

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

# WESTSIDE SUBWAY EXTENSION PROJECT

## C1056 – La Cienega

### Advanced Utility Relocation

#### Division 1 Specifications (Amendment 5)

April 30, 2014



**Metro**



U.S. Department  
of Transportation  
**Federal Transit  
Administration**



**LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY**

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**SECTION 01 11 00**  
**SUMMARY OF WORK**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. The Los Angeles County Metropolitan Transportation Authority (Metro) requires the services of a General Contractor, herein called "the Contractor" to provide construction services for Westside Subway Extension Project Advanced Utility Relocations at La Cienega – Contract No. C1056. In general, the scope of work includes relocation of City of Beverly Hills Sanitary Sewer (BHSS) lines, City of Beverly Hills Storm Drain(BHSD) lines, City of Beverly Hills Water(BHW) lines and the construction of power Ductbanks for Southern California Edison (SCE) that are in conflict with the future construction of the Westside Subway Extension Project by Others.
  
- B. Coordinate Work of this Contract with adjacent contracts and other contractors on this construction site, and other utility owners including but not limited to the following:
  - 1. City of Beverly Hills (COBH) encompassing but not limited to Water, Sewer, Storm Drain, fiber optic cable services, and traffic signaling.
  - 2. Southern California Edison (SCE)
  - 3. MCI/Verizon
  - 4. Cable Engineering Services
  - 5. AT&T
  - 6. Time Warner
  - 7. Gas Company
  - 8. C1048 La Brea AUR Contractor (Metro)
  - 9. C1055 Fairfax AUR Contractor (Metro)
  - 10. Sprint
  - 11. Wilshire BRT Contractor (City of Los Angeles)
  - 12. Level 3
  - 13. Century Link
  - 14. Zayo
  - 15. Other Utility Owner

- C. The laydown yard at Crenshaw and some of the traffic control will be located in the City of Los Angeles. Contractor shall comply and coordinate with the relevant City of Los Angeles departments (LABOE, LADOT, LABSS etc) requirements and obtain permits as needed to perform the work, unless specifically detailed as being obtained by Metro. See Section 01 71 43 for further details.

## 1.02 SCOPE OF WORK

The Contractor shall perform all work and provide all materials described to complete the proposed construction at La Cienega as detailed on the drawings. At completion of each utility relocation, the contractor shall reconstruct and restore the project site, and streets to its pre-existing condition. The following is a summary and a general description of the work. For the complete scope of work, Contractor shall refer to the Plans and Specifications.

### A. Work Hours and Work Days

In general, the majority of the work is located within heavily traveled streets along the Wilshire Corridor and is regulated by Nighttime Noise Restrictions, Peak Hour Restrictions and Holiday Moratoriums as enforced by the City of Beverly Hills.

Metro will obtain an After Hours Construction Permit from the City of Beverly Hills for the Work. The Contractor must comply with the requirements of the Permit and the Requirements in Section 01 56 19. Holiday Restrictions will apply during the week of Thanksgiving and the week between Christmas Day and New Years Day. For other holidays in the City of Beverly Hills refer to the City's website.

The Contractor shall perform the work on those days and hours that comply with the above. Worksite Traffic Control plans are included in the Contract Documents.

### B. The Work

Work shall be performed as detailed in the drawings and specifications. The work includes utility relocations in the Wilshire/La Cienega area that will enable the future construction of the Wilshire/La Cienega Purple Line Station (by Others). The following facilities will be relocated:

1. Water Lines: Construct new waterlines and cut over from existing system belonging to the City of Beverly Hills (COBH) to newly constructed system and hand over to COBH.
2. Sewers: Construct new sewer and cut over from existing system belonging to the City of Beverly Hills (COBH) to newly constructed system and hand over to COBH.
3. Storm Drains: Construct new storm drains and cut over from existing system belonging to the City of Beverly Hills (COBH) to newly constructed system and hand over to COBH.
4. Duct Route, including associated manholes and vaults for Southern California Edison (SCE). Installation of cabling and splicing in the duct route will be performed by SCE. Refer to Appendix A in Division 1 Specifications,

Geotechnical Report, SCE Ductbank at Wilshire/La Cienega Station for additional information.

The scope items above include all associated elements, for example pipe, flanges, valves, manholes, connectors and other items as detailed on the Drawings and Specifications.

The work shall also include, but is not limited to, the verification of existing conditions of the site and related coordination, potholing, procurement, demolition (including removal of abandoned conflicting utilities), excavation, construction, backfill, cut over and supervision (including coordination with other contractors, the City of Beverly Hills and others as applicable) **and reinstatement as detailed on the plans.**

- C. Remove abandoned utilities as needed to install relocated utilities. Contractor shall confirm utility is abandoned prior to removal. Contractor shall provide Metro with detailed information of all abandoned utilities found during the construction of the Work. This shall include but not be limited to site photographs, including the location from where they were taken, survey information of line and level of the utility at both sides of the trench so heading can be estimated and size and type of the utility.
- D. Support and/or protect in place all active utilities that may be affected by the work. Coordinate with Utility Owners to confirm support/protection requirements and comply with such requirements.
  - 1. Contractor shall be responsible for protection of existing utilities, per an approved method by the Utility Owner, during Work in vicinity of known and unknown existing utilities.
  - 2. The interface between the Work and the City of Beverly Hills (and SCE) is shown on the drawings.
  - 3. The Contractor shall conduct testing and inspections for all the improvements and associated site work in accordance with the Drawings and Specifications.
- E. The Schedule  

Project shall be completed as stipulated in the IFB C1056, Section 2, Contract Documents, "Special Provisions - Work Completion Schedule."
- F. Temporary Facilities  

The Contractor shall provide temporary facilities required for construction of the Project per Section 01 50 00. Temporary facilities shall meet all applicable rules of the City, County and State of California. Contractor is responsible for obtaining and paying for all the permits required to provide Temporary Facilities.
- G. Access to the Site During Construction
  - 1. Local access to and from the project site shall be maintained at all times in accordance with approved worksite Traffic Control Plans. The Contractor

shall notify Metro, City of Beverly Hills, and any local agencies having jurisdiction three (3) weeks in advance of any disruption to the existing access.

2. The Contractor shall notify any affected businesses of disruptions to their access three (3) weeks in advance.

Any detour of pedestrian traffic due to construction impact shall meet the ADA requirements. Proper signage shall be installed to direct pedestrian traffic for public safety.

3. Comply with Section 01 35 95 Public Information and Community Relations for other requirements.

#### H. Stormwater Runoff during Construction

Contractor shall control stormwater runoff.

Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) for use on the Project and comply with all of the requirements.

#### I. Permits

Contractor is responsible for paying and obtaining all the permits from various agencies and cities except for those covered by Metro listed in Section 01 71 43.

#### J. Potholing

Metro has performed pot holing within the work area. This information is provided in Appendix B to Division 1 Specifications, Potholing Data. Any additional pot holes required by Contractor shall be at no cost to Metro.

Contractor shall be responsible for obtaining all permits to conduct any additional potholing whether performed as an option by the Contractor or as directed by Metro. This includes providing all required traffic management and permits, and providing for Metro and contractor's worker protection during the potholing and test sampling. All potholes shall be performed within the intended construction areas, and shall be restored as per the requirements of the permitting agency.

### 1.03 DRAWINGS AND SPECIFICATIONS

Contractor shall comply with all the requirements detailed in these specifications (including the appendices) and those referenced on the Contract drawings, including but not limited to the specifications used by the City of Beverly Hills.

Requirements detailed in Appendix C shall take precedence over any corresponding conflicting requirement given in Appendix D.

### 1.04 QUALITY ASSURANCE

- A. Comply with Section 01 43 20, Project Quality Control Program Requirements

- B. NOT USED

## **1.05 SUBMITTALS**

- A. Refer to Section 01 33 00, Submittal Procedures
- B. Qualifications statements: Provide resumes and documentation of required experience necessary for installation of trenchless ductbank 45 days prior to start of excavation

## **PART 2 - PRODUCTS**

### **2.01 PRODUCTS ARE NOT USED IN THIS SECTION**

## **PART 3 - EXECUTION**

### **3.01 CONTRACTOR'S DUTIES**

Construct work in accordance with contract documents including actions specified below:

- A. Except as otherwise specified, furnish and pay for the cost of the following:
  - 1. Labor, superintendence and products.
  - 2. Construction supplies, equipment, tools, machinery and materials.
  - 3. Utilities required for construction.
  - 4. Other facilities and services necessary to properly execute and complete the work.
- B. Pay costs of legally required sales, consumer, gross receipt and use taxes, and Governmental fees and permits.
- C. Provide drawings and/or exhibits and pay for all of the permits, licenses, off-site grading agreements, and other fees required in order to complete the entire work.
- D. Perform Work in accordance with applicable codes, ordinances, rules, regulations, orders and other legal requirements of governmental bodies and public agencies, including Metro. Modify above-mentioned services under permit of cognizant city or county agency.
- E. Promptly submit written notice of variances in Contract Drawings and Specifications from specified legal requirements. Necessary changes to Contract Drawings and Specifications will be made by appropriate modifications in accordance with provisions of the General Conditions Article, Changes.
- F. Maintain order, safe practices, and proper conduct among the Contractor's and subcontractors' employees. Metro may require that disciplinary action be taken against an employee for disorderly, improper or unsafe conduct. Should an employee of the Contractor be dismissed from his duties as a result of that employee's misconduct, incompetence, or unsafe practices, or combinations thereof, do not rehire that employee for any Metro work for duration of the Contract.

- G. Coordinate prosecution of Work with those public utilities, governmental bodies, private utilities and other contractors performing Work on, and adjacent to, the Worksite; eliminate or minimize delays in Work and conflicts with those utilities, bodies and contractors. Schedule governmental Work, private utility and public utility Work, which rely upon survey points, lines and grades established by Contractor, to occur immediately after those points, lines and grades have been established. Confirm coordination measures for each individual case with Metro by memorandum.
- H. Perform Work as specified, and in a timely manner. Submit a work schedule based on the provisions depicted on the Contract Documents. The Work which will be performed at times other than hours permitted by the Contract Documents must be submitted to Metro for review and acceptance. Construction operations will normally be confined to night-shift hours and may include daytime hours on special occasions.

Approval to Work at any other time other than what is allowed in the Contract Documents including week-ends, holidays, daytime hours may be obtained after Contractor presents a written program outlining special precautions to be taken to control the extraordinary hazards presented by night Work. Include supplementary lighting of Work areas, availability of medical facilities, security precautions and noise limitations per Contract Documents.

- I. Maintain access to, and visibility of, fire hydrants, police call boxes, fire alarm boxes, standpipe connections and traffic control devices.
- J. Maintain vehicular access to building delivery areas and driveways and safe access to pedestrian walkways.
- K. Salvage material on the Worksite; reuse salvaged material if approved by Metro.

### **3.02 ORDER OF WORK – CONSTRUCT WORK IN STAGES AS FOLLOWS:**

- A. Per the traffic control requirements as approved by City of Beverly Hills for each crossing. If the contractor needs additional traffic control stages to complete the Work or wishes to follow their own Worksite Traffic Control Plans (WTCPs) rather than those provided, they may do so at no cost to Metro and plans must be approved by local City/State Agency/Authority.
- B. Per Contractor's Construction Work Plan (CWP) as approved by Metro.
- C. Coordination with other Contractors working in the same area.
- D. Proposed 36" HDPE storm drain line shown on the drawings to be put in service before proposed 10" SS Line "A" is put in service (SS Line "A" is crossing the existing SD line at the same elevation).
- E. Proposed 36" SD line laterals shown on the drawings to be connected from upstream to downstream in order to minimize disruption.
- F. SS lines shall be cut over in the following sequence in order to minimize disruption of service: Line "A", Line "D", Line "B" and Line "C".

### **3.03 CONTRACTORS USE OF WORKSITE**

- A. Confine Worksite operations to areas permitted by law, ordinances, permits, and Contract Documents.
- B. Consider safety of Work and of people and property on, and adjacent to, Worksite when determining amount, location, movement and use of materials and equipment on Worksite. Work shall be in compliance with Section 01 35 53 WORKSITE SECURITY REQUIREMENTS.
- C. Do not use equipment and products which would endanger integrity of Work.
- D. Properly protect products stored on Worksite.
- E. Relocate stored products which interfere with operations of Metro, governmental bodies, public and private utilities, and other contractors.
- F. Secure additional storage and Work areas needed for operations, in compliance with section 01 35 53 WORKSITE SECURITY REQUIREMENTS.
- G. Coordinate scheduling of Work to be performed on private property with Metro, to minimize inconvenience to property owners and tenants.
- H. Protect general public and residents from construction-related activities; do not unduly inconvenience those persons by construction activities. Comply with traffic control requirements of governing agency.
- I. If Contractor wishes to have utilities temporarily relocated for its own convenience, arrange with utility owners and pay for all Permits and Work.
- J. Restrict construction operations to areas within Right-of-Way Lines, Temporary Construction Line, Permanent Drainage Easement Line, Temporary Slope Easement Line, and Construction Staging Area. If no additional easements are indicated, restrict construction operations for permanent drainage facilities to Permanent Drainage Easement. Do not use temporary easement areas for purposes other than those for which originally acquired. Use only those areas bearing the notation "Temporary Construction Area," "Construction Staging" or "Storage" for activities related to Work. Use of Worksite to be exclusive and complete, except as indicated.
- K. Contractor will have use of a portion of the lot at Crenshaw yard. Refer to the Plans for details.

**END OF SECTION 01 11 00**



## SECTION 01 35 35

### WATER POLLUTION CONTROL

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Requirements for water pollution control during construction, including preparation of Storm Water Pollution Prevention Plans (SWPPP) and installation, maintenance, inspection, removal, and documentation of Best Management Practice (BMP) measures.
- B. Requirements for permanent water pollution control facilities post-construction, if required, including design and installation of storm water treatment facilities to prevent water pollution during construction of a specific Measure R Project.

##### 1.02 RELATED SECTIONS

- A. Section 01 33 00: Submittal Procedures
- B. Section 01 35 43: Environmental Procedures for Hazardous Materials
- C. Section 01 35 63: Sustainability Plan
- D. Section 01 43 20: Project Quality Program Requirements - Design/Bid/Build

##### 1.03 REFERENCES (NOT USED)

##### 1.04 QUALITY ASSURANCE

- A. Comply with Project Quality Program Requirements (see 1.02 above).

##### 1.05 SUBMITTALS

- A. Refer to Section 01 33 00 – Submittal Procedures, for submittal requirements and procedures.
- B. Construction Water Pollution Control:
  - 1. Contractor shall submit to Metro all documentation necessary for coverage under the Construction General Permit, including but not limited to Permit Registration Documents (PRDs). PRD's shall include calculations related to Risk Level, the SWPPP, which should be prepared using with the Caltrans or California Stormwater Quality Association (CASQA) SWPPP template, the names and qualifications of the Qualified SWPPP Practitioner (QSP) and Qualified SWPPP Developer (QSD), a certification of the SWPPP by the QSD. The documentation requested should be available prior to the commencement of the project, not prior to any earth disturbing activities. Construction mobilization activities have the potential to cause storm water pollution as well as excavation.

2. Contractor shall allow sufficient time for Metro and external agency to review SWPPP, as outlined in Section 01 33 00 – Submittal Procedures, but in no case shall submit the initial draft for review more than 45 days after Notice to Proceed (NTP). The documentation requested should be available prior to the commencement of the project, not prior to any earth disturbing activities. Construction mobilization activities have the potential to cause storm water pollution as well as excavation. Site disturbing activity may not begin until the SWPPP has been approved for use, uploaded to Storm Water Multi-Application and Reporting System (SMARTS) and a Waste Discharge Identification (WDID) Number received. Metro will setup the SMARTS website and will be entered as the Legally Responsible Party (LRP). The Contractor will be provided the Notice of Intent (NOI) form or submittal to the State Water Resources Control Board with the applicable fee. The SWPPP shall conform to the provisions in the referenced Manuals, the requirements of the appropriate NPDES permits, including the Construction General Permit, and the Construction Specifications approved by Metro.
  - a. Contractor's SWPPP shall provide a schedule for the erosion control construction site housekeeping measures and Work included in the Contract for all water pollution control measures and BMPs. The SWPPP shall also include post- construction measures which shall be coordinated with permanent measures discussed in Article 1.08 General Requirements of this Section.
  - b. If revisions to the SWPPP are required, as determined by Metro, the Contractor shall submit a revised plan within the time frame set forth in Section 01 33 00 – Submittal Procedures.
  - c. The SWPPP shall be updated and revised due to changes in the Project in accordance with the Construction General Permit. Contractor shall update the SWPPP when changes to the Project affect the site drainage patterns or potential discharge of pollutants to surface waters, groundwater, or a separate municipal storm sewer system. The change shall be recorded by amending (updating) the SWPPP in accordance with the regulatory provisions for SWPPP amendment. The SWPPP shall also be updated to incorporate new measures whenever existing measures are deemed ineffective by Metro or regulatory agency inspectors.
  - d. Contractor shall incorporate the "Minimum Requirements" presented in the referenced Manuals into the SWPPP. In addition to the "Minimum Requirements", the Contractor shall complete the Caltrans BMP or local city and county BMP consideration checklist, (whichever is more stringent). Checklist presented in the referenced Manuals and incorporates all BMPs required to effectively manage onsite storm water, prevent adverse impacts to water quality and avoid off-site runoff. The Caltrans or local city and county BMP (whichever is more stringent), consideration checklist shall be used for all Work.
  - e. The SWPPP shall also include a detailed spill prevention and response plan for any volatile and/or otherwise hazardous materials onsite.

- f. Contractor shall submit the weekly storm water inspection reports required by the NPDES permits and the SWPPP to Metro no later than one week following the inspection. For potential violations of the NPDES permits, Contractor shall notify Metro and initiate corrective action, documenting activity as required by law and as detailed on the notes on drawing 7443 Sheet 7.
- g. Contractor shall submit all sampling and analyses results required by the NPDES permits and the SWPPP to Metro for review no later than one week following receipt of the analytical results from labs. Results from field testing of pH and turbidity shall be submitted to Metro within 72 hours of the end of a qualifying storm event, as defined by the CGP. Sampling and testing of water quality (discharges) shall be performed in accordance with sampling and analysis requirements provided in the permits, SWPPP and the notes detailed on drawing 7443 Sheet 7. In the event of exceedances, Contractor shall immediately notify Metro, and initiate corrective action. Documentation of such an event shall be provided to Metro in writing within 24 hours of initiating corrective action. Contractor shall utilize proper water pollution control measures to ensure that stormwater run off does not exceed water quality limits as contained in the appropriate NPDES permit.
- h. Contractor shall submit the quarterly non-storm water inspection reports required by the NPDES permits and the SWPPP to Metro for review no later than one week following the inspection or previous quarter close, whichever comes first.
- i. Contractor shall prepare an Annual Report summarizing corrective actions, lab reports, sampling and analyses, and any corrective actions not implemented as per Section XVI of the Construction General Permit covering each yearly period in accordance with the permit conditions. Contractor shall submit Annual Report to Metro for review and, address Metro comments in accordance with the requirements of Section 01 33 00 – Submittal Procedures. As directed by Metro, Contractor shall provide the documentation to Metro for uploading the final report to the SMARTS by September 1st of each year or in accordance with permit conditions, if permit conditions differ from these data assembly and upload requirements.
- j. The SWPPP shall also include requirements for notifying Metro, and conducting emergency response and cleanup in the event contaminated water reaches onsite catch basins, offsite catch basins, ditches, or creeks. All response measures shall be documented, and shall be inspected for effectiveness and maintained in good working order. Ineffective measures shall be repaired or replaced immediately at Contractor's cost and schedule expense.
- k. Contractor shall notify Metro of any Regional Water Quality Control Board (RWQCB) or other stormwater regulatory inspections within 24 hours of the inspection. The Contractor shall provide written notification to Metro of any findings by the RWQCB, including verbal warnings.

- I. Contractor shall submit working or shop drawings for any additional unit descriptions (other water pollution control measures designated by the Contractor and included in the Schedule of Values) to Metro for review and approval.
- m. Site-specific Water Pollution Control Plans (Site WPC Plans) shall be included in the SWPPP Appendix and shall include site maps showing a combination of the Contract drainage, stage construction, contour grading plans, stockpile locations, construction site entrance, street sweeping plan, sanitation facilities, washout facilities, waste disposal, hazardous material storage, and water pollution control components, including location of all proposed BMPs. Contractor shall update these site maps and the Site WPC Plans to accurately show the actual site conditions at various phases of construction. The Site WPC Plans shall graphically show the use of temporary water pollution control and temporary erosion control items specified elsewhere in these Technical Documents.

C. Post-Construction Permanent Water Pollution Control:

1. Areas within City and County-owned Right of Way: Contractor shall conform to Los Angeles Municipal Separate Storm Sewer System Permit (MS4) requirements as applicable to the Work, including preparation and submittal of documentation necessary to verify said conformance on City and County facilities in City and County-owned right-of-way, and shall apply permanent BMPs consistent with BMPs outlined in the Local City and County Runoff Pollution Prevention Program and as applicable to the area of work. Contractor shall consider and coordinate design and implementation requirements with the construction and post-construction requirements associated with the Construction General Permit. Separate reports shall be prepared for Work within each jurisdiction. All reports and documentation shall be submitted to Metro. Documentation to be submitted includes, but is not limited to, completed calculations, design drawings, hydraulic and hydrologic reports for all storm water treatment facilities, and Construction Site Inspection Program required under the Municipal Regional Permit, as well as completed permit applications and forms, as applicable. Contractor's attention is directed to the fact that adjustments to the required reports and documentation may be needed to address the concerns of the various regulatory agencies and individual municipalities. Contractor shall support Metro in coordination meetings, and revise design and documentation as required to comply with said permits and local requirements.
2. Project areas outside of City- and County-owned Right of Way: Contractor shall submit to Metro all documentation and any revisions necessary to satisfy Section XIII "Post Construction Standards" and APPENDIX 2 "Post-Construction Water Balance Performance Standard Spreadsheet" of the Construction General Permit. All documentation shall be submitted along with the Permit Registration Documents for the Construction General Permit and SWPPP in accordance with requirements of this Section. Documentation that may be required includes but is not limited to a completed pre and post-project water balance, including calculations, design drawings, and hydraulic and hydrologic reports quantifying all pre and post-project runoff as well as

structural and non-structural controls included in the post-construction water balance calculator. Contractor shall support Metro in regulatory agency meetings, and revise design and documentation as required to comply with said permit.

#### **1.06 DEFINITIONS**

- A. BMP: Best Management Practice.
- B. CASQA: California Stormwater Quality Association
- C. CGP: Construction General Permit
- D. NTP: Notice to Proceed
- E. NPDES: National Pollutant Discharge Elimination System
- F. PRD: Permit Registration Documents
- G. QSD: Qualified SWPPP Developer.
- H. QSP: Qualified SWPPP Practitioner
- I. REAP: Rainfall Event Action Plan
- J. RFP: Request for Proposal
- K. RWQCB: Regional Water Quality Control Board
- L. SMARTS: Stormwater Multi-Application & Reporting System
- M. SWPPP: Storm Water Pollution Prevention Plan. N. SWRCB: State Water Resources Control Board O. WPC: Water Pollution Control
- N. SWRCB: State Water Resources Control Board
- O. WPC: Water Pollution Control

#### **1.07 RELATED MATERIALS**

- A. State of California, Department of Transportation (Caltrans), Standard Specifications Section 20, "Erosion Control and Highway Planting."
- B. The Caltrans "Storm Water Pollution Prevention Plan and Water Pollution Control Program Preparation Manual" and the "Construction Site Best Management Practices Manual," and addenda thereto issued up to, and including, the date of the RFP, hereafter referred to respectively as the "Preparation Manual" and the "Construction Site BMP Manual" and collectively as the "Manuals." Copies of the Manuals may be obtained from the Department of Transportation, Material Operations Branch, Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815, Telephone: (916) 445-3520.

1. Copies of the Manuals may also be obtained from Caltrans' Internet Web Site portal at:

<http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.html>

- C. The California Storm water Quality Association (CASQA) "Storm water Best Management Practice Handbook Portal: Construction," including Appendix B, the "Storm Water Pollution Prevention Plan Outline" and Appendix D, "Field Monitoring and Analysis Guidance" and addenda thereto issued up to, and including, the date of advertisement of the Project, hereafter referred to respectively as the "Manuals." Copies of the Manuals and the National Pollutant Discharge Elimination System (NPDES) permits may be obtained by accessing CASQA's Internet Web Site portal at:

<http://www.cabmphandbooks.com/>

- D. State Water Resources Control Board (SWRCB) Order No. R2-2009-0009-DWQ, NPDES General Permit No. CAS000002, Storm Water Discharges Associated With Construction and Land Disturbance Activities, September 2, 2009 (hereafter Construction General Permit or CGP).

## **1.08 GENERAL REQUIREMENTS**

- A. Implementation of Storm Water Pollution Prevention Plan (SWPPP) measures shall be the first order of business upon site mobilization. Make documentation available prior to commencement of Project.
- B. Metro will not be liable to the Contractor for failure to accept all or any portion of an originally submitted or revised SWPPP program, nor for any delays to the Work due to the Contractor's failure to submit an acceptable SWPPP.
- C. A copy of the SWPPP, inspection records, prepared REAP reports, and sampling records, together with updates, revisions and amendments shall be kept at the construction site. At the request of Metro, the Contractor shall furnish multiple copies of the SWPPP for distribution.
- D. Contractor shall designate qualified QSD/QSP staff prior to commencement of Project and no later than submission of all required SWPPP materials to Metro to prepare and implement the SWPPP, defined by the CGP as follows:
  1. Qualified SWPPP Developer (QSD): The Contractor's QSD shall have registrations/certifications listed in Section VII of the CGP by commencement of A QSD must prepare and sign the SWPPP, the SWPPP must be in place prior to any construction activities. The contractor cannot be allowed to obtain a QSD within 1 year from commencement of project activity.
  2. Qualified SWPPP Practitioner (QSP): The Contractor's QSP shall have registrations/certifications listed in Section VII of the CGP and successfully complete the SWRCB sponsored or approved QSP training course and QSP exam prior to any Construction activity. Or the QSP cannot be allowed as a QSD within 1 year from commencement of Project activity.

3. If either the QSP or the QSD is no longer employed by the Contractor or is no longer associated with the Work, the Contractor shall notify Metro within 24 hours, and designate a replacement within 72 hours, so Metro can update the SWRCB's Storm Water Multi-Application & Reporting System (SMARTS) within 72 hours.
    - a. The replacement QSD or QSP shall have the registrations/certifications within specified time frame.
  4. Contractor shall designate individual(s) as QSP and QSD Data Submitter(s), to be approved and certified by Metro, Metro will upload data electronically into Storm Water Multi-Application & Reporting System (SMARTS). The SWPPP, quarterly inspection reports, Annual Reports, and all sampling results for non-visible pollutants shall be uploaded onto SMARTS by the certified Data Submitter(s), at Metro's request.
- E. Contractor shall provide updates to submittal items monthly or as directed by Metro per the requirements of this Specification, and shall provide documents for Metro to upload to SMARTS.
  - F. Contractor shall design and incorporate BMPs into the Project design in a manner that ensures that Project facilities comply with the requirements of the respective permits.
  - G. Contractor shall implement the permitted design and shall conduct all necessary monitoring and testing and any modifications deemed necessary for compliance prior to final completion and hand over of the Project Work to Metro, providing requisite reports to Metro upon request.
  - H. The Contractor shall be responsible for complying with Sections 5650 and 12015 of the Fish and Game Code, and other applicable statutes relating to prevention or abatement of water pollution.
  - I. All areas of exposed earth created by the Contractor beyond what is shown on the Drawings and referred to in the Construction Specifications shall also be subject to these provisions except that the Contractor shall be fully responsible for all costs and liabilities associated with slope protection Work and erosion control in these areas.

## **1.09 CONSTRUCTION WATER POLLUTION CONTROL**

- A. General: The Contractor's program to control water pollution shall be included in the SWPPP to prevent any net increase in pollution of storm water runoff from entering waterways. The Contractor shall exercise every reasonable precaution to protect the creeks within the Project area from pollution including fuels, oils, and other harmful materials and shall conduct the operations and schedule the operations so as to avoid muddying and silting of the creek in accordance with the CGP. The Contractor shall provide effective temporary water pollution control measures for all creeks or their tributaries. Such measures shall include but not be limited to providing dikes, basins, ditches, and applying straw and seed. Contractor shall coordinate water pollution control work with all other Work done on the Contract.

- B. Training: Contractor shall provide Water Pollution Control training as required by the CGP. Documentation of training shall be provided to Metro within one week of the training. Training shall be performed by qualified staff and documentation of training shall be kept on site with the SWPPP documents as defined by the SWRCB.
- C. Water Pollution Control Maintenance: Contractor shall furnish sufficient personnel, materials and adequate equipment to perform the water pollution control maintenance work immediately and to work continuously until its completion. Water pollution control maintenance work shall consist of maintaining and replacing temporary water pollution control measures throughout the duration of the Contract until permanent measures are accepted by Metro. Maintenance work and SWPPP implementation shall be considered as integral functional practices to implement water pollution control. Failure to fully comply with the requirements of the Construction General Permit shall subject the Contractor to all fines, damages and job delays incurred due to failure to implement and properly update the SWPPP.
- D. Water Pollution Control Effectiveness: If the measures being taken by the Contractor are inadequate to control water pollution effectively, Metro may direct the Contractor to revise its operations and its SWPPP program. Such directions will be in writing and will specify the items of Work for which the Contractor's water pollution control measures are inadequate. No further Work shall be performed on said items until the water pollution control measures are adequate and, if also required, a revised SWPPP program has been accepted.
- E. SWPPP Implementation: The Contractor shall be responsible upon approval of the SWPPP and throughout the duration of the Project for installing, constructing, inspecting, maintaining, removing and disposing of the water pollution control measures included in the SWPPP. Unless otherwise directed by Metro, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of Work ordered in conformance with the Contract Provisions. Requirements for installation, construction, inspection, maintenance, removal, and disposal of water pollution control measures are specified in the Manuals and specified herein.
1. Contractor's program for implementing, inspecting, and maintaining water pollution control practices for wind erosion control, tracking control, non-storm water control, and waste management and materials pollution control shall be year round.
  2. The National Weather Service weather forecast shall be monitored for the project's zip codes and used by the Contractor on a daily basis. If there is any chance of rain forecast within 48 hours, the forecast shall be printed out and kept with the SWPPP. If the chance of precipitation is greater than 50%, the necessary water pollution control practices shall be deployed prior to the onset of the precipitation, and monitoring shall increase, as required by law and outlined in the Construction General Permit. For Risk Level II and III locations within the project, a Rainfall Event Action Plan (REAP) shall be prepared as required by the SWPPP. The REAP shall be provided to Metro within 72 hours of completion. The National Weather Service weather forecast is found at:

<http://www.wrh.noaa.gov/>

3. The Contractor shall maintain a rain gage at the site at all times during construction. Rain gage readings shall be recorded daily and provided to Metro within 72 hours whenever the daily rainfall total is greater than 0.25 inches per day or whenever the rainfall is a part of a qualifying storm event as defined by the CGP.
4. For all project Risk Levels, the QSP, or a Metro approved substitute designated and trained by the QSP (QSP-substitute) shall inspect the site before a forecast storm (within 48 hours prior to a forecast storm), during the storm (at 24-hour intervals during extended rains), and after a storm (not later than 48 hours after rain event). Inspections shall be documented as specified in the Manual. Inspection forms shall be provided to Metro within 72 hours of the inspection
5. Stormwater inspections shall be performed by the QSP or individual trained by the QSP-substitute year round a minimum of once a week at all active areas and all areas with installed BMPs as required by permit and the SWPPP. More frequent monitoring is required for rain events. Contractor shall provide a rain gauge on site as specified above and record the measurements in rain event inspection reports.
6. Non-Stormwater inspections shall be performed quarterly by the QSP, QSP-substitute, Metro (quarterly inspection time periods are January- March, April-June, July-September, and October-December).
7. Contractor shall conduct sampling and analyses of storm water as required by the Construction General Permit. Sampling shall be performed by the QSP or Metro approved QSP-substitute.
8. If the Contractor or Metro identifies a deficiency in any aspect of the implementation of the approved SWPPP or amendments, the deficiency shall be corrected immediately (within 72 hours of identification). The deficiency may be corrected at a later date and time if requested by the Contractor and approved by Metro in writing, but not later than the onset of any precipitation event. If the Contractor fails to correct the identified deficiency by the date agreed or prior to the onset of precipitation, the Project shall be in noncompliance. Attention is directed to the Contract Documents for possible noncompliance penalties.
9. If the Contractor fails to conform to the approved SWPPP and Construction General Permit, Metro may order the suspension of construction operations which create or have the potential to create water pollution.
10. Implementation of water pollution control practices may vary by season. The Construction Site BMP Manual and this Section shall be followed for control practice BMP selection of year round, water pollution control practices.
11. Disturbed soil areas shall be considered active whenever the soil disturbing activities have occurred, continue to occur or will occur during the ensuing 14 days. Non- active areas shall be protected as required within 14 days of cessation of soil disturbing activities or prior to the onset of any precipitation event, whichever occurs first.

12. The Contractor shall provide barriers adequate to prevent flow of muddy water, vegetation debris, soil and other materials into any creek or drainage channel. During construction of such barriers, muddying of the creek/drainage channel shall not be allowed. Oily or greasy substances originating from the Contractor's operations shall not be allowed to enter or be placed where they may potentially enter any creek or drainage channel.

**~~1.10 POST-CONSTRUCTION PERMANENT WATER POLLUTION CONTROL~~**

- ~~A. Contractor's program to control water pollution for permanent facilities shall be in accordance with regulatory requirements, the Los Angeles County MS4 Permit (for City and County owned facilities and right of way), and the Construction General Permit (for all other facilities) as outlined in Article 1.05, Submittals, of this Section.~~
- ~~B. Contractor shall provide pre-construction surveys as outlined in Section 01 71 24 - Preconstruction Surveys, and shall include all necessary hydraulic and hydrologic studies and runoff drainage calculations to comply with NPDES requirements as well as sustainability goals, and those included in the Metro Environmental Policy and Water Use and Conservation Policy ([www.metro.net/sustainability](http://www.metro.net/sustainability)). Contractor shall participate with Metro upon request in regulatory agency meetings regarding NPDES compliance.~~

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION 01 35 35**

## SECTION 01 35 43

### ENVIRONMENTAL PROCEDURES FOR CONTAMINATED AND HAZARDOUS MATERIALS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Performing excavation where contaminated and hazardous materials exist.
- B. When contaminated soils or Hazardous Materials are encountered, the Contractor shall be responsible for the removal, transportation and disposal of Contaminated and Hazardous Waste Materials as indicated in the Contract Documents. Contractor shall have, under Subcontract at the time of Award, sub-contractor qualified to remove and dispose of Hazardous Materials in accordance with this section and Section 01 35 70 – Asbestos Related Construction Work. Contractor shall notify Metro verbally immediately, each time suspected Hazardous Material is found and proceed with removal and disposal as described above. Contractor shall then notify Metro CM in writing, confirming the verbal notification.

##### 1.02 RELATED SECTIONS

- A. Section 01 33 00: Submittal Procedures
- B. Section 01 35 29: Health, Safety, and Emergency Response Procedures for Contaminated Sites
- C. Section 01 35 70: Asbestos Related Construction Work
- D. Section 01 43 20: Project Quality Program Requirements - Design/Bid/Build

##### 1.03 REFERENCES

- A. South Coast Air Quality Management District (SCAQMD):
  - 1. Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil
- B. California Code of Regulations (CCR):
  - 1. Title 8: Section 51 93 - Bloodborne Pathogens
  - 2. Title 22: Division 4.5, Chapter 11, Article 3 § 66261.24 – Characteristic of Toxicity
- C. California Health and Safety Code
- D. Code of Federal Regulations (CFR):
  - 1. 49 CFR: Title 49 - Transportation

#### **1.04 QUALITY ASSURANCE**

- A. Comply with Project Quality Program Requirements (see 1.02 above).
- B. Comply with the requirements of the Site Specific Safety and Health Plan prepared by the contractor and approved by Metro. Metro will provide certain monitoring and testing for Hazardous Substances in the air, soil and groundwater, pursuant to Section 01 35 29 – Health, Safety, and Emergency Response Procedures for Contaminated Sites.
- C. Obtain SCAQMD Rule 1166 Permit prior to soils excavation work and provide required air monitoring per permitted and approved plan.

#### **1.05 SUBMITTALS**

- A. Product Data: Manufacturer's description and specifications for personal Protective Equipment (PPE) and monitoring equipment.
- B. Provide Notice of all anticipated Hazardous Substances or issues such as Underground Storage Tanks (USTs), Gas Casings, Asbestos and contaminated soil or groundwater. The Contractor shall review the Contract Items for Hazardous Waste Removal, and any other available information in preparation of this Notice including the Final EIS/EIR provided as part of the link <http://www.Metro.net/projects/westside/final-eis-eir>.
- C. Material Safety Data Sheets (MSDS): Manufacturer's Material Safety Data Sheets for each type of material used in Work.

#### **1.06 DEFINITIONS**

- A. Asbestos: Material containing greater than 0.1 % of asbestiform variety of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, actinolite, tremolite or transite pipe.
- B. Asbestos-Related Work: As defined in Section 25914.1 of the California Health and Safety Code (as amended, modified and replaced from time to time)
- C. Metro-Directed Facility: Facility that Metro chooses to accept materials for subsequent recycling, storage, disposal, incineration or other disposition.
- D. Contaminated Soils: Soils which are excavated that exhibit one or more of the following Characteristics:
  - 1. Greater than (>) 100 ppm Total Recoverable Petroleum Hydrocarbon per EPM Method 418:1
  - 2. 5 ppm Total Petroleum Hydrocarbons as gasoline per EPA Method 8015
  - 3. 50 ppm direct reading from hand held Photo Ionization Detector calibrated by 100 ppm Hexane
  - 4. 0.1 ppm Benzene, or > 10 ppm Toluene, or > 62 ppm Ethyl Benzene, or > 62 ppm Xylenes per EPA Method 8020

5. Characteristic of Toxicity per CCR, Title 24, § 66261.24
  6. Lead contaminated soils: soils containing less than 5mg/l (non hazardous) or greater than 5 mg/l (hazardous)
  7. All tar sands that are located within the vicinity of the La Brea Tar Pits and Fairfax Station.
- E. Gas Casings: Oil and gas wells and casings.
  - F. Hazardous Substances: The definition for Hazardous Substances is given in SP-36A.
  - G. Hazardous Substances Removal: As defined in Section 25914.1(c) of the California Health and Safety Code (as amended, modified or replaced from time to time) including the removal of all hazardous substances as defined herein.
  - H. Hazardous Waste: Waste or combination of wastes as defined in 40 CFR 261.3 et seq., or regulated as hazardous waste in California pursuant to California Health and Safety Code, Chapter 5, Division 20, or as defined as hazardous waste in 40 CFR 171.8, or listed by the U.S. Department of Transportation and regulated as hazardous under 49 CFR 172.101 and appendices (as each of the foregoing statutes and regulations are amended, modified or replaced from time to time) and deemed a waste.
  - I. Hazardous Waste Operations: Operations that require the disturbance of hazardous substances including, but not limited to, excavation, demolition, segregating, stockpiling, loading, hauling and disposal. Operations that are conducted in accordance with all requirements of CCR, Title 8, Section 5192 (Cal/OSHA). Sampling and profiling to confirm materials as hazardous are included in the Contractor's scope.
  - J. Hazardous Waste Operations Safety and Health Program: as defined in CCR, Title 8, Section 5192 and as required in Section 01 35 29 – Health, Safety, and Emergency Response Procedures for Contaminated Sites.
  - K. Included Environmental Operations: The following Work is defined as "Included Environmental Operations," and is included as part of the Contractor's work.
    1. Sampling and analytical Work, required to classify or characterize excavated soils or groundwater for the purposes of proper handling and disposal.
  - L. RCRA-Hazardous Waste: Waste determined to be hazardous under the Federal Resource Conservation and Recovery Act of 1976, 42 U.S.C. Section 6901 et seq. (as amended, modified or replaced from time to time).
  - M. Non-RCRA Hazardous Waste: Industrial wastes that exhibit a level of contamination not considered hazardous, but are required by the State of California to be managed for disposal to a permitted Class II landfill. Class II landfills are specially designed to reduce the risks of groundwater contamination from industrial wastes. Also known as California-Regulated Waste.

- N. Solid Waste: All solid, semi-solid, and liquid wastes, but does not include Hazardous Wastes as defined in Section 25227 of the California Health and Safety Code, Division 20, Chapter 6.5 (as amended, modified or replaced from time to time).
- O. USTs: Underground Storage Tanks, sumps and vaults subject to any laws or Regulations regarding closure, drainage, sealing, excavation, removal, transport or disposal, or other laws for the protection of health, safety and the environment.
- P. Asbestos Cement Pipe (ACP): Variety of pipes or piping components containing asbestos.

## **1.07 WORK SITE CONDITIONS**

Contaminated Soil and Hazardous Waste Information, where available, is described within the Contract Documents and the Geotechnical Data Reports included in the FEIS/FEIR (<http://www.metro.net/projects/westside/final-eis-eir/>). The Contractor shall become familiar with the information provided.

## **PART 2 - PRODUCTS**

### **2.01 PERSONAL PROTECTIVE EQUIPMENT AND MONITORING EQUIPMENT**

- A. Conform to the requirements of Cal/OSHA, Federal OSHA, and Section 01 35 29 – Health, Safety, and Emergency Response Procedures for Contaminated Sites.

## **PART 3 - EXECUTION**

### **3.01 DISCOVERY OF HAZARDOUS SUBSTANCES**

- A. Upon encountering suspected hazardous substances, USTs, gas casings, lead containing materials, Asbestos Cement Pipe, or other asbestos Containing Material during performance of excavation or demolition, Contractor shall:
  - 1. Immediately notify Metro CM by telephone of discovery.
  - 2. Continue the excavation or demolition of non-impacted areas without delay, except to the extent prevented by performing the required hazardous substance removal.
  - 3. Within 24 hours formalize notification in writing. Describe in such notifications the location and condition of the area and implement the Environmental Safety and Health Program controls, if required, as specified in Section 01 35 29 – Health, Safety, and Emergency Response Procedures for Contaminated Sites.
  - 4. Undertake sampling and profiling of the suspected Hazardous Materials to confirm handling and disposal requirements and notify Metro for further instruction.
  - 5. If confirmed as hazardous material coordinate and make site available (including traffic control, lifting of plates, shoring etc) for Metro's Specialty Contractor to remove for disposal. Once material has been removed,

Contractor to continue work or backfill, reinstate road plates and/or restore area.

6. All Hazardous Waste Operations with the exception of sampling and profiling are excluded from the Contract. For further details, see SP-36.

### 3.02 EXCAVATION OF CONTAMINATED SOILS

- A. Contaminated soils covered in this section are those that meet the definition given in Section 1.06D, but do not meet the definition of Hazardous Materials given in Section 1.06F.
- B. Contaminated soils shall be excavated, transported and disposed of by the Contractor at no cost to Metro. For bidding purposes the Contractor shall assume all excavated soils are contaminated.
- C. Contractor shall notify Metro when contaminated materials are found which meet the definition in 1.06 F above.

### 3.03 DISPOSAL OF CONTAMINATED MATERIALS

- A. ~~Dispose of contaminated soil at a Metro approved and permitted waste disposal facility (Class II minimum). Disposal of contaminated soils at Parks, Schools, Farms and Residential Developments is prohibited. Contractor is required to prepare a Metro approved comprehensive waste management plan prior to starting work.~~ **Dispose of contaminated soil at a permitted waste disposal facility which shall be approved by Metro prior to use. Disposal of contaminated soils at Parks, Schools, Farms and Residential Developments is prohibited. Contractor is required to prepare a METRO approved comprehensive waste management plan prior to starting work.**
- B. Waste manifests for Contaminated Materials shall be provided for Metro Environmental staff review and approval prior to disposal.

**END OF SECTION 01 35 43**



## SECTION 01 50 00

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Furnishing, installing, operating, maintaining and removing temporary facilities, including electrical power, lighting, telephone, water, fire protection, sanitary service and storm drainage for use during construction and for testing equipment installed under this Contract.
- B. Electrical Service:
  - 1. Provide and pay costs for installing and maintaining lighting and power for field offices, storage and other construction facilities, and areas, including sufficient power for testing equipment installed under this Contract.
  - 2. Provide power electrically operated and controlled construction facilities, including tools; equipment; and testing equipment.
  - 3. Provide night security lighting, when applicable, at secured areas within construction limits at offices, storage facilities and excavated areas.
  - 4. Bear costs of temporary electric service permits, fees and deposits required by governing authorities; and connection charges and temporary easements, including installation, maintenance and removal of equipment.
- C. Communication Services
  - 1. See Section 2.01.
- D. Water Service:
  - 1. Furnish, install and maintain temporary water system to serve areas within limits of Contract Worksite and construction staging area throughout construction period. Provide water for drinking, construction, sanitation, first aid, fire protection and cleaning.  
  
Obtain permits and approvals from regulating authorities. Pay fees, deposits and connection costs including installation, maintenance and removal associated with temporary water systems.
- E. Fire Protection (NOT USED)
- F. Sanitary Service:
  - 1. Furnish, install and maintain temporary sanitary facilities and services throughout construction period, as applicable.
  - 2. Ensure separate or single user toilets are provided to assure privacy between genders.

3. Provide hand washing stations.
4. Obtain municipal permits and pay fees for temporary sanitary sewer connections.

G. Storm Drainage:

1. Furnish, install and maintain temporary storm drainage facilities throughout construction period. Do not impede drainage of adjacent private property or cause surface flow in streets and sidewalks to back up on to adjacent properties.
2. Provide facilities as required to drain areas outside appendage construction.
3. Provide connections to temporary storm drains.
4. Obtain permits and pay fees for temporary and permanent storm drainage connections.

H. Temporary Sump Pumps (NOT USED)

**1.02 RELATED SECTIONS**

- A. Section 01 33 00: Submittal Procedures
- B. Section 01 35 23: Worksite Safety Requirements
- C. Section 01 35 53: Worksite Security Requirements
- D. Section 01 43 10: Project Quality Program Requirements - Design/Build or Section 01 43 20: Project Quality Program Requirements - Design/Bid/Build (as applicable)

**1.03 REFERENCES**

- A. National Fire Protection Association (NFPA):
  1. NFPA 70 - National Electrical Code (NEC)
- B. Underwriters' Laboratories, Inc. (UL)
- C. The Association of Electrical Equipment and Media/Imaging Manufacturers (NEMA)
- D. California Code of Regulations (CCR), Title 8:
  1. Division 1 - Department of Industrial Relations (Cal/OSHA)
- E. California Code of Regulations (CCR), Title 24:
  1. Part 2 - California Building Code (CBC)
  2. Part 3 - California Electrical Code (CEC)
  3. Part 9 - California Fire Code (CFC)

- F. Comply with following where applicable:
1. City of Los Angeles Building Code – CBC with City of Los Angeles Amendments.
  2. City of Beverly Hills Municipal Code
  3. County of Los Angeles Building Code – CBC with County of Los Angeles Amendments

#### **1.04 QUALITY ASSURANCE**

- A. Comply with Project Quality Program Requirements (see 1.02 above). B. Conform to Cal/OSHA and local codes.
1. Provide UL listed products complying with NEMA requirements.

#### **1.05 SUBMITTALS (NOT USED)**

#### **1.06 DEFINITIONS (NOT USED)**

### **PART 2 - PRODUCTS**

#### **2.01 METRO INSPECTOR OFFICE**

- A. Contractor shall furnish new or like new one field office within the Contractor's construction office trailer complex with new furniture for Metro's on-site inspector. Construction trailers are exempt from ADA requirements, but must include separate access.
- B. Furniture shall include a desk, side plan table, one two-drawer file cabinet, three shelf bookcase, refuse receptacle, desk lamp, desk chair and one side chair.
- C. Contractor shall furnish power receptacles, ceiling lighting, coat hooks, ventilation, telephone, and dedicated Ethernet fiber line for Inspector's internet access for a Metro-provided computer.

#### **2.02 ELECTRICAL SERVICE**

- A. Temporary Power and Lighting Equipment: Include fixtures, transformers, panelboards, switches, lamps, grounding, poles, conduits and wiring sized and capable of continuous service and capacity adequate to ensure complete operating system including sufficient power for testing equipment installed under this Contract. Comply with NFPA 70 (NEC) and (CEC).
- B. Temporary lighting system shall provide a general coverage of not less than 3 foot candles, with a minimum of 5 foot candles in active work area.

#### **2.03 WATER SERVICE**

- A. Provide materials and equipment, sanitary and adequate for purposes intended, and satisfying requirements of codes and regulations pertaining to temporary water systems including but not limited to bottled products. Bottled products may be used

if those products comply with codes, and in the event of service disruption. Clearly label portable containers having a dispensing tap and use only for drinking water. Provide single service disposable cups and sanitary container for dispensing cups.

#### **2.04 FIRE PROTECTION (NOT USED)**

#### **2.05 SANITARY SERVICE**

- A. Provide materials and equipment adequate for intended purposes; create no unsanitary conditions or violate applicable codes for temporary sanitary facilities. Provide weather- proof, sight proof, ventilated and sturdy enclosures for toilet and washing facilities.
- B. Provide portable type toilet facilities complying with Cal/OSHA.

#### **2.06 STORM DRAINAGE**

- A. Provide materials adequate to drain intended areas.
- B. Ensure sanitary and storm drainage facilities remain separate.

#### **2.07 SUMP PUMPS, DUPLEX (NOT USED)**

#### **2.08 LIFTS AND STAIRS (NOT USED)**

### **PART 3 - EXECUTION**

#### **3.01 ELECTRICAL SERVICE INSTALLATION**

- A. Locate products to not interfere with materials handling equipment, storage spaces, traffic, and execution of Work. Install products to present a neat and orderly appearance, structurally sound. Maintain products to ensure continuous electrical service and safe Working conditions.

#### **3.02 TELEPHONE SERVICE**

- A. Install temporary telephone service in neat and orderly manner, make installation structurally and electrically sound, and ensure continuous service. Modify, relocate and extend service as Work progress requires. Place conduit and cable to not interfere with traffic, Work areas, materials handling equipment, storage areas, and Work of other contractors. Service lines may be aerial. Post telephone numbers and locations of emergency facilities including emergency hospitals, physicians, ambulance service, and police and fire departments in conspicuous locations at Worksite and at telephone locations.

#### **3.03 WATER SERVICE**

- A. Install systems in neat and orderly manner. Make systems structurally and mechanically sound. Maintain continuous service. Modify, relocate and extend systems as Work progresses.
- B. Do not incorporate any part of temporary water distribution system into permanent water distribution system.

### 3.04 FIRE SERVICE (NOT USED)

### 3.05 SANITARY SERVICE

- A. Install temporary sanitary and washing facilities in neat and orderly manner within limits of Work and convenient to workstations. Make facilities structurally and mechanically sound. Anchor facilities to prevent dislocation; conceal from public view. Modify, relocate and extend facilities as required by progress of Work.
- B. Service toilets at time intervals to minimize accumulation of wastes and prevent creation of unsanitary conditions, but not less than once a week.

### 3.06 STORM DRAINAGE

- A. Locate and install temporary storm drainage facilities where necessary to drain construction maintenance, or storage areas.
- B. Maintain facilities in good working order.

### 3.07 LANDSCAPE MAINTENANCE

- A. Employ a licensed landscaping contractor to perform an initial clean up of the landscaping areas surrounding the Crenshaw laydown yard and provide monthly maintenance **of the existing irrigation landscaping** for the duration of the contract. Landscape maintenance shall apply to the entire Crenshaw laydown yard, including sidewalk areas adjacent to Lorraine, Wilshire and Crenshaw Boulevards.
- B. ~~Provide a complete~~ **Utilize the existing** Irrigation System for ~~all~~ the landscaping areas around the Crenshaw Yard. This system should be on a timer and maintained during the entire contract duration.
- C. Provide regular maintenance of existing irrigation systems. **Provide incidental replacement of valves, sprinklers, solenoids and other items as required for the maintenance of the whole system.**
- ~~C-D.~~ **Procure and pay all charges associated with the operation and maintenance of the irrigation system including water and electric.**

**END OF SECTION 01 50 00**



## SECTION 01 78 39

### AS-BUILT DRAWINGS AND CURRENT STATUS DOCUMENTS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION SECTION INCLUDES

- A. Work specified in this Section consists of preparing, maintaining, annotating and delivering the ~~in progress and~~ final As-Built Drawings as defined below.
- B. The Contractor shall at the time of substantial completion, but prior to requesting release of retainage, transfer the changes to a set of Final As-Built Documents, which shall include an As-Built set of Construction Drawings and an annotated set of Specifications.
- C. Definitions
  - 1. Current Status Documents - A set of full size Drawings and a copy of the Specifications marked and maintained by Contractor at Contractor's field office to show current As-Built status of construction in progress and current design status.
  - 2. Contractor-Furnished Drawings - Working Drawings and Shop Drawings produced by the Contractor that become a supplement to the Contract.
  - 3. Final As-Built Drawings - Contract Record that reflect actual completed field conditions of Work items depicted on Contractor's latest Contract, Shop and Working Drawings; or the result of changes in the field and/or responses to RFIs.
  - 4. Drawing Index - List of Contract Drawings showing the latest drawing number, sheet number, title of Drawings, attachments, and revision number, if the Drawing is revised for final As-Built.

##### 1.2 RELATED SECTIONS

##### 1.21.3 REFERENCE STANDARDS

###### A. American National Standards Institute (ANSI)

A.

##### 1.31.4 QUALITY CONTROL ASSURANCE

- A. Comply with Section 01 43 40~~20~~, Project Quality Program Requirements.
- B. The Contractor shall thoroughly coordinate changes within the As-Built Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other documents where such entry is required to show the change properly.

- C. Print legibly and clearly relevant construction changes/data on current print of Current Status Documents to a high standard of quality. Have Work done by a person qualified in the Work performed.
- D. The Contractor shall make entries on the As-Built Documents on a weekly basis to include all changes to the Work performed during the last week to confirm they are an accurate representation of the As-Built conditions.
- E. Assist Metro with on-site ongoing review of Current Status Documents to assure they are maintained and current.
- F. Coordinate and obtain approval from Metro and the jurisdictional Third Party on the final As-Built condition before backfilling of trenches on top of constructed/relocated utility lines.**
- ~~F.G.~~ Record additional construction information as requested by Metro on As-Built or Current Status Documents.

#### **1.41.5 REFERENCE STANDARDS**

- ~~A. American National Standards Institute (ANSI)~~

#### **1.51.6 SUBMITTALS**

Refer to Section 01 33 00, Submittals for submittal procedures.

- A. As-Built Documents Log
- ~~B. As-Built drawings of the constructed systems described in Sections 15000 and 15001 prior to the beginning of the observation period.~~
- ~~C.B.~~ Final Closeout Documents - Within 10 days prior to acceptance, submit Final As-Built Drawings.

## **PART 2 - PRODUCT**

### **2.1 DOCUMENTS**

- A. Current Status Documents - Following receipt of Notice to Proceed, the Contractor shall secure one complete set of all drawings and specifications comprising the Contract Documents. This "job set" will be maintained at the site to record all As-Built changes.
- B. Final As-Built Drawings - One full-size set of the latest revisions of Contract or Contractor-Furnished Drawings marked to show changes and deviations from the last revision of Drawings to represent As-Built condition.

The Final As-Built Documents are to include:

1. Updated As-Built of the original Contract Drawings.
2. Additional As-Built Drawings as necessary, to describe changes during the Contract period that could not be included on the original contract drawings.

3. Annotated Specifications to include Contract Specifications with all changes made during the Contract period.
4. "As installed" versions of same size drawings of all fabrication, detail and installation drawings.

### **PART 3 - EXECUTION**

#### **3.1 SAFE KEEPING OF FIELD DOCUMENTS**

- A. As-Built documents are to be kept at Contractor's field office at all times.
- B. During times when the Contract Documents are not being updated, store drawings, logs and specifications in a locked cabinet or provide off-site backup to prevent inadvertent destruction of documents.
- C. The Contractor shall maintain the "job set" of Current Status Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the Final As-Built Documents.
- D. The Contractor shall not use the Current Status Documents for any purpose except entry of new data, for review by and for the transfer of data to Final As-Built Documents.

#### **3.2 MARKING FOR AS-BUILT CONDITION**

- A. Mark and stamp "AS-BUILT" the latest revisions of the Contract or Contractor-Furnished Drawings and Specifications for the As-Built condition. Lettering on stamp: 1/2 inch and 1/4 inch high for Drawings and Specifications respectively. Clearly define revisions in minimum of 1/8-inch letters.
- B. The Contractor shall utilize an erasable red pencil (not ink or indelible pencil) to clearly describe the change by graphic line and note as required.
- C. The Contractor shall in the event of overlapping changes, use different colors for the overlapping changes.
- D. Those Drawings that are not changed by As-Built conditions shall be so noted above the "AS-BUILT" label with the word "UNCHANGED."

#### **3.3 REQUIRED INFORMATION ON AS-BUILT DRAWINGS**

- A. Utilize full-sized Contract Drawings for the As-Built Drawings. Update to show:
  1. Dimensions and details of field changes made by Contractor.
  2. Changes made by Change Notice (CN), Change Order (CO), approved Substitution request, approved deviation request, change permitted by submittal review, etc. Include all references to the CN/CO, Submittal number, or other source documents that caused the change in location.
  3. Clarifications to details identified by Request for Information (RFI).

4. Dimensional location of all embedded, buried and concealed features as placed by Contractor, including mechanical pipe, electrical conduit, structural embedments, and items not located or shown on the Drawings but placed by Contractor.
5. Dimensional location of substantially differing site conditions of existing utilities, structures, and objects exposed, but not placed, during construction.

B. Recording

1. The following requirements are applicable to Contractor's work under each category. Provide as-built measurements with reference to datum used for dimensioning on appropriate drawings. 1. Record changes concurrently with construction progress. No Work shall be covered or concealed until the As-Built information is obtained and documented.

2. Civil and Utility Drawings:

- a) Street/Paving Drawings – Measure distances and elevations for the as-built condition and indicate all changes to design elevation for sidewalks, curb and gutters, catch basins, top of manhole covers, valve boxes and other appurtenances.

- b) Underground Utilities - Record actual arrangement and routing of embedded/buried conduit, ductbanks and piping relative to visible structural items. Dimension conduit, ductbanks and piping off of walls, curbs, property lines, columns, or other similar features using a tape to measure their locations and bends, valves, flanges, enlargements, anchors, cleanouts, etc. Elevations for the top of the piping, ductbank, and conduit is measured by tape from the datum provided in the Contract Drawings. The Contractor shall clearly identify the item by accurate note such as "20-inch storm water", "8-inch water," and the like.

3. Architectural and Structural Drawings - Show all items on the job set of As-Built Drawings, by dimension accurate to within nearest ¼ -inch.

4. Right of Way Drawings – These drawings will be revised by Metro. Contractor need not include these ~~drawings~~ **drawings** in its submittal.

5. Mechanical Drawings:

- a) Pipe and Duct Drawings – Indicate revisions to materials or routing of piping or ducts that are different from those shown on the original Contract Drawings. Locate with tape measure the locations and elevations of bends, valves, flanges, enlargements, anchors, cleanouts, etc. in relation to walls, finished floors, or other convenient reference points. Show on Shop or Current Status Drawings as appropriate.

- b) Equipment Drawings – Indicate location of equipment and major control panels, etc. in relation to walls, finished floors, or other

appropriate reference points. Show on Shop or Current Status Drawings as appropriate.

**6. Electrical System Drawings:**

- a) Connection Diagrams –** Cross-reference Shop Drawings with diagrams related to these drawings. Provide grounding connection records.
- b) Conduit Runs -** Provide dimension to indicate location and elevation of panels and junction boxes in relationship to walls and finished walls with reasonable accuracy. Show cross-sections and dimensions for all embedded conduits, cable trays and concealed conduits on Shop and Lift drawings. Provide cross-references between Contract and Shop Drawings.
- c) Labeling –** Provide tagging and labeling of conduits and cables/wires and related schedules.

**7. Equipment Drawings -** Indicate location of equipment and major control panels, etc. in relation to walls, finished floors, or other appropriate reference points. Show on Shop or Current Status Drawings as appropriate.

- a) Locations of Cables –** Provide location of cables, pull boxes/handholes along with assigned circuit record.

**a-8.** The Contractor shall show, by symbol or note, the vertical location of the item ("under slab", "in ceiling plenum", "exposed", "below street level" and the like).

**9.** The Contractor shall make all identification sufficiently descriptive that it may be related reliably to other sheets in the Drawings.

**10.** Provide coordinates obtained from any As-Built field surveys in tabular format on the As-Built Drawings.

**C. Minimum Recording Standards:**

**1.** Graphical Sketch: If the Contract Drawings are not of sufficient size, scale, or the detail/level-of-change is too complex to incorporate directly on the drawings, include a sketch to convey the change information. Sketch can originate from:

- a) Change Documentation:** Provided in response to an RFI, through a Change Notification, or other similar document.

- b) Contractor Generated:** If no sketch from the change documentation exists, provide one.

**2.** Sketches shall include:

- a) Sufficient details and dimensions to accurately locate all objects within the As Built Drawings.**

- b) The change documentation number, if applicable (e.g., RFI number, Change Notification number) and the related As-Built Drawing number, in red erasable pencil. If none exists, create a sketch identification number and note directly on the sketch and the related As-Built Drawing (e.g., U250-ABS-0001, U250-ABS-002).

D. The following are prohibited:

1. Simply referencing change documentation without supporting graphical information
2. Providing information that is irrelevant to changes in the drawings

### 3.4 CONTRACTOR-FURNISHED DRAWINGS

- A. Contractor-Furnished Drawings - Drawings provided by Contractor and used for construction of the proposed facilities.
- B. Produce drawings on D size (22 inches by 34 inches). Provide company logo on drawing and have drawing sealed by an engineer registered in the State of California complete with sealer's full signature and registration expiration date, where required by specifications.
- C. Drawing numbers will be distinct to avoid duplication with Contract Drawings. Make subsequent revisions to these drawings. Include bubbles, triangles and description of the revision in the revision block. Indicate if revision was initiated by Contractor.
- D. Include these drawings in the Current Status Documents. Update for changes as specified in other parts of these Specifications.
- E. Revise originals of these drawings to show the Final As-Built conditions as indicated.
- F. Upon completion of construction or as directed by the CM/RE, submit revised original drawings.

### 4.13.5 FINAL DELIVERY OF AS-BUILT DOCUMENTS

- A. **The Contractor shall submit the completed set of Final As-Built Documents to Metro.**
- B. **The Contractor shall participate in review meetings relative to the As-Built drawing status as required.**
- C. **The Contractor shall make required changes and promptly deliver the Final Project As-Built Documents to Metro.**
- D. **The Contractor shall sign each sheet of the record drawings, certifying that they are an accurate representation of the As-Built condition.**

- E. The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

#### **PART 4 – MEASUREMENT AND PAYMENT**

#### **4.2 — MEASUREMENT**

~~The Work of this Section will not be measured for payment.~~

#### **4.34.1 FINAL DELIVERY OF AS-BUILT DOCUMENTS**

- F. ~~The Contractor shall submit the completed set of Final As-Built Documents to Metro.~~
- G. ~~The Contractor shall participate in review meetings relative to the As-Built drawing status as required.~~
- H. ~~The Contractor shall make required changes and promptly deliver the Final Project As-Built Documents to Metro.~~
- I. ~~The Contractor shall sign each sheet of the record drawings, certifying that they are an accurate representation of the As-Built condition.~~
- J. ~~The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.~~

#### **4.4 — PAYMENT**

~~Payment will be made under Item No. 01000.01 — General Requirements.~~

**END OF SECTION 01 78 39**