design review process directly with UPRR. Any design review deliverables
15 and any associated requests for payment associated with any UPRR design reviews may be promptly
16 forwarded by the County to HNTB for incorporation into the services and processing under this
17 Agreement. All UPRR requests for payment shall be forwarded by the County to HNTB under a unique
18 County generated cover letter and, upon receipt, HNTB shall include all such UPRR requests for payment
19 into HNTB's next monthly invoice to the County as a direct expense. HNTB shall pay all UPRR requests
20 for payment after HNTB's receipt of corresponding payment from the County under this Agreement (i.e.,
21 same payment timing protocols required of all other subconsultants and vendors). HNTB may rely on the
22 accuracy of all information provided by UPRR in the performance of HNTB's services.

23 **ARTICLE AIII • PLANNING AND PROJECT DEVELOPMENT**

24 **A. RESEARCH AND DATA GATHERING**

25 No Change.

26 **B. PERMITS**

27 No Change.

28 **C. DESIGN SURVEYS**

29 No Change.

1 **D. PRELIMINARY GEOTECHNICAL INVESTIGATIONS**

2 1. Preliminary Foundation Report

3 No Change.

4 2. Phase 1 Environmental Site Assessment

5 No Change.

6 3. Aerially Deposited Lead (ADL) Survey

7 No Change.

8 4. Phase II Environmental Site Assessment

9 ENGINEER shall produce Phase II Environmental Site Assessments (ESAs) of 17 properties to be
10 acquired by the County of Riverside during the construction of the Jurupa Road Railroad Grade
11 Separation Project, in the City of Jurupa Valley, Riverside County, California. Investigations at the
12 properties will include soil sampling and pre-demolition lead and asbestos testing of structures.

13 Task 1: Soil investigation for lead and organochlorine pesticides (OCPs) on
14 selected properties with commercial structures, and for arsenic and OCPs on selected
15 properties with former agricultural use.

16 Task 2: Disposal profiling of soils removed from the parcels to be acquired adjacent to the
17 railroad tracks.

18 Task 3: A pre-demolition lead-based paint and asbestos survey on properties with commercial
19 structures to be demolished.

20 Task 4: Sampling of soil vapor for VOCs in the vicinity of the proposed storm drain

21 The proposed tasks are further described below. It is assumed that different properties will be available
22 at different times and that multiple mobilizations may be required to complete the investigations.

23 **Task 1 – Commercial Structure Investigation / Former Agricultural Use**

24 Prefield Activities

25 A Site Specific Health and Safety Plan (HSP) describing safety aspects of the work to be performed
26 at the site will be prepared in general compliance with the Occupational Safety and Health
27 Administration (OSHA) regulation 29 CFR 1910.120 and California Code of Regulations 5192.

28 Prior to any excavation or borings, the locations will be marked with white paint and then Underground
29 Service Alert (USA) will be contacted at least 48 hours in advance, to mark public utilities.

1 CONSULTANT will secure the necessary permits and rail road safety training to work within the UPRR
2 easements and schedule railroad flagging personnel as necessary.

3 Field Activities

4 CONSULTANT will advance up to four soil borings around each structure on the Site (total maximum
5 of 32 borings). CONSULTANT will also advance up to 34 borings in portions of the Site formerly
6 developed for agricultural use. Each boring will be visually logged by a member of our technical staff.
7 Each boring will be advanced using a hand auger or direct-push drill rig, to an approximate depth of
8 2.5 feet below ground surface (bgs). Soil samples will be collected at depths of 0.5 and 2.5 feet bgs
9 at each of the boring locations. Soil samples will be labeled with the date, a unique sample no.,
10 sampling time, project no. and samplers initials, and preserved for transport to an environmental
11 laboratory with ELAP certification for the analyses requested. Chain-of-custody protocol will be
12 followed throughout all phases of the sample handling process.

13 Laboratory Analysis

14 Soil samples collected in the vicinity of the former onsite structures, at depths of 0.5 and 2.5 feet bgs,
15 will be composited into depth dependent composite groups of four samples, and analyzed for OCPs
16 by US EPA Method 8081A. The surface samples in the vicinity of each structure will be analyzed for
17 lead by US EPA Method 6010B.

18 Samples collected in the former agricultural areas, at depths of 0.5 and 2.5 feet bgs, will be composited
19 into depth dependent composite groups of two to four, and analyzed for OCPs by US EPA Method
20 8081A. Surface samples at each boring location will be analyzed discretely for arsenic by US EPA
21 Method 6010B.

22 Sample results will be compared to the Department of Toxic Substances Control Human and
23 Ecological Risk Office Human Health Risk Assessment Note 3 Commercial/Industrial Screening
24 Levels (Note 3 Screening Levels) for OCPs and lead. Arsenic results will be compared to the DTSC-
25 recognized southern California background arsenic concentration of 12 milligrams per kilogram.

26 **Task 2 – Soil Disposal Profiling**

27 Field Investigation

28 In the Jurupa Road grade separation ISA, Leighton Consulting, Inc. recommended the removal and
29 disposal of certain soils adjacent to the railroad tracks which will be realigned during the project. To

1 profile these soils for disposal, samples of the excavated material will be collected and analyzed for
2 polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) volatile organic
3 compounds (VOCs), total petroleum hydrocarbons (TPH), and Title 22 metals related to the railroad
4 operations. It is proposed to collect up to 20 waste profile samples from stockpiled soils excavated
5 from the vicinity of the railroad track. Soil samples will be collected at least 1.5 feet below the stockpile
6 surface.

7 Soil samples will be field screened for the presence of volatile organic compounds (VOCs) by
8 headspace analysis using a photo-ionization detector (PID) calibrated to 100 parts per million by
9 volume (ppmv) of hexane. The waste profiling samples will be obtained in laboratory supplied 4-ounce
10 glass jars, with the date, a unique sample no., sampling time, project no. and samplers initials, and
11 preserved for transport to an environmental laboratory with NELAP certification for the analyses
12 requested.

13 Samples will be analyzed for SVOCs by US EPA Method 8260, PCBs by US EPA Method 8082, VOCs
14 by US EPA Method 8260B, TPH by US EPA Method 8015B, and Title 22 Metals by US EPA Methods
15 6010B and 7471A.

16 **Task 3 – Lead and Asbestos Survey**

17 A semi-destructive hazardous materials survey for asbestos and lead-based paints will be performed
18 in adherence with applicable federal, state and local regulations. Accessible finishes will be visually
19 assessed and those suspected of either containing asbestos or being coated with suspect lead-based
20 paints will be tested. Services shall be as further described, below:

21 An initial walkthrough will be performed of each of the subject buildings to identify suspect asbestos-
22 containing materials within each building. At the same time, the suspect asbestos-containing materials
23 will be quantified, to determine the number of samples required to satisfy regulatory requirements. In
24 the event that prior testing data is made available, the existing data will be evaluated against site
25 conditions at this time (prior to determining the final sampling scheme).

26 Following the initial assessment, bulk samples will be collected, of suspect materials to be impacted
27 by work activities, for the determination of asbestos content as necessary to satisfy all United States
28 Environmental Protection Agency, Cal/OSHA and the South Coast Air Quality Management District
29 requirements. Samples will be submitted to a NVLAP-accredited laboratory and analyzed by polarized

1 light microscopy. It is estimated that a maximum of 450 asbestos bulk samples shall be collected
2 during the investigation and testing, between the seven properties.

3 At the same time that asbestos sampling is to occur, a lead construction screening assessment will
4 be performed, which will include measurements of representative painted and coated surfaces to be
5 impacted for evaluation of lead levels. Measurements shall be accomplished via a field X-Ray
6 Fluorescence (XRF) lead-testing device. Positive readings for Lead-Based Paints (LBPs) and Lead-
7 Bearing Substances (LBSs) will be quantified by collecting samples of LBP or LBS for laboratory
8 analysis.

9 A visual inspection for Universal Waste Rule items will be performed, such as non-incandescent
10 lighting tubes, batteries and non-PCB ballasts so that these items may be removed and recycled prior
11 to demolition of the structures. No testing of materials will be performed as part of this investigation.

12 A Hazardous Materials Testing Report will be provided. The report will be appended to include
13 analytical results, field sketches and other pertinent field documentation, and will be delivered as a
14 .pdf electronic file.

15 5. Bly Channel Geotechnical Investigation

16 **Task 1 – Field Preparation and Permit**

17 In preparation for the field exploration and prior to starting the subsurface investigation, we will
18 coordinate site access with you so we can mark out locations of proposed borings and notify
19 Underground Service Alert (USA) at least 48-hours prior to commencing the fieldwork. A private utility
20 locator will be utilized to help reduce the risk of damaging underground utilities during subsurface
21 exploration, especially at alignments where little information is available regarding existing
22 underground utilities.

23 **Task 2 – Field Exploration Program**

24 CONSULTANT will drill, log and sample two hollow-stem auger borings within accessible areas of the
25 channel easement and near the proposed location of the culvert. Borings will extend at least 15 to 25
26 feet below ground surface (BGS) or practical refusal. Driven "California" ringed samples and
27 shallow bulk soil samples will all be collected from our borings and transported to our in-house
28 geotechnical laboratory for testing. Borings will be backfilled with excavated soil cuttings from drilling
29 and pavement (if encountered) will be patched at the surface with cold-mix asphalt. We assume

1 existing City permit or a new non-fee permit will only be required for our field work.

2 **Task 3 – Laboratory Testing**

3 Laboratory tests will be performed on selected, representative soil samples to determine pertinent
4 engineering properties. Tests may include insitu moisture/density, sieve analysis, collapse potential,
5 expansion potential, maximum dry density/optimum moisture content, corrosivity testing, and direct
6 shear. Additional sieve analysis might be performed as part of the scour evaluation of the existing
7 channel.

8 **Task 4 – Geotechnical Analyses and Project Management**

9 Geotechnical data analyses will consist of review of existing in-house data, including our previously
10 performed Foundation and Geotechnical Design Reports, and analyses of the collected data by the
11 Geotechnical Engineer. This Task will also include project management and coordination with design
12 team for preliminary findings, if needed.

13 **Task 5 –Report Preparation/Deliverables**

14 Leighton will prepare a report signed by California GE, summarizing the findings and conclusions of
15 the exploration and provide geotechnical parameters for the design and construction per AREMA
16 guidelines for the proposed culvert widening.

17 **E. PLANNING STUDIES**

18 The original project scope of work included development of up to three (3) geometric alternatives - two (2)
19 overpass and one (1) underpass. Through the project development process, a total of sixteen (16)
20 alternatives were evaluated, twelve (12) underpass and four (4) overpass alternatives.

21 **F. VISUAL AIDS**

22 No Change.

23 **G. ENVIRONMENTAL DETERMINATION AND ENVIRONMENTAL ISSUES**

24 Due to the inclusion of new impacts and limits at the Rutile and Van Burn Intersection, the Jurupa Road
25 and Pedley Road intersection, and the extension of 52nd Street, and the extension of the Bly Channel
26 Triple Box Culvert due to the realignment of the UPRR Track, the following updates are required:

- 27 1. Environmental Coordination & Assistance

28 No Change.

- 29 2. Biological Resources Technical Report

- 1 Update the Biological Technical report text, figures, and impact numbers.
- 2 3. Narrow Endemic Plant and Burrowing Owl (BUOW) Surveys
- 3 Perform additional protocol-level surveys for narrow endemic plants and BUOW to capture the
- 4 modified areas of disturbance outside the original biological survey.
- 5 Update the Burrowing Owl report and narrow endemic plan surveys.
- 6 4. Water Quality and Erosion
- 7 No Change.
- 8 5. Floodplain
- 9 No Change.
- 10 6. Noise Study Report (NSR)
- 11 No Change.
- 12 7. Cultural Resources Report
- 13 Revise the Cultural Resources Report to include the extension of the Bly Channel Triple Box Culvert.
- 14 8. Community Impact Assessment Memorandum
- 15 Revise the Community Impact Memorandum to include the extension of the Bly Channel Triple Box
- 16 Culvert.
- 17 9. Preparation and Processing of Regulatory Permits
- 18 Replace the entire 'Preparation and Processing of Regulatory Permits' section with the following:
- 19 A qualified biologist will examine all relevant portions of the site and perform a routine-level delineation
- 20 of the extent of potentially jurisdictional waters under both state and federal regulations. Evaluation for
- 21 federal wetlands will follow the applicable methods in the 1987 manual from the Corps of Engineers
- 22 and 2006 Arid West supplement from the Corps of Engineers, and the Rapanos Guidance (2007),
- 23 along with subsequent supporting materials and applicable regulations, policy, and case law. The
- 24 study area for this work will include the proposed project footprint along with a 50-foot buffer. The
- 25 Biological Resources Technical Report will meet the standard requirements for a delineation report in
- 26 the applicable regions of the Corps of Engineers, California Department of Fish and Wildlife, and
- 27 Regional Water Quality Control Board. The field determination with the Corps of Engineers and
- 28 Department of Fish and Wildlife is included. Regulatory permit applications from regulatory agencies
- 29 for impacts to jurisdictional waters (CDFW, USACE, RWQCB) and/or riparian-riverine resources

(MSHCP) will be prepared including CDFW Section 1602 Streambed Alteration Agreement, RWQCB Section 401 Water Quality Certification and Corps of Engineers 404 Nationwide Permit.

10. Preparation and Processing of MSHCP Consistency Determination and DBESP

Update the MSHCP Consistency report text, figures, and impact numbers. Update the MSHCP Determination of Biologically Equivalent of Superior Preservation Report text, figures, and impact numbers.

H. PRELIMINARY ENGINEERING REPORT

No Change.

I. GEOMETRIC APPROVAL DRAWINGS

No change.

J. DESIGN DRAINAGE REPORT

The original scoped overpass concept required only minimal modifications of existing drainage systems located in Jurupa Road and Felspar Street. Existing flow paths were to be maintained. The underpass alternative increases the complexity for the hydrology study with the creation of a roadway sump that severs the existing flow paths. The study area for a 10-year and 100-year design storms is significantly larger, extending up to Rutile and Galena, in order to determine the volume of flow tributary to the roadway sump. A hydrograph for the design year storms will be prepared for the pump station design.

A new box culvert drainage system is required north of Jurupa Road, crossing Felspar Street, to capture the storm water flow prior to the pump station. A portion of the Jamestown Storm Drain west of the intersection of Jurupa Road/Van Buren Blvd requires reconstruction. The underpass also requires the addition of a storm drain for the underpass connected to a pump station.

K. GEOTECHNICAL DESIGN REPORT

No change.

L. RIGHT-OF-WAY MAPS

The right-of-way requirement map preparation shall incorporate the follow changes:

1. The addition of 52nd Street - Requires the development of 3 additional parcels (Partial Acquisition Parcel 24A, Slope Easement Parcels 24B and 24C)
2. The addition of Rutile Street – Requires the development of 4 additional parcels (Partial Acquisition Parcel 27A, Slope Easement Parcels 27B and 28A, Temporary Construction Easement Parcel 6G)

3. The addition of the shoofly design - Requires development of 3 additional parcels (Temporary Construction Easement Parcels 6B, 6D, 22A)
4. Impacts of the underpass design to the existing storm drain and utility systems - Requires the development of 9 additional parcels (Access/Utility Easement Parcel 7B, Storm Drain Easement Parcels 7E, 9B and 19A, Temporary Construction Easement Parcels 7F, 7G, 9C, 9D and 19B).
5. The extension of the Bly Channel will require additional permanent and temporary easements on the RCFC & WCD parcel.

The above changes resulted in 2 additional Right-of-way Requirements Map sheets and additional review cycles with the County.

M. AGREEMENTS

No change.

N. UTILITY COORDINATION

Due to the inclusion of new improvements at the Rutile and Van Buren Intersection, the Jurupa Road and Pedley Road intersection, and the extension of 52nd Street additional utility research and coordination is required for necessary relocations.

O. MISCELLANEOUS DESIGN SUPPORT

1. Design Exceptions

No change.

2. Traffic Management Plan

No change.

3. Track Design

The CONSULTANT shall provide design for the temporary and permanent realignment of railroad mainline (MT1 & MT2), siding (T500) and industry tracks (T403, T404, T750). The CONSULTANT shall prepare design plans, specifications, estimates, and reports to accompany the 10% Conceptual, 25%, 30%, 90% and 100% submittals for approval by Union Pacific Railroad (UPRR). The CONSULTANT submittals shall meet all the requirements of the UPRR Guidelines for Railroad Grade Separation Projects.

Task 1: Project Meetings

The CONSULTANT shall participate in the DEPARTMENT'S coordination with UPRR for up to three

1 design submittal review meetings. The CONSULTANT will participate in weekly design progress
2 meetings (a total of 24 meetings). All meetings will be conference calls with screen share software.

3 **Task 2: UPRR Design**

4 CONSULTANT will prepare track design drawings for the mainline, 404, 403, 500, and 750 tracks for
5 the Jurupa Grade Separation Project. CONSULTANT will layout trackwork, track equipment,
6 drainage facilities, utilities, structures, road crossings, cut/fill lines, ROW, and property lines within the
7 project area, so that engineering decisions can be made with knowledge of potential impacts and their
8 cost. CONSULTANT will provide final construction documents for trackwork and track drainage.
9 Plans will show the track in two conditions: 1) For the construction of the shoofly and shift to the new
10 track and 2) For the shift back to the existing mainline.

11 CONSULTANT will prepare plan and profile drawings with supporting cross sections, construction
12 staging, typical sections, and drainage plans.

13 CONSULTANT will show the proposed alignments indicating turnouts, degree of curve, curve lengths,
14 spiral lengths, super elevation, design speed, utility crossings, bridge structures, and drainage
15 structures.

16 CONSULTANT will prepare construction phasing plans showing a basic schematic of the track for
17 each phase, as well as a breakdown of the construction activities. Linework will show existing track,
18 track shifts, removals, and proposed track for each phase.

19 CONSULTANT will prepare typical sections detailing the track section and showing the intended work
20 for the length of the project.

21 CONSULTANT will generate cross sections cut along the main track and showing existing ground
22 surface, proposed subgrade surface, existing track, proposed track, ROW, proposed top of rail, and
23 drainage structures.

24 CONSULTANT will invoke UPRR General Conditions and Specifications. If deviations are required
25 CONSULTANT will modify the specifications with UPRR approval.

26 CONSULTANT will prepare drainage plans and reports that analyze surface flow and existing
27 drainage structures in relation to realignment of the UPRR track alignment. Plans will layout
28 proposed drainage facilities and structures required to convey drainage during temporary and final
29 conditions. Plans will include the following features: 1) Top of rail elevations, 2) The 50-year and 100-

1 year water surface elevations for both the existing and proposed conditions, 3) Flow rates for both
2 events, 4) Location map of drainage areas, including UPRR mileposts and engineering stations, 5)
3 Size of the drainage areas, 6) Location of the water flowing along the right-of-way within the project
4 limits, and 7) Location where the water leaves the right-of-way within the project limits.

5 The CONSULTANT will develop one set of responses to UPRR railroad track design comments for
6 the 10% Conceptual, 25%, 30% and 90% submittals in conjunction with the DEPARTMENT and
7 prepare one subsequent submittal reflecting the disposition of comments. It is assumed that the
8 UPRR comments will be received within 4 weeks of the 10% and 25% submittals, and within 6 weeks
9 of the 30% and 90% submittals to avoid schedule and design impacts. HNTB will provide one
10 consolidated set of responses to UPRR comments for each track submittal. Any UPRR comments
11 that are inconsistent with the design basis or requiring re-design are considered additional services
12 and will be addressed under a separate amendment.

13
14 The CONSULTANT will provide CAD files in MicroStation Format for each submittal.

15 The CONSULTANT will update construction quantities at 90% and 100% submittals. The estimate
16 will be provided as a table on a plan sheet.

17 Deliverables for Task 2 are listed below:

18 10% Concept Submittal (Total of 30 sheets):

- 19 • Preliminary Phasing
- 20 • Typical Sections
- 21 • MT1 and MT2 shoofly plan
- 22 • 500 shoofly plan
- 23 • 750, 403, and 404 shoofly plan
- 24 • Permanent MT1 and MT2 plan
- 25 • Permanent 500 shoofly plan
- 26 • Permanent 750, 403, and 404 shoofly plan
- 27 • Design Exception Matrix
- 28 • CAD files
- 29

1 25%, 30%, 90%, and 100% Submittals (Total of 34 sheets):

- 2 • General Plan
- 3 • Construction Phasing plan
- 4 • Typical Sections
- 5 • MT1 and MT2 shoofly plan and profile
- 6 • 500 shoofly plan and profile
- 7 • 750, 403, and 404 shoofly plan and profile
- 8 • Quantity Summary Table
- 9 • Permanent MT1 and MT2 plan and profile
- 10 • Permanent 500 shoofly plan and profile
- 11 • Permanent 750, 403, and 404 shoofly plan and profile
- 12 • Design Exception Matrix
- 13 • Project Specifications related to rail (4 specification sections)
- 14 • CAD files

15 25%, 30%, 90%, and 100% Submittals Only (Total of 14 sheets):

- 16 • Temporary and permanent drainage plans
- 17 • Temporary and permanent drainage reports (2 reports)
- 18 • Project Specifications related to drainage (4 specification sections)
- 19 • Quantities and Estimates

20 Exclusions:

- 21 • Drainage Profiles
- 22 • Drainage Cross Sections

23 4. Pump Station Design

24 CONSULTANT will conduct design calculations and prepare construction plans, technical
25 specifications, and engineer's option of probable construction cost for a below ground 10 cfs
26 (approximately 4,500 gpm) storm water pump station. The pump station will be located in the
27 vicinity of Jurupa Road crossing the Union Pacific Railroad (Jurupa Road Grade Separation with
28 RCTD) in Jurupa Valley. It will collect local drainage, and convey it to the 51" diameter Riverside
29 County Flood Control and Water Conservation District (RCFC&WCD) storm drain in Jurupa Road.
It is anticipated that the pump station will contain two (2) 5 cfs pumps, and be constructed in a

drywell/wetwell reinforced concrete structure. The following construction plans will be included along with specifications:

1. Title Sheet, Location Map and Vicinity Map
2. General Notes
3. Construction Notes
4. Pump Station Site Plan
5. Pump Station Grading Plan
6. Discharge Piping Plan and Profile
7. Discharge Piping Connection Detail to RCFC&WCD
8. Onsite Pipe Plan, Profile and Details
9. Structural Notes
10. Foundation Plan
11. Floor Plan
12. Roof Plan
13. Wall Sections and Details 1
14. Wall Sections and Details 2
15. Reinforcement Details
16. Wetwell and Drywell Mechanical Plan
17. Wetwell and Drywell Mechanical Sections
18. Mechanical Details 1
19. Mechanical Details 2
20. Electrical Symbols and Abbreviations
21. Single Line Diagram and MCC Elevations
22. Conduit Plan
23. Motor Control Diagram and Layout
24. Drywell Exhaust Fan Control Diagram and Panel Layout
25. Pump Station PLC Panel Power Diagram and Door Layout
26. Digital In/Out
27. Analog In/Out, lockout stop mounting, and MCC concrete base details
28. Electrical Details
29. Process and Instrumentation Legend

30. Instrumentation Diagram

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ARTICLE AIV • STRUCTURES

A. STRUCTURE TYPE SELECTION AND BRIDGE GENERAL PLANS

Update the last sentence of the first paragraph with the following:

This scope of services is based upon a single-span pre-cast concrete girder roadway bridge structure with cast-in-place substructure, and a two-span steel girder railroad bridge structure with cast-in-place concrete substructure carrying the UPRR tracks. The entire grade separated profile will be assessed for groundwater, and groundwater mitigation systems will be evaluated, designed, and detailed.

B. GEOTECHNICAL COORDINATION AND FOUNDATION REPORT

Foundation design and construction recommendations will be coordinated for both the roadway bridge structure and the railroad bridge structure, as well as the associated retaining walls supporting the excavated grade separated Jurupa Road. Passive waterproofing systems to mitigate high groundwater conditions will also be evaluated, designed, and detailed.

C. STRUCTURAL DESIGN AND CALCULATIONS

Replace Section C with the following:

Following the Type Selection Meeting and approval of the General Plans, structural design calculations shall be prepared in conformance with 2018 Caltrans design specifications and procedures for the highway bridge. Structural design calculations shall be prepared in conformance with AREMA 2018 design specifications and procedures for the railroad bridge.

The Bridge Design Specifications, California Department of Transportation, DOS editions current as of 2018 shall be used as design criteria.

Bridge Plans shall be prepared in accordance with the Bridge Design Details Manual, Bridge Design Aids Manual and Bridge Memos to Designers, California Department of Transportation, DOS editions current as of 2018 and the AREMA 2018 Manual.

The scope of this work for both the highway bridge and the railroad bridge shall include:

- Construction details for each design shall be prepared on DOS format plan sheets. These standard drawings and Standard Plans shall be incorporated into the Contract Plans where applicable.
- Each plan sheet shall be signed and stamped by the responsible design engineer who is registered in the State of California. Each design shall be independently checked by a Professional Engineer

1 registered in the State of California.

2 **D. INDEPENDENT CHECK REVIEW AND QUALITY CONTROL**

3 *Replace the first sentence of the first paragraph with the following:*

4 An Independent Check review shall be conducted for both the highway bridge and the railroad bridge upon
5 completion of the initial design of each bridge.

6 **E. STRUCTURE SPECIFICATIONS & ESTIMATES**

7 Structure special provisions and quantity calculations will be prepared for both the roadway bridge and the
8 railroad bridge, as well as the associated retaining walls supporting the excavated grade separated Jurupa
9 Road.

10 **F. INITIAL STRUCTURE PS&E (65% UNCHECKED PLANS)**

11 *Replace Section F with the following:*

12 For both the roadway bridge and the railroad bridge, as well as the associated retaining walls supporting
13 the excavated grade separated Jurupa Road, the initial (65% Unchecked Plans) structure PS&E shall be
14 compiled and submitted for review to the COUNTY, Caltrans DOS and UPRR. These documents will be
15 submitted to the County in electronic .pdf format.

16 **G. INTERMEDIATE STRUCTURE PS&E (90% CHECKED PLANS)**

17 *Replace Section G with the following:*

18 For both the roadway bridge and the railroad bridge, as well as the associated retaining walls supporting
19 the excavated grade separated Jurupa Road, the Intermediate (90% Checked Plans) structure PS&E shall
20 be compiled and submitted for review to the COUNTY and UPRR. These documents will be submitted to
21 the County in electronic .pdf format.

22 **H. DRAFT FINAL STRUCTURE PS&E (95%)**

23 *Replace the first sentence of the first paragraph with the following:*

24 For both the roadway bridge and the railroad bridge, as well as the associated retaining walls supporting
25 the excavated grade separated Jurupa Road, the Draft (95%) structure PS&E shall be compiled and
26 submitted for review to the COUNTY and Union Pacific Railroad Company.

27 **I. FINAL STRUCTURE PS&E**

28 The Final structure PS&E documents will serve as the basis for the UPRR submittal and review process.
29 Advanced bridge geometry revision comments provided by UPRR will be incorporated as revisions to the

1 95% structure PS&E. The revisions to be incorporated into the final structure PS&E documents include
2 revised design and detailing associated with the bridge width changes to both the roadway bridge and the
3 railroad bridge, to provide for a minimum of 25-foot separation between the bridge superstructures carrying
4 the UPRR tracks and Van Buren Boulevard, while also providing future railroad bridge substructure width
5 and girder layout provisions for future widening. Structure seismic design and independent check
6 calculations will be updated to reflect the revised bridge geometry and seismic performance. Both bridges
7 will be reduced in width from the Draft Final Structure PS&E (95%) geometry to incorporate this change.
8 Revisions to the conceptual temporary shoring layout and bridge wingwalls will also be included. One
9 additional sheet for each bridge (total 2) is estimated for additional bridge wingwall details. The number of
10 sheets estimated to be revised are:

- 11 • Jurupa Road Underpass: 9 sheets
- 12 • Jurupa Road Undercrossing: 12 sheets

13 **J. UNION PACIFIC RAILROAD STRUCTURE PLAN SUBMITTAL AND APPROVAL PROCESS**

14 The ENGINEER will provide the revised structure plans for the Jurupa Road Underpass railroad bridge
15 reflecting the bridge width revisions and a revised structure Type Selection Report. Any comments
16 received from the COUNTY or UPRR during the submittal review process will be addressed prior to the
17 subsequent submittal through final approval by UPRR. It is assumed that the UPRR comments will be
18 received within 4 weeks of each bridge submittal to avoid schedule and design impacts. HNTB will provide
19 one consolidated set of responses to UPRR comments for each structure submittal. Any UPRR comments
20 that are inconsistent with the design basis or requiring re-design are considered additional services will be
21 addressed under a separate amendment.

22 The structure items associated with the UPRR submittal and approval process are:

- 23 • 30% UPRR Design Plans and Type Selection Report
- 24 • 30% UPRR Design Plans and Type Selection Report Comment Responses (1 round)
- 25 • 60% UPRR Design Plans
- 26 • 60% UPRR Design Plans Comment Responses (1 round)
- 27 • 100% UPRR Final Plans
- 28 • 100% UPRR Final Plans Comment Responses (1 round)

29 **K. BLY CHANNEL BOX CULVERT EXTENSION**

1 The CONSULTANT will provide final design engineering and produce final construction plans for the
2 extension of the RCFC & WCD Bly Channel reinforced triple box culvert (RCB)

3 1. RCB Analysis and Design

4 RCB structural analysis and final design will be performed in accordance with the following:

- 5 • Approved preliminary plans
- 6 • Caltrans Memo to Designers, Current as of 5/20/2020
- 7 • AASHTO LRFD Bridge Design Specifications, Eighth Edition with California Amendments
8 (AASHTO-CA BDS-8)
- 9 • AREMA 2018 Manual for Railway Engineering

10 The analysis and design will be performed in accordance with the design criteria developed and
11 approved during the Concept design phase. A capacity evaluation of the existing RCB structure will
12 not be performed.

13 RCB analysis and design will include the effects of staged construction, if any, where staged
14 construction is required to facilitate traffic or other construction sequence requirements included in the
15 construction contract.

16 2. RCB Plan Production

17 Final RCB plans will be developed in accordance with the following:

- 18 • Approved preliminary plans
- 19 • Final structural analysis and design computations
- 20 • Caltrans Memo to Designers, Current as of 5/20/2020
- 21 • UPRR

22
23 It is anticipated that eight (8) sheets will be required. RCB plans will include Bill of Bars tables and
24 associated bar bend details for all reinforced concrete.

25 3. RCB Special Provisions

26 The CONSULTANT will prepare RCB related Special Provisions for incorporation into the PS&E
27 packages. They will be prepared for work items and materials not covered by the standard
28 specifications.

29 The CONSULTANT will prepare quantities based on the final plans and applicable special provisions.

4. RCB Submittals

The following submittals will be made to the RCFC & WCD and UPRR. It is assumed that the UPRR comments will be received within 4 weeks of each box culvert submittal to avoid schedule and design impacts. HNTB will provide one consolidated set of responses to UPRR comments for each structure submittal. Any UPRR comments that are inconsistent with the design basis or requiring re-design are considered additional services will be addressed under a separate amendment.

- The 30% Plan submittal will include a preliminary engineering level General Plan, conceptual temporary shoring layout and Cost Estimate.
- The 60% Plan submittal will include a draft final engineering level unchecked plan details, conceptual temporary shoring layout, removal details, Cost Estimate, Special Provisions, and responses to comments
- The 100% Plan submittal will include a final engineering level checked plan details, conceptual temporary shoring layout, removal details, structure design and independent check calculations, Cost Estimate, Special Provisions, and responses to comments

ARTICLE AV • ROADWAY

The underpass design required the following changes to the roadway plans:

1. The need for shoofly tracks and multiple-phase staging require additional reconstruction of Van Buren Boulevard resulting eleven (11) plan sheets, three (3) profile sheets and nine (9) typical section sheets.
2. The high ground water encountered at the project site during geotechnical borings required coordination with the geotechnical engineer and development of additional pavement sections and details on the profiles and typical sections.

In addition, the following tasks were added to the project:

1. Rutile Street/Van Buren Intersection – Includes the widening of the Rutile Street at-grade crossing with the UPRR, installation of new crossing panels and the addition of a right turn pocket on Van Buren Boulevard resulting in one (1) plan sheet, four (4) profile sheets and one (1) signing and striping sheet. Coordination with the UPRR and the CPUC is required including preparation of the GO 88-B authorization.

2. 52nd Street - Includes the extension of 52nd Street between Felspar Street and Van Buren Boulevard resulting in three (3) plan sheets and two (2) profile sheets and two (2) signing and striping sheets.
3. Pedley Road/Jurupa Road Intersection – HNTB is providing coordination with the City, UPRR and CPUC for this City-led project which is being prepared by another consultant.

A. BASIC ROADWAY PLANS

No change.

B. CALCULATIONS

No change.

C. DRAINAGE PLANS

1. Storm Drain Plans

Additional design and coordination with RCFC & WCD is required as a result of the complete replacement of the Jurupa Road Storm Drain, including a separate system for Felspar Street, and the reconstruction of the Jamestown Storm Drain west of the intersection of Jurupa Road/Van Buren Blvd. Refer to Article AIII, Section J. Drainage Design Report above.

2. Bly Channel Culvert Extension

Storm Drain Plans

Additional design and coordination with RCFC & WCD are required as a result of the extension of the box culvert (3-10'x5' Reinforced Concrete Box) at UPRR crossing. Plans will consist of one (1) plan and profile sheet and two (2) construction detail sheets of the Bly Channel to address the extension, contour grading, revetment, access, fencing and gates.

Hydraulic Analysis Memorandum

Hydraulic analysis in HecRas version 5.0.5 for the Bly Channel crossing UPRR per standards set forth in RCFC & WCD guidelines. This memorandum includes both existing and proposed conditions to compare the existing Hydraulic Grade Line (HGL) in both conditions, to ensure that impact due to proposed condition is minimal.

Scour Analysis

Scour analysis will be prepared per RCFC & WCD guidelines for the Bly Channel, downstream of UPRR crossing to evaluate potentially higher exit velocities due to proposed condition.

RCTD Deliverables:

1 30% Submittal

- 2 • Plan and Profile
- 3 • Construction Details
- 4 • Quantities
- 5 • Estimate
- 6 • 30% Hydraulic Analysis Memorandum

7 60% Submittal

- 8 • Plan and Profile
- 9 • Construction Details
- 10 • Quantities
- 11 • Estimate
- 12 • 60% Hydraulic Analysis Memorandum

13 100% Submittal

- 14 • Plan and Profile
- 15 • Construction Details
- 16 • Quantities
- 17 • Estimate
- 18 • Specifications
- 19 • Final Hydraulic Analysis Memorandum

20 **D. TRAFFIC AND ELECTRICAL PLANS**

21 The traffic signal and lighting design shall incorporate the follow changes:

- 22 1. Rutile Street/Van Buren Intersection – Requires the development of two (2) additional traffic signal
23 plans for the intersection of Rutile Street and Van Buren Boulevard and coordination with UPRR and
24 California Public Utilities Commission.
- 25 2. 52nd Street - Requires the development of one (1) additional traffic signal plan for the intersection of
26 52nd Street and Van Buren Boulevard and the addition of one (1) street lighting plan.
- 27 3. Staging of Van Buren Boulevard to accommodate the underpass design - Requires development of
28 two additional temporary traffic signal plans at the intersection of Van Buren Boulevard and Connector
29 Road for Stages 2 and 3.

1 4. Addition of the traffic signal at Connector Road – Requires the development of one (1) additional traffic
2 signal plan for the intersection of Connector Road and the future private driveways.

3 **E. MISCELLANEOUS PLANS**

4 1. Utility Composite Plans

5 2. Right-of-way Requirements

6 See ARTICLE AIII L. RIGHT-OF-WAY MAPS above.

7 3. Track Plans

8 See ARTICLE AIII O. MISCELLANEOUS DESIGN SUPPORT Section 3. Track Design above.

9 4. Retaining Wall Plans

10 5. Pump Station Plans

11 See ARTICLE AIII O. MISCELLANEOUS DESIGN SUPPORT Section 4. Pump Station Design
12 above.

13 **F. INTERMEDIATE REVIEWS**

14 No change.

15 **G. SPECIFICATIONS AND ESTIMATE**

16 No change.

17 **H. QUALITY CONTROL**

18 No change.

19 **I. DRAFT PS&E (95% COMPLETE)**

20 No change.

21 **J. FINAL PS&E (100% COMPLETE)**

22 No change.

23 **K. CONSTRUCTABILITY REVIEW**

24 CONSULTANT shall attend one meeting involving constructability comments and address post 100%
25 PS&E Constructability Review comments provided by RCTD.

26 **L. SCHEDULE OF SERVICES**

27 RCTD Submittals

28 May 2020 – 100% Roadway Submittal

29 June 2020 – Constructability Review

1 July 2020 – Final Roadway Plan Submittal for Bid

2 August 2020 – 100% Pump Station Plan Submittal

3 UPRR Track Submittals

4 May 2020 – 10% UPRR Track Submittal

5 August 2020 - 25% UPRR Track Submittal

6 October 2020 - 30% UPRR Track Submittal

7 December 2020 - 90% UPRR Track Submittal

8 February 2021 - 100% UPRR Track Submittal

9 UPRR Structure Submittals

10 July 2020 - 30% UPRR Structure Type Selection, Structure and Box Culvert Submittal

11 October 2020 - 60% UPRR Structure and Box Culvert Submittal

12 November 2020 - 100% UPRR Structure and Box Culvert Submittal

13

14 **ARTICLE AVI • CONSTRUCTION BIDDING PHASE**

15 No change.

16 **ARTICLE AVII • CONSTRUCTION SUPPORT PHASE**

17 No change.

18 **ARTICLE AVIII • COMPUTER FACILITIES**

19 **A. CALCULATIONS**

20 No change.

21 **B. COMPUTER AIDED DRAFTING AND DESIGN (CADD)**

22 No change.

23

24 **ARTICLE AIX • VALUE ENGINEERING**

25 No change.

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AMENDMENT 1 • APPENDIX C1

JURUPA ROAD GRADE SEPARATION AMENDMENT NO. 1 FEE PROPOSAL

July 15, 2020

The amounts shown below represent negotiated agreed budget and do not necessarily match the values shown on the following pages. Some of the budget has been placed in different phases and/or have been agreed at a different value. The budgets shown in this summary table shall prevail.

COMPANIES	PHASE I PA/ED	PHASE II PS&E	PHASE III Bid Support	PHASE IV Con Support	PHASE ALL Contingency*	TOTAL
ORIGINAL BUDGET	\$ 2,368,602.38	\$ 2,714,755.31	\$ 33,376.14	\$ 241,218.04	\$ -	\$ 5,357,951.87
AMENDMENT (NO. 1)	\$ 164,448.90	\$ 1,410,513.67	\$ 4,723.94	\$ 86,186.22	\$ 200,000.00	\$ 1,865,872.72
HNTB Prime		\$ 1,000,509.63			\$ 200,000.00	\$ 1,200,509.63
AKM Consulting Engineers Pump Station Design		\$ 313,638.05	\$ 3,420.87	\$ 74,123.25		\$ 391,182.17
Arellano Associates Public Outreach						
Leighton Consulting Geotechnical & Haz Mat Phase II	\$ 94,013.49					\$ 94,013.49
LIN Consulting Traffic Engineering		\$ 59,124.95	\$ 1,303.06	\$ 12,062.97		\$ 72,490.98
Safeprobe Potholing						
Tatsumi and Partners, Inc. Landscape Architecture						
Towill Right-of-Way Requirements Map		\$ 37,241.04				\$ 37,241.04
Vandermost Consulting Services (VCS) Environmental Services	\$ 70,435.41					\$ 70,435.41
PROPOSED AMENDED BUDGET	\$ 2,533,051.28	\$ 4,125,268.98	\$ 38,100.08	\$ 327,404.26	\$ 200,000.00	\$ 7,223,824.59

COMPANIES	DRAINAGE & PUMP STATION	ADDED AREAS (Rutile, Pedley, 52nd)	TRACK & UPRR COORD	BLY CHANNEL	UPRR INVOICE PAYMENTS	CON SUPPORT	TOTAL
HNTB Prime	\$ 33,802.45	\$ 74,755.43	\$ 578,050.36	\$ 283,901.40	\$ 30,000.00		\$ 1,000,509.63
AKM Consulting Engineers Pump Station Design	\$ 313,638.05					\$ 77,544.12	\$ 391,182.17
Arellano Associates Public Outreach						\$ -	\$ -
Leighton Consulting Geotechnical & Haz Mat Phase II		\$ 77,208.99		\$ 16,804.50		\$ -	\$ 94,013.49
LIN Consulting Traffic Engineering		\$ 72,490.98					\$ 72,490.98
Safeprobe Potholing						\$ -	\$ -
Tatsumi and Partners, Inc. Landscape Architecture							\$ -
Towill Right-of-Way Requirements Map		\$ 33,175.69		\$ 4,065.35		\$ -	\$ 37,241.04
Vandermost Consulting Services (VCS) Environmental Services		\$ 58,813.69		\$ 11,621.72		\$ -	\$ 70,435.41
TOTALS	\$ 347,440.50	\$ 316,444.78	\$ 578,050.36	\$ 316,392.97	\$ 30,000.00	\$ 77,544.12	\$ 1,665,872.72

Jurupa Road Grade Separation

FEE PROPOSAL WORKSHEET		
COMPANY: HNTB	SCOPE OF WORK: Project Summary	PHASE: All Phases
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Pat Somerville	Project Manager	208	@	\$132.00	\$27,456.00
Daniel Parker-King	Lead Track	707	@	\$88.56	\$62,611.92
Kelly Lumen	Quality Manager	88	@	\$72.08	\$6,343.04
Steve Greene	Lead Traffic			\$110.00	
Chris Bretall	Technical Manager	375	@	\$104.00	\$39,000.00
	Technical Lead	498	@	\$79.92	\$39,800.16
	Sr. Project Engineer	750	@	\$74.00	\$55,500.00
	Project Engineer/Planner	246	@	\$54.36	\$13,372.56
	Engineer/Planner III	980	@	\$46.00	\$45,080.00
	Engineer II	200	@	\$39.52	\$7,904.00
	Engineer I	180	@	\$34.72	\$6,249.60
	CADD-Civil	120	@	\$49.00	\$5,880.00
	Project Analyst	72	@	\$49.00	\$3,528.00
	Administrative Assistant			\$30.32	
Nien Wang	Lead Structures	202	@	\$110.00	\$22,220.00
	Structures Sr. Project Engineer	334	@	\$76.00	\$25,384.00
	Structures Project Engineer	280	@	\$60.72	\$17,001.60
	Structures Engineer III	416	@	\$51.60	\$21,465.60
	Structures Engineer II	390	@	\$46.72	\$18,220.80
	CADD-Structures	458	@	\$65.00	\$29,770.00
TOTAL HOURS		6,504		TOTAL DIRECT LABOR	\$446,787.28

MULTIPLIERS

ESCALATION @		(Rates Vary by Phase)	
OVERHEAD @	97.96%	(of Direct Labor + Escalation)	\$437,672.82
PAYROLL ADDITIVES @	48.27%	(of Direct Labor + Escalation)	\$215,664.22
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	\$110,012.43
TOTAL MULTIPLIERS			\$763,349.47

OTHER DIRECT COSTS

*** Billed at Actual Cost ***

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Travel/Mileage	3000	MI	@ \$0.54	\$1,620.00
Traffic Counts		LS	\$18,000.00	
Printing, Plotting & Copies		LS	\$5,000.00	
Exhibits, Plotting & Mounting		LS	\$2,500.00	
TOTAL ODC'S				\$1,620.00

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC'S	TOTAL
AKM Consulting Engineers	\$150,683.54	\$236,498.63	\$4,000.00	\$391,182.17
Arellano Associates				
Leighton Consulting	\$9,443.28	\$20,202.95	\$64,367.26	\$94,013.49
LIN Consulting	\$24,621.00	\$47,869.98		\$72,490.98
Safeprobe				
Tatsumi and Partners, Inc.	\$2,097.64	\$4,310.48	\$125.72	\$6,533.84
Towill	\$9,752.30	\$20,829.74	\$6,659.00	\$37,241.04
Vandermost Consulting Services (VCS)	\$70,327.41		\$108.00	\$70,435.41
TOTAL SUBCONSULTANT SERVICES				\$671,896.93
TOTAL				\$1,883,653.69

Jurupa Road Grade Separation

FEE PROPOSAL WORKSHEET		
COMPANY: HNTB	SCOPE OF WORK: Preliminary Engineering & Environmental	PHASE: Phase I
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

DIRECT LABOR

PERSONNEL	POSITION	HOURS	RATE	AMOUNT
Pat Somerville	Project Manager		\$132.00	
Daniel Parker-King	Lead Track		\$88.56	
Kelly Lumen	Quality Manager		\$72.08	
Steve Greene	Lead Traffic		\$110.00	
Chris Bretall	Technical Manager		\$104.00	
	Technical Lead		\$79.92	
	Sr. Project Engineer		\$74.00	
	Project Engineer/Planner		\$54.36	
	Engineer/Planner III		\$46.00	
	Engineer II		\$39.52	
	Engineer I		\$34.72	
	CADD-Civil		\$49.00	
	Project Analyst		\$49.00	
	Administrative Assistant		\$30.32	
Nien Wang	Lead Structures		\$110.00	
	Structures Sr. Project Engineer		\$76.00	
	Structures Project Engineer		\$60.72	
	Structures Engineer III		\$51.60	
	Structures Engineer II		\$46.72	
	CADD-Structures		\$65.00	

TOTAL HOURS

TOTAL DIRECT LABOR

MULTIPLIERS

ESCALATION @		(of Direct Labor)
OVERHEAD @	97.96%	(of Direct Labor + Escalation)
PAYROLL ADDITIVES @	48.27%	(of Direct Labor + Escalation)
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)

TOTAL MULTIPLIERS

OTHER DIRECT COSTS

*** Billed at Actual Cost ***

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Travel/Mileage		MI	\$0.54	
Traffic Counts		LS	\$18,000.00	
Printing, Plotting & Copies		LS	\$5,000.00	
Exhibits, Plotting & Mounting		LS	\$2,513.87	

TOTAL ODC'S

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
AKM Consulting Engineers				
Arellano Associates				
Leighton Consulting	\$9,443.28	\$20,202.95	\$64,367.26	\$94,013.49
LIN Consulting				
Safeprobe				
Tatsumi and Partners, Inc.				
Towill				
Vandermost Consulting Services (VCS)	\$70,327.41		\$108.00	\$70,435.41

TOTAL SUBCONSULTANT SERVICES **\$164,448.90**

TOTAL \$164,448.90

Jurupa Road Grade Separation

FEE PROPOSAL WORKSHEET		
COMPANY: HNTB	SCOPE OF WORK: Plans, Specs & Estimates	PHASE: Phase II
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

DIRECT LABOR

PERSONNEL	POSITION	HOURS	RATE	AMOUNT	
Pat Somerville	Project Manager	28	@ \$132.00	\$3,696.00	
Daniel Parker-King	Lead Track	345	@ \$88.56	\$30,553.20	
Kelly Lumen	Quality Manager	88	@ \$72.08	\$6,343.04	
Steve Greene	Lead Traffic		\$110.00		
Chris Bretall	Technical Manager	365	@ \$104.00	\$37,960.00	
	Technical Lead	498	@ \$79.92	\$39,800.16	
	Sr. Project Engineer	718	@ \$74.00	\$53,132.00	
	Project Engineer/Planner		\$54.36		
	Engineer/Planner III	980	@ \$46.00	\$45,080.00	
	Engineer II	200	@ \$39.52	\$7,904.00	
	Engineer I	180	@ \$34.72	\$6,249.60	
	CADD-Civil	60	@ \$49.00	\$2,940.00	
	Project Analyst		\$49.00		
	Administrative Assistant		\$30.32		
Nien Wang	Lead Structures	186	@ \$110.00	\$20,460.00	
	Structures Sr. Project Engineer	282	@ \$76.00	\$21,432.00	
	Structures Project Engineer	180	@ \$60.72	\$10,929.60	
	Structures Engineer III	316	@ \$51.60	\$16,305.60	
	Structures Engineer II	390	@ \$46.72	\$18,220.80	
	CADD-Structures	382	@ \$65.00	\$24,830.00	
		TOTAL HOURS	5,198	TOTAL DIRECT LABOR	\$345,836.00

MULTIPLIERS

ESCALATION @	(of Direct Labor)	
OVERHEAD @	97.96% (of Direct Labor + Escalation)	\$338,780.95
PAYROLL ADDITIVES @	48.27% (of Direct Labor + Escalation)	\$166,935.04
PROFIT (FIXED FEE) @	10.0% (of Direct Labor + Escalation + Overhead + Payroll Additives)	\$85,155.20
TOTAL MULTIPLIERS		\$590,871.18

OTHER DIRECT COSTS

*** Billed at Actual Cost ***

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Travel/Mileage		MI	\$0.54	
Traffic Counts		LS	\$18,000.00	
Printing, Plotting & Copies		LS	\$5,000.00	
Exhibits, Plotting & Mounting		LS	\$2,500.00	

TOTAL ODC'S

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
AKM Consulting Engineers	\$121,856.77	\$187,781.28	\$4,000.00	\$313,638.05
Arellano Associates				
Leighton Consulting				
LIN Consulting	\$20,283.00	\$38,841.95		\$59,124.95
Safeprobe				
Tatsumi and Partners, Inc.				
Towill	\$9,752.30	\$20,829.74	\$6,659.00	\$37,241.04
Vandermost Consulting Services (VCS)				
TOTAL SUBCONSULTANT SERVICES				\$410,004.04

TOTAL **\$1,346,711.22**

Jurupa Road Grade Separation

FEE PROPOSAL WORKSHEET

COMPANY: HNTB	SCOPE OF WORK: Bid Support	PHASE: Phase III
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Pat Somerville	Project Manager	24	@	\$132.00	\$3,168.00
Daniel Parker-King	Lead Track	48	@	\$88.56	\$4,250.88
Kelly Lumen	Quality Manager			\$72.08	
Steve Greene	Lead Traffic			\$110.00	
Chris Bretall	Technical Manager	2	@	\$104.00	\$208.00
	Technical Lead			\$79.92	
	Sr. Project Engineer			\$74.00	
	Project Engineer/Planner	16	@	\$54.36	\$869.76
	Engineer/Planner III			\$46.00	
	Engineer II			\$39.52	
	Engineer I			\$34.72	
	CADD-Civil			\$49.00	
	Project Analyst	24	@	\$49.00	\$1,176.00
	Administrative Assistant			\$30.32	
Nien Wang	Lead Structures	8	@	\$110.00	\$880.00
	Structures Sr. Project Engineer	16	@	\$76.00	\$1,216.00
	Structures Project Engineer			\$60.72	
	Structures Engineer III			\$51.60	
	Structures Engineer II			\$46.72	
	CADD-Structures	16	@	\$65.00	\$1,040.00
		TOTAL HOURS	154	TOTAL DIRECT LABOR	\$12,808.64

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	97.96%	(of Direct Labor + Escalation)	\$12,547.34
PAYROLL ADDITIVES @	48.27%	(of Direct Labor + Escalation)	\$6,182.73
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	\$3,153.87
TOTAL MULTIPLIERS			\$21,883.95

OTHER DIRECT COSTS

*** Billed at Actual Cost ***

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Travel/Mileage	500	MI	@	\$0.54	\$270.00
Traffic Counts		LS		\$18,000.00	
Printing, Plotting & Copies		LS		\$5,000.00	
Exhibits, Plotting & Mounting		LS		\$2,500.00	
TOTAL ODC'S					\$270.00

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
AKM Consulting Engineers	\$1,307.06	\$2,113.81		\$3,420.87
Arellano Associates				
Leighton Consulting				
LIN Consulting	\$434.00	\$869.06		\$1,303.06
Safeprobe				
Tatsumi and Partners, Inc.				
Towill				
Vandermost Consulting Services (VCS)				
TOTAL SUBCONSULTANT SERVICES				\$4,723.94

TOTAL \$39,686.52

Jurupa Road Grade Separation

FEE PROPOSAL WORKSHEET		
COMPANY: HNTB	SCOPE OF WORK: Construction Support	PHASE: Phase IV
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Pat Somerville	Project Manager	156	@	\$132.00	\$20,592.00
Daniel Parker-King	Lead Track	314	@	\$88.56	\$27,807.84
Kelly Lumen	Quality Manager			\$72.08	
Steve Greene	Lead Traffic			\$110.00	
Chris Bretall	Technical Manager	8	@	\$104.00	\$832.00
	Technical Lead			\$79.92	
	Sr. Project Engineer	32	@	\$74.00	\$2,368.00
	Project Engineer/Planner	230	@	\$54.36	\$12,502.80
	Engineer/Planner III			\$46.00	
	Engineer II			\$39.52	
	Engineer I			\$34.72	
	CADD-Civil	60	@	\$49.00	\$2,940.00
	Project Analyst	48	@	\$49.00	\$2,352.00
	Administrative Assistant			\$30.32	
Nien Wang	Lead Structures	8	@	\$110.00	\$880.00
	Structures Sr. Project Engineer	36	@	\$76.00	\$2,736.00
	Structures Project Engineer	100	@	\$60.72	\$6,072.00
	Structures Engineer III	100	@	\$51.60	\$5,160.00
	Structures Engineer II			\$46.72	
	CADD-Structures	60	@	\$65.00	\$3,900.00
		TOTAL HOURS			1,152
				TOTAL DIRECT LABOR	\$88,142.64

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	97.96%	(of Direct Labor + Escalation)	\$86,344.53
PAYROLL ADDITIVES @	48.27%	(of Direct Labor + Escalation)	\$42,546.45
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	\$21,703.36
			TOTAL MULTIPLIERS
			\$150,594.34

OTHER DIRECT COSTS

*** Billed at Actual Cost ***

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Travel/Mileage	2500	MI	@ \$0.54	\$1,350.00
Traffic Counts		LS	\$18,000.00	
Printing, Plotting & Copies		LS	\$5,000.00	
Exhibits, Plotting & Mounting		LS	\$2,500.00	
				TOTAL ODC'S
				\$1,350.00

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
AKM Consulting Engineers	\$27,519.71	\$46,603.53		\$74,123.25
Arellano Associates				
Leighton Consulting				
LIN Consulting	\$3,994.00	\$8,158.97		\$12,062.97
Safeprobe				
Tatsumi and Partners, Inc.	\$2,797.64	\$4,310.48	\$125.72	\$6,533.84
Towill				
Vandermost Consulting Services (VCS)				
				TOTAL SUBCONSULTANT SERVICES
				\$92,720.06
				TOTAL
				\$332,807.04

MANHOUR WORKSHEET

COMPANY: HNTB	SCOPE OF WORK: Manhour Summary	PHASE: All Phases
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

TASK	PROJECT MANAGER	LEAD TRACK	QUALITY MANAGER	LEAD TRAFFIC	TECHNICAL MANAGER	TECHNICAL LEAD	SR. PROJECT ENGINEER	PROJECT ENGINEER/PLANNER	ENGINEER/PLANNER III	ENGINEER II	ENGINEER I	CADD-CIVIL	PROJECT ANALYST	ADMINISTRATIVE ASSISTANT	HOURS	(Top & Bottom) HOURS
	\$357.53	\$239.87	\$195.23	\$297.94	\$281.69	\$216.47	\$200.43	\$147.24	\$124.59	\$107.04	\$94.04	\$132.72	\$132.72	\$82.12		
PHASE TOTALS	208	707	88	375	498	750	246	980	200	180	120	72			4,424	8,240
PHASE I																1,736
PHASE II	28	345	88	365	498	718		980	200	180	60				3,462	5,198
PHASE III	24	48		2				16					24		114	154
PHASE IV	156	314		8		32	230				60	48			848	1,152

TASK	LEAD STRUCTURES	STRUCTURES SR. PROJECT ENGINEER	STRUCTURES PROJECT ENGINEER	STRUCTURES ENGINEER III	STRUCTURES ENGINEER II	CADD STRUCTURES	HOURS
	\$297.94	\$205.85	\$164.46	\$139.76	\$126.54	\$176.05	
PHASE TOTALS	388	616	460	732	780	840	3,816
PHASE I	186	282	180	316	390	382	1,736
PHASE II	186	282	180	316	390	382	1,736
PHASE III	8	16			16		40
PHASE IV	8	36	100	100	60		304

MANHOOR WORKSHEET

COMPANY: HNTB		SCOPE OF WORK: Construction Support	PHASE: Phase IV
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020	

TASK	PROJECT MANAGER	LEAD TRACK	QUALITY MANAGER	LEAD TRAFFIC	TECHNICAL MANAGER	TECHNICAL LEAD	SR. PROJECT ENGINEER	PROJECT ENGINEER/PLANNER	ENGINEER/PLANNER III	ENGINEER II	ENGINEER I	CADD-CIVIL	PROJECT ANALYST	ADMINISTRATIVE ASSISTANT	HOURS	COST
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\$357.53 \$239.57 \$195.23 \$297.04 \$281.69 \$216.47 \$200.43 \$147.24 \$124.59 \$107.04 \$64.04 \$132.72 \$132.72 \$52.12

Total Manhours	156	314		8		32	230				60	48			848	
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ARTICLE AVII - CONSTRUCTION SUPPORT PHASE

TASK	PROJECT MANAGER	LEAD TRACK	QUALITY MANAGER	LEAD TRAFFIC	TECHNICAL MANAGER	TECHNICAL LEAD	SR. PROJECT ENGINEER	PROJECT ENGINEER/PLANNER	ENGINEER/PLANNER III	ENGINEER II	ENGINEER I	CADD-CIVIL	PROJECT ANALYST	ADMINISTRATIVE ASSISTANT	HOURS	COST
A. Project Administration (24 months)	24	48										48			120	\$ 26,465
B. Pre-Construction Meeting	6	6					6								18	\$ 4,465
C. Meetings & Site Reviews	90	96					40								226	\$ 61,094
D. Response to Inquiries/RFI's (75)	16	80				16	80								192	\$ 39,896
E. Submittal & Shop Drawing Review (30)	16	60		8	16	80									180	\$ 37,352
F. Change Order Support																
G. Outreach Support																
H. As-Builts	4	24					24				60				112	\$ 18,684

MANHOOR WORKSHEET

COMPANY: HNTB	SCOPE OF WORK: Plans, Specs & Estimates	PHASE: Phase II
PROJECT: Jurupa Road Grade Separation		DATE: May 20, 2020

TASK	LEAD STRUCTURES	STRUCTURES SR PROJECT ENGINEER	STRUCTURES PROJECT ENGINEER	STRUCTURES ENGINEER III	STRUCTURES ENGINEER II	CADD STRUCTURES	HOURS	COST
	\$297.94	\$205.85	\$164.46	\$139.76	\$126.54	\$175.05		

Total Manhours

186	282	180	316	390	382	1,736
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TASK	LEAD STRUCTURES	STRUCTURES SR PROJECT ENGINEER	STRUCTURES PROJECT ENGINEER	STRUCTURES ENGINEER III	STRUCTURES ENGINEER II	CADD STRUCTURES	HOURS	COST
ARTICLE AIV - STRUCTURES								
A. Structure Type Selection and Bridge General Plans								
B. Geotechnical Coordination and Foundation Report								
C. Structural Design and Calculations								
D. Independent Check Review and Quality Control								
E. Structure Specifications & Estimates								
F. Initial Structure PS&E (65% unchecked plans)								
G. Intermediate Structure PS&E (90% Checked Plans)								
H. Draft Final Structure PS&E (95%)								
I. Final Structure PS&E								
J. Union Pacific Railroad Structure Submittal								
Type Selection Report	4	24	40	24	40		132	\$ 22,790
60% Plans & Calculations	8	40	80	60	80		268	\$ 45,451
100% Plans & Calculations	8	24	60	60	80		232	\$ 38,868
J. Box Culvert Plans								
Foundation Investigation Report	8	20		4	4		36	\$ 7,566
30% UPRR Submittal								
30% Design Plans	14	50	40	24	6		134	\$ 24,147
30% Design Calcs	16		40	4			60	\$ 10,864
Type Selection Report		24	8		4		36	\$ 6,763
Quantities/Estimate	4	2	4	16	2		28	\$ 4,539
60% UPRR Submittal								
60% Design Plans	27	16	54	34	60		191	\$ 33,751
60% Design Calcs	16		40	4			60	\$ 10,864
Quantities/Estimate	4	2	4	16	2		28	\$ 4,539
UPRR Coordination	8	24	24	24	8		88	\$ 15,124
100% UPRR Submittal								
100% Design Plans	23	16	46	34	50		169	\$ 29,680
Ind Check Calcs	12	2	4	40			58	\$ 9,608
Quantities/Estimate/Specs	10	6	12	12	2		42	\$ 7,762
UPRR Coordination	8	12	8	8	8		44	\$ 8,393

