SECTION 34 23 16.18

OVERHEAD CABLE ISOLATION

PART 1—GENERAL

1.01 DESCRIPTION

A. This Section covers the basic requirements for de/re-energization of OCS.

1.02 SUMMARY

A. The Work is to perform on-call Overhead Contact System (OCS) support services, if needed, during or prior to/ending of pavement renovation and/or sewer and water replacement construction work at various locations throughout the City and County of San Francisco.

1.03 SCOPE OF WORK

A. The work to be done under this contract may require the Contractor to perform, but not limited to:

1. Traffic control work;
2. Preparing site specific work plan (SSWP);
3. Attend all necessary safety trainings and be certified by SFMTA as required prior to starting OCS work on-site;
4. Obtain approval of submittals and clearance permit from SFMTA;
5. Relocation of OCS including adjustment of trolley wires, pull-off, brail span, one-way tangent span, two-way tangent span, inverted span, feed span, equalizer span and/or bracket arm and span;
6. Isolation: De/Re-energization of OCS including installation and removal of sectional insulators;
7. Testing of facilities;
8. Work closely with SFMTA MUNI Operation and Maintenance on all aspect of the work throughout planning, execution and final acceptance of the work; and
9. Performing all related and incidental work required for a complete and functional isolation/relocation of wires in accordance with the Project Manual and GO 95 Cal-OSHA requirements.

1.04 REFERENCES

A. General requirements: Comply with the applicable Reference Standards, and with other requirements as indicated in this Section.

B. All materials and workmanship shall conform to the latest published applicable provisions of the following standards:

1. California Occupational Safety & Health Administration (OSHA)
2. Insulated Cable Engineers Association (ICEA)
3. National Electrical Manufacturers Association (NEMA)
4. State of California Public Utilities Commission (CPUC), General Orders (G.O.):

a. G.O. No. 95, Rules for Overhead Electric Line Construction.

b. G.O. No. 143B, Safety Rules and Regulations Governing Light Rail Transit.

5. California Code of Regulations (California Administrative Code), Title 8 - Regulations, Division 1 - Department of Industrial Relations, Chapter 4 - Division of Industrial Safety:

a. Sub Chapter 5 - Electrical Safety Orders (ESO)

b. Sub Chapter 7 - General Industries Safety Orders (GISO)

1.05 CONTRACT PROCEDURE

A. Upon issuance of work by the City, the sequence of events shall be as follows:

1. The Contractor shall respond with the following:

a. All necessary shop submittals;

b. Site Specific Work Plan (SSWP) as described in Section 01 71 43;

c. Proposed construction work hours, schedule and methods following the provided time frame and instructions;

d. Traffic Control Plans for each work location (if more than one location).

2. The City will indicate, in writing, its approval or disapproval of the Contractor's proposed construction schedule & method. If the City disapproves the Contractor's proposed construction schedule & method, then the City may require a re-submittal of the same.

3. SFMTA MUNI will approve or disapprove the Contractor's SSWP. Refer to Section 01 71 43 for SSWP requirements.

4. SFMTA – Transportation Engineering will approve or disapprove the Contractor's Traffic Control Plans. In the event that rejects the submitted Traffic Control Plans, the Contractor shall work with Traffic Engineer for any corrections and resubmit the Traffic Control Plans for final approval. Refer to Section 01 55 26–Traffic Routing for Traffic Control Plans requirements.

5. When the SSWP and Traffic Control Plans have been approved by the City, the City will establish the start date of the actual field work.

B. Cost Estimate: An allowance shall be used to reimburse the Contractor for the performance of Work related to OCS isolation as directed by the City and Transit Operations.

C. Construction Schedule: The Contractor's proposed work hours shall not exceed the specified maximum time duration of work. The proposed schedule shall include the time required for approval of work from SFMTA MUNI, securing all required permits, and delivering all required submittals.

D. The Contractor shall not commence any field work prior to receiving the Engineer's written approval of the construction schedule & method, Traffic Control Plans, and Site Specific Work Plan (SSWP), and all other required submittals.

1.06 SUBMITTALS

A. Contractor shall submit the following for the City Representative's approval:

1. Certifications: Submit documents to certify that the materials if necessary and equipment conform to the Referenced Standards indicated.

2. Training Programs and Materials: Prepare and submit Training Programs and Materials for City personnel.

1.07 ISOLATION (DE-ENERGIZING AND RE-ENERGIZING) OF OVERHEAD WIRES

A. Request for isolation shall be submitted to the City Representative at least 15 working days prior to work begin. Such requests may be denied for any legitimate reason, including events beyond the Contractor's control or by non-compliance with the requirements of this specification. De-energizing and re-energizing of feeder circuit via remote opening and closing of the circuit breakers will be accomplished by MUNI at no cost to the Contractor. De-energizing and re-energizing of the trolley wires using local isolation shall be done by the Contractor at no cost to the City. Localized isolation using temporary section insulator (nobo), temporary feed tap disconnect, temporary jumper disconnect, and other means shall be accomplished by Contractor's qualified personnel.

B. When overhead power is de-energized at the Contractor's request, the Contractor shall temporary ground the overhead power system in accordance with MUNI Procedure SY.PR 002 "On Track & Trackside Safety Program" to guard against accidents to the negative return to the power substation that normally provides the overhead power.

1.08 SPECIAL INSTRUCTIONS

A. The Contractor's regular working hours shall be as specified in the General Conditions, Document 00 72 00, subparagraph 1.01A.67. Traffic requirements may dictate different working hours.

B. Refer to Section 01 55 26 - Traffic Control for other special instructions.

C. The Contractor must request for a Clearance Permit for each location in a timely manner through the City Representative. The Contractor shall not commence any OCS work in the public right of way without a valid Clearance Permit issued by the SFMTA Central Control. The Contractor shall submit a copy of the clearance permit to the City Representative prior to commencement of site work.

D. The Contractor shall use proper equipment to prevent unnecessary damages to facilities at the project site.

E. The Contractor is NOT ALLOWED to work on or within 50-ft of any Special OCS, unless the work is being approved by the City Representative.

F. The Formal Contract Team (which includes Engineer, Construction Management and its Contractor) for sewer and water replacement and/or pavement renovation project along with SFMTA determines the actual schedule and duration for OCS support services. The Contractor hereby is expected to follow the established schedule throughout contract phases to complete all work requests.

G. Liquidate Damages for Interference to MUNI: The Contractor shall pay the sum of Five Hundred Dollars (($500) per vehicle per hour or fraction thereof for any delay or interruption of MUNI operations while Contractor is performing the work under this Contract.

H. Refer to Document 00 73 02 - Contract Time Liquidated Damages for other liquidated damages.

I. Contractor's Qualification: In addition to the required licensing as stated in Section 00 11 13 – Advertisement For Bids, Contractor shall have a minimum of 2 projects in contracting and constructing overhead contact system work in San Francisco Municipal Railway's system within the last 5 years to be considered a qualified Contractor. Refer to Section 00 21 13-1.10 for Contractor Qualifications.

J. The Contractor shall not interfere with the movement of MUNI vehicles at any time. The Contractor shall stop his/her work as necessary to permit MUNI vehicles to travel safely through the construction zone and resume work after the MUNI vehicle has safely cleared the area. The Contractor shall suspend his/her operations and clear the roadway immediately when requested or directed by City Representative.

K. All work issued by this contract to contractor shall be approved by the Overhead Lines (OHL) Superintendent. Contractor must have at least two (2) Union journeymen on each jobsite. Additionally, all isolation points must be agreed to by OHL Superintendent or his designee prior to work start.

1.09 TRACK SAFETY TRAINING AND CERTIFICATION

A. Refer to Section 01 55 26 - Traffic Control – 3.3 Mass Transit Vehicles for a description of the Contractor's requirements.

PART 2—PRODUCTS (NOT USED)

PART 3—EXECUTION

3.01 EXISTING CONDITIONS

A. Prior to commencement of work, conduct field inspection to confirm the actual conditions and locations of existing overhead wires, feeders, overhead wire supports, poles, and all other facilities affecting the work. Where require, the Contractor shall measure and record the heights and tensions of existing trolley wires to remain. Existing field conditions shall be recorded as specified in Section 01 71 43 – Site Specific Work Plan (SSWP).

3.02 SAFETY

A. Contractor shall observe and comply with all applicable provisions of the California Code of Regulations, Sub Chapter 7 – General Industry Safety Orders.

B. Contractor shall have full responsibility for the safety of its personnel and shall ensure that the conductors, which could become energized through operation of existing equipment, are properly grounded while work is being performed on them, and that such grounds are removed after the work is completed.

C. Work on and under an energized system shall comply with the high voltage (Group 2) provisions of the California Code of Regulations, Sub Chapter 5 - Electrical Safety Orders. Adapt all designs, methods, and equipment to this condition and take due precautions against hazards to persons, and against accidents and damage to City equipment or materials.

D. The MUNI Overhead Contact System is a HIGH VOLTAGE SYSTEM operating in excess of 600 volts DC and its trolley wires typically has at least 17-foot vertical clearance from the roadway pavement. Contractor shall field verify the minimum vertical clearance prior to starting work. Contractor's attention is directed to California Code of Regulations, Title 8, Division 1, Chapter 4, Sub-Chapter 5, Group 2, Article 37 - Provisions for Preventing Accidents Due to Proximity to Overhead Lines. The OSHA regulations require that any boom type equipment that moves vertically must maintain a 10-foot radial clearance and any other equipment shall maintain a 6-foot clearance from overhead electric wires. Contractor shall strictly observe these regulations.

E. The Contractor is NOT allowed to work on and in close proximity to light rail transit.

3.03 MISCELLANEOUS

A. All damaged existing trolley poles, pole bands, base covers, and other OCS components shall be restored by the Contractor to the satisfaction of the City Representative, and in accordance with these Specifications.

END OF SECTION