

METROLINK

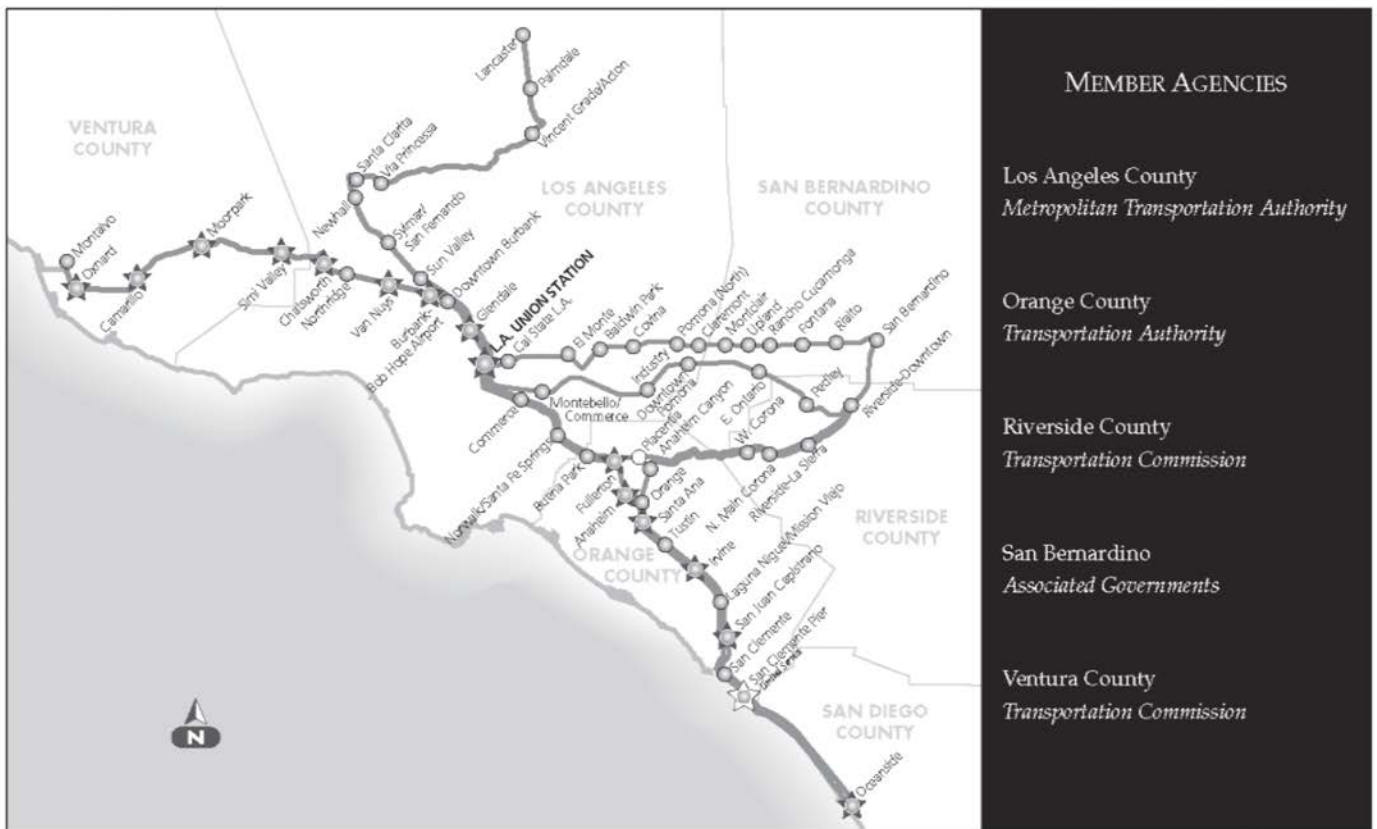
Southern California Regional Rail Authority



CONFORMED CONTRACT

NO. MS260B-16

**COMMUNICATION AND SIGNAL
SYSTEMS INSTALLATION SERVICES**



CONTRACT AGREEMENT

	between)	Contract No. MS260B-16
)	
)	
Mass Electric Construction Company)	
1925 Wright Avenue, Suite C)	COMMUNICATION AND SIGNAL
La Verne, CA 91750)	SYSTEMS INSTALLATION
)	SERVICES
Telephone: 909.962.6001)	
Fax: 909.962.6002)	AWARDED BY THE BOARD:
Attn: Rohit Sharta)	JUNE 10, 2016
)	
)	
)	
And)	Contract Amount: \$25,000,000
)	
)	
)	
)	
)	
Southern California Regional Rail Authority)	<u>Authority Contract Manager:</u>
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This contract may be funded in part under federal grants issued by the U.S. Department of Transportation, Federal Transit Administration

**SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
METROLINK COMMUTER RAIL SYSTEM**

CONTRACT NO. MS260B-16

COMMUNICATION AND SIGNAL SYSTEMS INSTALLATION SERVICES

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This Agreement is made and entered into as of June 10, 2016 by and between the SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (hereinafter referred to as "Authority") and MASS ELECTRIC CONSTRUCTION COMPANY (hereinafter referred to as "Contractor").

RECITALS

WHEREAS, Authority is a joint powers Authority organized under Sections 6500 et seq. of the California Government Code and Section 130255 of the California Public Utilities code with power to contract for services described in Attachment A to this Agreement entitled "Attachment A – Scope of Services" (hereinafter referred to as "Services");

WHEREAS, Authority desires to hire a Contractor to perform the Services;

WHEREAS, the Contractor has indicated it is qualified to self-perform such Services and (1) has reviewed all the available data furnished by Authority pertinent to the Services to be rendered; (2) has inspected and reviewed the Services to be rendered; (3) will exercise the ordinary care and skill expected of a practitioner in its profession; and (4) is willing to accept responsibility of performing the Services set forth in this Agreement for the compensation and in accordance with the terms, requirements and conditions herein specified;

NOW, THEREFORE, for the consideration hereinafter stated, the parties agree as follows:

1. DEFINITIONS OF TERMS AND ABBREVIATIONS

Certain terms and abbreviations are used throughout this document, which have specific meanings as follows:

AAR	AAR shall mean the Association of American Railroads
Agreement	Agreement shall mean this Contract No. MS260B-16 between the Authority and Contractor
AREMA	AREMA shall mean the American Railway Engineering and Maintenance-of-Way Association
AREMA Communications and Signals Manual	AREMA Communications and Signals Manual shall mean the American Railway Engineering and Maintenance-of-Way Association's Communications and Signals Manual of Recommended Practices
ATCS	ATCS shall mean the Advanced Train Control Systems
Authority	Authority shall mean the Southern California Regional Rail Authority or SCRRA, a Joint Powers Authority created pursuant to Cal. Public Utilities Code Section

	130255 and Cal. Govt. Code Section 6500 et seq.
Authority Commuter Railroad Operations	“Authority Commuter Railroad Operations” shall mean those railroad passenger services provided by or at the direction and under the control of Authority, and all related and/or ancillary functions necessary to the provision of those services.
Authority - Systems Installation Task Order Manager	The Authority Systems Installation Task Order Manager shall mean the authorized representative of the Authority for matters related to the management and administration of a specific task order under this Agreement.
Authority Contract Manager	“Authority Contract Manager” shall mean the authorized representative of Authority for matters related to this Agreement, as Authority shall designate in writing and who shall be the Senior Director of PTC or an Authority PTC C&S Department Staff member at the Assistant Director or higher level who is designated by the Senior Director PTC as the Authority Contract Manager.
BNSF	“BNSF” shall mean the BNSF Railway Company, which conducts freight railroad operations at various locations on the Service Property.
BSEE	“BSEE” shall mean Bachelor of Science in Electrical Engineering
CFR	“CFR” shall mean the Code of Federal Regulations
Customer Information System (CIS)	A system for providing customers with information of train schedules and arrival times using LED scrolling signage as well as LED monitors on station platforms. Also used throughout Los Angeles Union Station. CIS is operated from servers located within the Dispatcher’s Operations Center
Configuration Management (CM)	A system engineering process for establishing and maintaining consistency of a product’s hardware, firmware, and software performance, functional, and physical attributes with its requirements throughout its life.
Contracting Officer	“Contracting Officer” shall mean the Authority’s Chief Executive Officer or his authorized designee who has authority to execute contracts on behalf of the Authority

Consumable Supplies	<p>“Consumable Supplies” shall mean that class of material that is incidental to the installation process and which is depleted during the installation process. Examples of Consumable Supplies are tapes, lubricants, pull line and pull rope not left for future installation, batteries used for testing/flashlights, fuel and oil, and miscellaneous materials which are not utilized for staging or sequencing the task order or which do not remain as a permanent part of the completed project.</p>
Communications, Signals and Systems Instructions Governing Installation, Maintenance, Inspection and Testing of Systems	<p>“Communications, Signals, and Systems Instructions” shall mean the most current Instruction Manuals and Documents issued by the Authority that specifies procedures and practices that, at a minimum, are to be followed by personnel performing Systems tests, installation, maintenance, configuration management and repair.</p>
Contractor’s System Engineer	<p>“System Engineer” shall mean the Contractor’s key staff employee responsible for overseeing the quality, testing, licensing, commissioning, and documentation of the installed PTC, COMMUNICATIONS, SIGNALS, TRAIN CONTROL, CIS, SECURITY, and ELECTRICAL systems and facilities and assuring compliance with the Authority standards, practices, guidelines, designs and configuration management processes.</p>
Contract Task Order (referred to herein as “CTO”)	<p>“CTO” shall mean a task order issued by an authorized representative of Authority authorizing contractor to perform a specified task or service.</p>
Contractor	<p>“Contractor” shall mean the firm(s) or entity(ies) selected by Authority to provide the Services under the terms and conditions of this Agreement</p>
Cost Estimate for CTOs	<p>“Cost Estimate” shall mean a not-to-exceed cost proposal submitted by the Contractor for a defined scope of work on a proposed CTO.</p>
Cost Proposal	<p>“Cost Proposal” shall mean the Cost Proposal submitted by Contractor to Authority in response to this Contract No MS260B-16.</p>
Covered Employee	<p>“Covered Employee” shall mean any employee of Contractor who is subject to any term or terms of a collectively negotiated agreement between Contractor and any group of its employees.</p>

CPUC	"CPUC" shall mean the California Public Utilities Commission
Defective	An adjective which refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or Approval referred to in the Contract Documents
Demobilization Period	"Demobilization Period: shall mean the time necessary to transfer installation responsibilities identified within this Agreement to the next succeeding Contractor
Direct Costs	"Direct Costs" shall mean those costs incurred directly by the Contractor in providing the Services
Directive	A written communication to the Contractor from the Authority interpreting or enforcing a Contract requirement.
Effective Date	"Effective Date" shall mean the date first written hereinabove.
Engineering Instructions and Standards	"Engineering Instructions and Standards" shall mean the most current version of the written documents, forms, track charts, composite maps, plans, design drawings and as-built drawings issued to Contractor by Authority's Engineering and Construction Department or PTC C&S Department and when used in conjunction with this Agreement, prescribe Authority's specific requirements for inspecting, maintaining and repairing communications and signals.
Employee-in-Charge (herein referred to as EIC)	"Employee-in-Charge" shall mean a roadway worker designated to provide on-track safety for one or more work groups.
Exempt Employee	"Exempt Employee" shall mean any employee of Contractor who is not in any way subject to the terms of a collectively negotiated agreement between Contractor and (i) any group of its employees or (ii) the duly designated representative of a group of Contractors' employees.
FCC	"FCC" shall mean the Federal Communications Commission
Federal Railroad	"FRWS" shall mean the FRA roadway worker safety

**Workplace Safety
Standards or “FRWS”**

standards set forth at 49 CFR 214, as such regulation may be amended from time to time.

Finished Product

“Finished Product” shall mean all material, equipment, documentation, and incidental items associated with a project as described in the CTO. This will typically consist of installed housing(s) racks or cabinets complete with all inter-housing material, all assembled and wired systems including signal and/or communications wayside, on-board or back office train control appliances such as switch mechanisms, radios, antennas, signals, crossing gate mechanisms, servers, processors, electrical panels, yard, building and station lighting and power, security, video monitoring, public address etc. associated with the site location; all cabling, all material called for in the CTO, and all associated documentation such as, but not limited to, FRA and Authority compliance, product manuals, test reports, as-built records and warranties.

Fiscal Year

“Fiscal Year” shall mean that twelve-month period beginning July 1 and ending June 30 in any pair of successive calendar years.

**Flowdowns for
Subcontracting (“★”)**

All articles, sub-articles or portions of this Agreement noted by a single star (“★”) shall be included in all subcontracts of any tier.

FRA

“FRA” shall mean the Federal Railroad Administration

FTA

“FTA” shall mean the Federal Transit Administration

**Fully Burdened Labor
Cost (herein referred to
as FBLC)**

“FBLC” shall mean the cost for labor services that is billed to Authority that includes all of the elements listed in Article 4

**General Code of
Operating Rules /
Maintenance of Way
Rules and Instructions
(herein referred to as
GCOR)**

“GCOR” shall mean those rules governing employees in the operation of Authority Commuter Railroad Operations and maintenance related thereto, which also include Authority’s Timetable, Special Instructions, General Orders, Bulletins and maintenance instructions, as promulgated and amended from time to time by the Authority.

Key Staff

“Key Staff” shall mean all of Contractor’s Employees occupying the positions of Installation Contract Manager, Installation Signal Engineer, Installation Communication Engineer, Installation Superintendent,

	<p>Installation Communication Technician, Installation Signal Support Maintainer in connection with Contractor's performance of the Services. Key Staff employees are required to be available to the Authority commensurate to the level of work</p>
Melbourne Support Facility (MSF)	<p>"Melbourne Support Facility or MSF shall mean the PTC, C&S warehouse and support offices located at 2703 Melbourne Pomona CA 91767.</p>
Member Agencies	<p>"Member Agencies" means Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), San Bernardino Associated Governments (SANBAG), and Ventura County Transportation Commission (VCTC), or the successors in interest to any or all of them.</p>
Mobilization Period	<p>"Mobilization Period" shall mean that period of time beginning on the Effective Date of this Agreement and ending on the date Contractor begins providing Services, during which Contractor shall train and qualify its staff, arrange for rental and delivery of equipment, establish headquarters and communications systems and perform all other tasks necessary for Contractor to prepare to perform the Services.</p>
Operations Center (herein referred to as "TCOSF or MOC")	<p>Operations Control Center shall mean the Authority's Train Control and Operations Support Facility (TCOSF) located at 2704 N. Garey Pomona, California or the Metrolink Operations Center (MOC) located at 2558 Supply Street, Pomona, CA 91767-</p>
Notice to Proceed (herein referred to as "NTP")	<p>"NTP" shall mean the start date of work outlined in this Agreement.</p>
On-Track Safety Manual	<p>"On-Track Safety Manual" shall mean the Authority's Manual for assuring FRWS as required under 49 CFR 214</p>
Positive Train Control System (PTC)	<p>"Positive Train Control System PTC" shall mean a communication/processor intensive systems located at wayside, on-board and back office sites and featuring integrated hardware, firmware, software and cabling components designed to prevent collisions between trains, over-speed derailments, incursions into</p>

established work zone limits (i.e. for roadway workers maintaining track) and the movement of trains through an improperly lined switch as further defined in the Code of Federal Regulations (CFR) 49 Part 236 I.

**Public Address
Changeable Message
Sign (herein referred to
as “CIS or PACMS”)**

Customer Information System (CIS) or public address changeable message signs (PACMS) and associated public address broadcast speakers located on train stations to notify passengers of train activities and supported and controlled by back office firmware, hardware and software.

“PACMS” shall mean the Customer Information System (CIS) or public address changeable message signs and associated public address broadcast speakers located on train stations to notify passengers of train activities and supported and controlled by back office firmware, hardware and software.

Project Codes

“Project Codes or Project Numbers” shall mean the Authority assigned codes used to identify specific project information. A contact task order (CTO) may have more than one Project Number and the Contactor will be required to track labor, equipment, material, and other costs by both CTO and Project Code.

Qualified

“Qualified” shall mean having satisfied the training and testing requirements for a position and possessing the background, skills and experience necessary to fulfill the duties of a job as described in Appendix B.

**Railroad Operating
Envelope**

“The Railroad Operating Envelop extends to a point 18 feet from the end of any railroad track tie except at passenger platforms where it extends 5 feet from the edge of the platform, 20 feet in any direction from the track at a grade crossing, 10 feet from the exterior of any wayside signals, train control or communication facilities including signal and communication houses and within 10 feet of any designated buildings and other facilities owned, maintained or operated by the Railroad

Request For Estimate

Request For Estimate shall mean a document provided by the Authority which assigns Task Number, Duration, Expiration Date, Milestones, and Project Numbers associated with the Scope provided to the Contractor to develop cost, duration, and schedule.

Re-collectable Work	“Re-collectable Work” shall mean any work performed and compensated under this Agreement on behalf of third parties where Authority does not typically fund the construction or installation.
Restoration Services	“Restoration Services” shall mean those Services required to restore the Signal and Communications facilities to normal operation following any storm, fire, derailment, earthquake, motor vehicle accident, act of vandalism, or any other disruption to service.
Right of Way	“Right of Way (ROW)” shall mean the railroad structure consisting of the rails, fasteners, railroad ties, ballast, and fences plus the underlying subgrade.
Services	“Services” shall mean any and all of the inspection, test, repair, installation and support services performed by Contractor pursuant to the terms and conditions of this Agreement
Service Property	“Service Property” shall mean the track, land, structures, buildings, and other facilities (including radio base stations, wireless radio and microwave sites and passenger stations) that are located on or adjacent on Authority owned or maintained rail lines, yards, stations, communication towers, facilities, locomotive and cab cars equipped with train control, and facilities as indicated in the Authority’s track charts, map books, composite maps and as-built drawings and as listed in Appendix A
Site Specific Work Plan	“Site Specific Work Plan” shall mean Contractors detailed plan of how the assigned Scope of Work for the CTO will be performed. A Work Plan is required for each CTO estimate submittal.
Start Date	“Start Date” shall mean the date on which Contractor begins providing Services pursuant to the terms and conditions of this Agreement
Subcontractor	“Subcontractor” shall mean a party or parties who perform(s) a portion of the Services including the supply of materials under the control and at the direction of Contractor, pursuant to a separate agreement between such party and Contractor. Nothing contained herein nor any course of conduct shall be construed to create any contractual relationship between Authority and any Subcontractor.

Sub-System	“Sub-System” shall mean A self-contained system within a larger system.
Systems	“Systems” shall mean the Authority Systems integral to operation, control, monitoring, reporting of train movement and maintenance of trains, equipment, stations, buildings, communication towers and wayside facilities on the Authority’s Service Territory including but not limited to hardware, firmware software and related equipment and cabling for signals, grade crossings, communication equipment, back office train control, on board train control, positive train control (PTC), customer information (CIS) or predictive arrival and departure (PADS), electrical, power, lighting, security, video monitoring, public information address and climate control and ancillary support work such as transporting, storing and warehousing associated with the categories of these named systems.
Systems Contract Manager	“Systems Contract Manager” shall mean Contractor’s staff person who has general management oversight and who shall have the responsibilities and qualifications described in Appendix B.
System Safety Program Plan (herein referred to as “SSPP”)	“SSPP” shall mean the compilation by Authority of the performance, monitoring, efficiency, root cause investigation and auditing tasks related to inspection, testing, installation or maintenance of the Service Property, or personnel qualifications, training, and rules compliance necessary for the operation of the Authority Commuter Railroad Operations. The SSPP shall include Contractor’s employee rule book and instructions.
Site Specific Work Plan (SSWP)	“SSWP” shall mean a Site Specific Work plan developed by the Contractor and approved by the Authority prior to beginning task related work on the property.
Task Order Manager	Shall mean the authorized representative of the Authority for matters related to the administration of a specific CTO under this Agreement and is also referred to as the Authority Systems Installation Task Order Manager.
Third Party Contractors	“Third Party Contractor” shall mean any contractor engaged by Authority or parties other than Contractor to perform work at the Service Property, and whose

work Contractor must accommodate as part of Contractor's performance of the Services.

Train Operations Contractor

"Train Operations Contractor" shall mean that entity engaged by Authority to operate trains as part of Authority Commuter Railroad Operations.

UP

"UP" shall mean the Union Pacific Railroad Corporation, which conducts freight railroad operations at various locations on the Service Property.

Work Segment Number (herein referred to as "WSN")

"WSN" shall mean the accounting identifier assigned by Authority to be used in tracking the costs associated with a particular project or group of projects. WSN numbers may be further subdivided and assigned to specific work tasks or site locations as prescribed in the CTO

Work Stoppage

"Work Stoppage" shall mean an occasion on which employees do not report for work in protest in connection with a dispute with their employer, because the employer has and/or the employees have elected to exercise any self-help rights that may be available to them pursuant to applicable law.

2. SCOPE OF SERVICES

- A. The Contractor will perform the Services and related tasks as described in Attachment A - Scope of Services attached hereto and incorporated by reference into and made a part of this Agreement.
- B. This is a non-exclusive Agreement, whereby the Authority may, at its sole discretion, augment or supplant the Services with its own forces or forces of another Contractor or entity at any time and any location. The Contractor will cooperate fully with Authority's staff or other Contractor or entity that may be providing similar or the same Services for Authority.

3. PERIOD OF PERFORMANCE

The base period of performance shall be for three (3) years from July 1, 2016 to June 30, 2019 with a two (2) two-year option that may be exercised at the sole discretion of Authority.

4. PAYMENT AND INVOICING

- A. For Contractor's full and complete performance of its obligations under this Agreement, the Authority shall pay Contractor at the Fully Burdened Labor Costs (FBLC), plus any direct costs as provided in (Appendix E) in accordance with the

provisions of this Article, and subject to the maximum cumulative payment obligation set forth in this Article.

Authority's maximum cumulative payment obligation under this agreement shall not exceed twenty five Million Dollars (\$25,000,000) for the base three year period and a two year option and will be based on the rates established in Contractor's pricing schedules for the FBLC and Direct Costs, using actual and fixed unit rates, as set forth in detail at Appendix E, attached hereto.

B. Invoicing

The Contractor shall invoice Authority both by hard copy and electronically in a form and manner acceptable to the Authority using the rates established in the Contractor's pricing schedules, attached as Appendix E, on a monthly basis no later than the 25th of each month. The Contractor shall furnish detailed information as may be requested by the Authority to substantiate the validity of an invoice, which shall include but not be limited to certified payrolls, labor, material, equipment and other costs per Task Order and Project Number, all competitive quotes requested and received for materials, services, and equipment.

1. Labor

- a. The Authority shall compensate the Contractor for labor for Services performed under this Agreement using the FBLC set forth at Appendix E.
- b. The FBLC rate will be broken down as follows, and will include:
- c. Direct Labor Costs:
 - i. **Direct Labor:** Actual salary paid to actual hourly rates paid to Covered Employees at the approved amounts appearing at Appendix E.
 - ii. **Employee Fringe Benefits:** FBLC shall include costs for insurance, vacation, holiday, other paid absences, disability, sickness, health, welfare and dental coverage, life insurance and travel insurance and worker's compensation, employee savings, and investment plans, pension costs accrued and other employee benefits paid by Contractor.
- d. **G&A Overhead:** In addition to the costs listed at Appendix G (1) personal protective equipment program costs (safety toe 8 inch lace up boots with defined heel, hard hat, orange reflectorized vest, safety glasses); (2) administrative and managerial costs (3) electronic equipment including two-way analog VHF 160 to 162 MHZ radios and phone (cell) mobile telephone costs: laptop

computers and software for signal, communication and PTC testing; (4) allowance for (a) office supplies, (b) safety equipment (c) licenses, including equipment licenses and fees (d) fees for business licenses, (e) office utility charges, (f) taxes, (g) Consumable Supplies and all Small Tools and test equipment, (h) batteries and accessories for Contractor use and (i) permits for Contractor use meter hook-ups are also included as part of G&A Overhead and incorporated in the FBLC rates. (5) Performance and Payment Bonds as required by Contract. (6) Insurance.

Whenever a premium rate is paid the G&A Overhead shall apply only to the straight time portion of the premium rate.

Profit: Profit is calculated as a percentage of Direct Labor Costs and is included in the FBLC rates.

Whenever a premium rate is paid the profit shall apply only to the straight time portion of the premium rate.

2. **Direct Costs and Overhead Conditionally Allowed on Materials and Subcontracted Services.** The Contractor shall bill the following items to Authority as Direct Costs, shall itemize such items on each invoice and must also include documentation for material purchases (quotes and/or sole source justifications must be included as part of the invoice). No markups, fees, profit, or additives indirect costs or overhead will be allowed on any Direct Costs.

- a. **Equipment**

Contractor owned equipment, assigned for use under specific CTO's to perform Services under this contract, shall be billed for the billing period at the unit rates included in the contractor's pricing schedules. These rates include the cost of ownership and operation, the cost of fuel, lubricants, normal wear items (tires, brakes, filters, batteries and lamps), repairs, insurance, fees, licenses, and other costs to operate the vehicle and equipment. These costs must be substantiated with copies of receipts and invoices from suppliers, vendors, and subcontractors. The costs invoiced will be at the lowest total combination of hours, days, weeks, or months for the total billing period that the equipment is provided. For purposes of determining the cost of the total hours of equipment rented during the billing period, contractor will use the formula below:

1 hour to 6.8 hours = Hourly Rate
6.9 hours to 30.0 hours = Daily Rate
31 hours to 115 hours = Weekly Rate

115 hours to 160 hours = Monthly Rate

Payment for equipment rental that exceeds the total billing in the pay application calculations of daily, weekly, or monthly rates shall be calculated at 1/8th of the daily rate for each hour in excess of eight hours per day in a billing period when billing is on a daily rate; 1/40th of the weekly rate for each hour in excess of eight hours per day in a billing period when billing is on a weekly rate; and 1/160th of the monthly rate for each hour in excess of the 160 hours within a thirty day period. When the billing exceeds four (4) weeks in a payment application period, the contractor shall bill the additional hours at 1/160th of the monthly rate

Payment will be deducted from the billing period at a daily rate, for any day that the equipment is not able to operate due to breakdowns exceeding one hour. Costs invoiced will not include the labor for a driver or machine operator. Personnel to operate equipment shall be invoiced under the FBLC for the category of employee assigned to the work. For additional Contractor-owned equipment provided that is not listed in Appendix E the contractor shall be reimbursed for the use of that equipment through rental rates for the applicable Hourly, Daily, Weekly or Monthly rate as established in the most current addition of the Rental Rate Blue Book for Construction Equipment for the current year. Contractor will be reimbursed as a direct cost upon receipt of invoices from the rental company. Fueling, if not included as part of the rental cost, will be reimbursed on the actual cost of fuel and applicable mileage used. Under no circumstances will reimbursement in excess of Blue Book rental rates for the applicable time period be authorized.

b. Supplies and Materials

The Contractor shall invoice the Authority for materials that the Authority previously authorized under a valid CTO. There is no fee, profit, markup, or other additive to these costs.

c. Subcontracted Services

Subcontracted service costs that have been previously authorized in writing by Authority under a CTO must be substantiated with copies of receipts and invoices from suppliers, vendors and subcontractors. There is no fee, profit, markup, or other additive to these costs.

d. **Restoration Services**

Costs for Extraordinary Work shall be billed in accordance with the individual CTO covering such Services, and using the same invoicing requirements as are stated in Section A, above.

- e. **Overhead Conditionally Allowed on Materials and Subcontracted Services:** Contractor shall bill for materials and any subcontracted services or incidental subcontracted services at cost with no additive or multiplier applied. However if Contractor maintains segregated indirect or overhead costs specifically associated with Authority's material handling and subcontracted services in accordance with FTA Circular 4220.1F, and substantiated by Authority's audit, an overhead cost applied to materials and subcontracted services will be negotiated and will be allowed when these services are requested and approved by the Authority in the CTO. The Contractor shall assume purchasing of up to \$50,000.00 of materials and subcontracted services monthly through the duration of the Contract. In the event the Authority requires the Contractor to procure in excess of the total Contract amount during the Contract period assignment, the Authority may negotiate additional Overhead.

- C. At its sole discretion, Authority may decline to make full payment for any Services until such time as Contractor has documented, to Authority's satisfaction, that Contractor has fully completed all required Services or may deduct or disallow that applicable portion of the invoice related to the lack of documentation or disputed charges.
- D. In the event the Authority should overpay the Contractor, such overpayment shall not be construed as a waiver of Authority's right to obtain reimbursement for the overpayment. Upon discovering any overpayment, either on its own or upon notice of the Authority, the Contractor shall immediately reimburse the Authority the entire overpayment.
- E. **Contractor shall submit invoices electronically to:**

Accounts Payable:
AccountsPayable@scrra.net

With electronic copies to:

Darrell Maxey, Deputy Chief Operating Officer (PTC & Engineering)
maxeyd@scrra.net

and

Sean Carpenter, Senior Contract and compliance Administrator
carpenters@scrra.net

Each invoice shall include the following information:

Agreement number/CTO Number
Time period covered by the invoice
Amount of payment requested
Information as requested by Authority in Appendix F
An electronic copy of the invoice in the format required by Authority

The Authority shall remit payment within an average of thirty (30) calendar days of an undisputed invoice that has been properly submitted.

5. SAFETY MANAGEMENT

- A. **General.** The Contractor shall adhere to Authority's current System Safety Program Plan in all respects and shall manage and coordinate safety throughout the term of this agreement. The Authority may amend the SSPP from time to time and will provide updated copies to the Contractor. Upon receipt of such updated copies, the amended SSPP shall be attached as Appendix H to this Agreement until such time as it is replaced subsequently by the Authority.
- B. **Safety Plan Compliance Procedure.** The Contractor shall develop its own safety plan and employee rule book and instructions in accordance with the requirements set forth at Appendix H, which shall be reviewed and, if acceptable, approved by Authority sixty (60) days after commencement of Services, and which shall, at a minimum (1) address employee safety and safety of installation employees; (2) set forth a hazard and risk assessment process; and (3) set forth requirements for employee safety committees. This plan shall be reviewed and any changes to the plan shall be submitted to the Authority for review and approval. The Contractor's safety plan shall be consistent with Authority's SSPP.
- C. **Drug and Alcohol Testing.** The Contractor shall comply with Authority's approved drug and alcohol testing procedures, as the Authority may amend such procedures from time to time during the term of this Agreement. Nothing in this Agreement shall prevent the Contractor from administering a drug and alcohol management or testing protocol that exceeds the standards set forth in the Authority drug and alcohol testing program. The Contractor shall administer a pre-employment drug and alcohol program for all Contractor employees providing the Services.
- D. **System Safety Plan.** The Contractor shall monitor and revise its internal system safety plan for consistency and compliance with the Authority's SSPP and to achieve railroad industry best practices for system safety. The Contractor will distribute and train all Contractor's employees and Subcontractors using

Contractor's system safety plan. The Contractor's system safety plan shall be updated as needed to remain consistent with operations.

- E. **Training Records (Quarterly Report).** The Contractor shall provide, in accordance with the requirements set forth at Appendix C reports of all training performed quarterly, including the titles of all courses, course descriptions, hours and attendees. The Contractor's report shall include a summary of courses passed or failed for all attendees, along with a list of trained employees who have left the Contractor's employ. This report shall be submitted on a quarterly basis to the Authority Contract Manager. Every quarter, Contractor shall update the Annual Training Schedule to include actual dates of training.
- F. **Contractor Testing officers** –Contractor will be required to assign testing officers and conduct between two (2) and ten (10) tests per month dependent on the amount of employees working within the Railroad's operating envelope, which will include, at least 2 (two) to five (5) Cardinal Rule tests per month. Cardinal Rule tests are identified below in the Operational Testing Means and Procedures. Two (2) to Six (6) tests will be conducted each calendar year, meeting the requirements of 49 CFR 218 Subpart F (testing officers with limited 218 opportunities may be relieved from this requirement with Authority permission). Tests that meet the requirements of Subpart F are tests relating to good faith challenge, shoving or pushing movements, equipment left to foul, and hand operated switches, crossovers or derails. Designated supervisor will be required to conduct four (4) to twelve (12) Oversight tests annually.

Tests must be conducted on at least two to four different employees each month by each testing officer.

6. WORK WEEK

The normal work week for each Contractor employee will consist of five eight-hour day or night shifts that typically may include weekends but may be any days of the week as determined by the Authority's operational requirements, based on considerations of safety and accessibility during Authority's non-peak hours of operation. Notwithstanding the preceding sentence, the Authority reserves the right, upon the provision of two weeks' notice to Contractor, to require some or all of the Contractor's or Subcontractor's employees to work four ten-hour days as the needs of the Authority change during the term of this Agreement.

Typically, some portion of the Services shall be scheduled to occur on weekends and at night when train traffic is significantly reduced and there are more opportunities for track possession. The Authority reserves the right to modify this schedule with two-week notice to the Contractor.

7. CONTRACT TASK ORDERS

The Contractor shall perform Services under this Contract as specified in written Contract Task Orders (hereinafter referred to as "CTO") issued by the Authority. The Authority shall not be obligated to pay costs in excess of the not-to-exceed price set forth in each CTO unless the Authority is notified in advance or concurrently of a substantive material change in scope, schedule or sequencing or unforeseen conditions and the Authority authorizes a revisions to the CTO preferably in advance of revised work starting. Authority must approve and notify Contractor.

A. CTO Proposal Presentation

The Authority will issue a written CTO Request for Proposal (see Appendix D) via upload to the Authority's e-procurement website as follows: http://www.metrolinktrains.com/doing_business, to one or more Contractors for submission of a detailed CTO proposal. The request will include, as needed, a description of the Services to be performed, the required schedule, and any special conditions related to the performance of the Services. Upon receipt, Contractor shall submit a detailed CTO Cost Proposal via upload to the Authority's e-procurement website as follows: http://www.metrolinktrains.com/doing_business.

If the CTO will require the use of subcontracted services not listed and rates not included in the original proposal, or if the CTO includes incidental subcontracted services or material procurement, the Contractor will be required to follow the applicable provisions FTA Circular 4220.1F and the applicable provisions of the Authority's most current version of the Contract and Procurement Policies and Procedures especially with regard to CONs 5, 9, 10, 12, and 19. If the Contactor is in doubt about what procedure or process is to be followed with regard to procuring subcontracted services or material, the Authority's Contract Manager should be contacted and clarification and direction requested.

The Contractor's proposal shall be detailed and respond completely to the Authority's request. The proposal shall include, but not be limited to:

1. A description of the Services to be performed for the CTO, in sufficient detail to allow for the Authority's evaluation and/or an independent cost estimate, if required.
2. A detailed listing of any information required by the Contractor, from the Authority or a third party, in order for the Contractor to perform the Services. The time at which the information is required must be provided.
3. A list of the Contractor's personnel, by function and labor title, to be used in the performance of the Services, estimated labor hours for each and specific fully burdened labor rates.

4. A list of the Subcontractors, by name, to be used in the performance of the Services. For each Subcontractor, identify: the specific service(s) to be provided; the personnel, by function and labor title, to be used; the estimated labor hours for each, and whether the Subcontractor is a certified DBE.
5. A resource loaded schedule and a site specific work plan for completion of the Services, including a breakdown of milestone completion dates in Microsoft Project or Primavera software format. This schedule shall be individually updated each month and submitted for review and approval through the duration of the CTO performance period.
6. The negotiated not-to-exceed cost for the CTO will be in effect for the duration of the CTO.
7. A detailed description of subcontracted services and/or materials to be procured and documentation supporting and/or demonstrating compliance with FTA and Authority requirements.

The process for revising an approved CTO shall include all the requirements of this Article. When scope, sequencing schedule or site conditions or work changes due to unforeseen conditions occur beyond the Contractors control, the Contractor may initiate a revised CTO that includes all of the requirements above for approval. This action must be undertaken within three (3) calendar days from when unforeseen conditions were discovered.

The Contractor shall also be responsible for initiating revision when schedule of work outside of the contractors control will exceed budget. Two week notification with justification, if practicable, shall be made to the Authority's PM for processing CTO revision request. Contractor shall provide justification to support increase in budget authority.

B. CTO Approval

The Authority will issue an approved CTO. Each CTO will include (1) a numerical designator, (2) the description of the CTO Services, (3) the period of performance, schedule of deliverables, and milestones, if applicable, and (4) the not-to-exceed price and duration for the CTO which shall not be exceeded without receipt of an approved revision to the CTO.

The Contractor shall start CTO Services within two weeks of receipt of a fully executed CTO. The Contractor shall not perform work beyond the expiration date of CTO. The Contractor shall inform the Authority in writing, four (4) weeks in advance of a CTO expiration date that the date is forecasted to be exceeded. At the time of written notice, a revision to the expiration date shall be requested.

C. Restoration of Services

In the event of an emergency the Authority's Contract Manager may call upon the Contractor to perform Restoration Services in order to repair, replace, and /or rebuild a portion of the Authority's Service Property. The Contractor shall immediately perform the Restoration Services requested by the Authority's Contract Manager. Contractor must obtain Authority's written authorization within five (5) calendar days, of performing the Restoration Services in accordance with Authority policy in the form of a CTO.

8. AUDIT AND INSPECTION OF RECORDS

The Contractor agrees that the Authority or any duly authorized representative shall have access to and the right to examine, audit, excerpt, copy or transcribe any pertinent transaction, activity, time cards, employment records or other records relating to this Agreement. Such material, including all pertinent cost, accounting, financial records and proprietary data must be kept and maintained by the Contractor for a period of three (3) years after completion of this Agreement unless the Authority's written permission is given to dispose of material prior to this time.

9. NOTIFICATION

All notices hereunder concerning this Agreement and the Services to be performed shall be physically transmitted by courier, overnight, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

<u>To the Authority</u>	<u>To the Contractor</u>
Southern California Regional Rail Authority One Gateway Plaza, 12 th Floor Los Angeles, CA 90012 Attn: Sean Carpenter Sr. Contract & Compliance Administrator	Mass Electric Construction Company 1925 Wright Avenue, Suite C La Verne, CA 91750 Attn: Rohit Sharta Area Manager

10. AUTHORITY AND CONTRACTOR'S REPRESENTATIVES

A. Authority's Project Manager

The Authority's Contract Manager under this Agreement shall be the Senior Director of, PTC

B. Contractor's Key Personnel

The following are Contractor's key personnel assignments (names are to be filled in by the Contractor), shown with their assigned roles in the Services to be provided:

<u>Name</u>	<u>Role</u>
Les Olney	Systems Contract Manager
Jerry Bennett	Systems Installation Signal Engineer
Sean Zor	Systems Installation Communication Engineer
Jeff Cofer	Systems Installation Superintendent
Andrew Frierson	Systems Installation Communications Technician
Jarod Mendoza	Systems Installation Support Maintainer

Authority awarded this Agreement to the Contractor based on Authority's confidence and reliance on the expertise of Contractor's key personnel described above. The Contractor shall not reassign the above named key personnel or assign other personnel to key personnel roles until the Authority approves a replacement in writing.

11. AUTHORITY OF THE CONTRACTING OFFICER CEO AND THE CONTRACT MANAGER

In addition to the rights and obligations stated elsewhere in this Agreement, the Authority shall have the following rights of oversight and monitoring of Contractor's performance.

- A. Monitor the records, facilities, and equipment developed or used, and monitor the personnel and Subcontractors used, by Contractor in performance of its obligations under this Agreement. Contractor shall provide Authority with a summary of monthly reports documenting any contractor performed audits of employee performance.
- B. Have the final approval in all matters relating to or affecting the Services. Except as expressly specified in the Agreement, the Contracting Officer may exercise any powers, rights, and/or privileges that have been lawfully delegated by the Authority. Nothing in the Agreement should be construed to bind the Authority for acts of its officer, employees and/or agents that exceed the delegation of authority specified herein.
- C. The Contracting Officer has delegated to the Contract Manager certain powers and duties in connection with the Agreement. The Contract Manager is the authorized representative of the Contracting Officer for matters related to this Agreement. The Contract Manager or his/her designee is empowered to:
 1. Have general oversight and of the Services and the Agreement, including the power to reasonably interpret the Agreement and enforce compliance with the Agreement.

2. Reserve the right to remove any portion of the Services from the Contractor, which have not been performed to Authority's satisfaction.
3. Subject to the review and acceptance by the Authority, negotiate with the Contractor all adjustments pertaining to CTOs for installation services.
4. Review and approve payment applications for Services performed by the Contractor.
5. Arrange for inspection, testing, quality control or quality assurance of the Contractor's Services.
6. Enforce the requirements of the Authority's SSPP, Efficiency Testing, GCOR of MOW and monitor safety requirements relating to the Services or required by law.
7. Order removal of personnel from the Contract.
8. Recommend amendments to the Contract.

The Authority's Contract Manager shall not have control or charge of and shall not be responsible for the means, methods, sequences, or procedures, or for safety precautions and programs in connection with the Services, for the act or omissions of the Contractor, Subcontractors or any other persons performing any of the Services.

- D. In addition to the foregoing, the Authority's Contract Manager shall have those rights and powers expressly set forth in other Articles of the Agreement.

12. TERMINATION FOR CONVENIENCE

The Authority may terminate a specific Contract Task Order (CTO) or this Agreement for the Authority's convenience by giving the Contractor ten (10) days written notice thereof. Upon receipt of said notice, the Contractor shall immediately take action not to incur any additional obligations, cost or expenses, except as may be reasonably necessary to terminate its activities. The Authority shall pay Contractor its reasonable and allowable costs through the effective date of termination and those reasonable and necessary costs incurred by the Contractor to effect such termination. Thereafter, the Contractor shall have no further claims against the Authority under this Agreement. All finished or unfinished documents and materials procured for or produced under this Agreement shall become Authority property upon date of such termination.

13. TERMINATION FOR BREACH OF AGREEMENT

- A. If Contractor fails to perform any of the provisions of this Agreement or so fails to make progress as to endanger timely performance of this Agreement, the Authority may give the Contractor written notice of such default. If the Contractor does not cure such default or provide a plan to cure such default which is

acceptable to the Authority within the time permitted by the Authority, then written ten (10) days of written notice from the Authority, the Authority may terminate this Agreement due to Contractor's breach of this Agreement.

- B. If a federal or state proceeding for relief of debtors is undertaken by or against the Contractor, or if the Contractor makes an assignment for the benefit of creditors, then the Authority may immediately terminate this Agreement.
- C. If the Contractor violates Article 30, Compliance with Lobbying Policies, then the Authority may immediately terminate this Agreement.
- D. In the event the Authority terminates this Agreement as provided in this Article, the Authority may procure, upon such terms and in such manner as the Authority may deem appropriate, Services similar in scope and level of effort to those so terminated, and the Contractor shall be liable to Authority for all of its costs and damages, including, but not limited, any excess costs for such Services.
- E. All finished or unfinished documents and materials produced or procured under this Agreement shall become Authority property upon date of such termination.
- F. If, after notice of termination of this Agreement under the provisions of this Article, it is determined for any reason that the Contractor was not in default under the provisions of this Article, or that the default was excusable under the terms of this Agreement, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to Article 12, Termination for Convenience.
- G. The rights and remedies of the Authority provided in this Article shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

14. LIQUIDATED DAMAGES

- A. The Authority shall be damaged if the Contractor fails to perform the Services adequately or in a timely manner. For certain performance failures, it may be difficult or impossible to determine the amount of the actual damages to the Authority. The parties have in good faith estimated the approximate amount of such damages at the time of entering into this agreement and the Contractor agrees to pay such amount as liquidated damages.

Contractor agrees to pay Authority liquidated damages and Authority shall deduct such amounts from the monthly Invoice as follows:

1. Train Performance

\$2,500 for each train that is delayed more than thirty (30) minutes later than the time stated in Metrolink's public timetable, if the primary cause of the delay is directly attributable to a negligent act or omission of

Contractor, a Contractor employee or Subcontractor. The cumulative maximum amount of liquidated delays under this category for a single day shall be capped at \$10,000 and for a month shall be capped at \$50,000.

2. Safety

Contractor's employees violating any Authority designated cardinal rules will be \$5000 per violation per employee with a cumulative maximum of under this this category for a month shall be capped at \$20,000.

3. Staff Vacancies

Contractor will be liable to Authority in the amount of \$750 per day, computed in accordance with Article 10 for each day Contractor fails to fill the position of SCM, or other Key Staff vacancy. The maximum cumulative monthly under this category shall be capped at \$10,000.

4. Failure to Respond to a CTO Request for Proposal

Contractor fails to respond to Authority's CTO request will be assessed \$2,000 with a cumulative maximum under this category for a month at \$10,000.

- B. This Article provides an alternative means for the Authority to obtain damages in the event the Contractor fails to perform Services timely. At the Authority's sole discretion, the Authority may obtain its actual costs and damages in lieu of Liquidated Damages.
- C. Nothing in this Article shall preclude the Authority from terminating this Agreement in accordance with Paragraph 13 entitled Termination for Breach of Agreement if, in the Authority's sole determination, the Contractor fails to perform satisfactorily.

15. ★ASSIGNMENT

- A. This Agreement, any interest herein or claim hereunder, may not be assigned by Contractor/Consultant either voluntarily or by operation of law, nor may all or any part of this Agreement be subcontracted by Contractor/Consultant, without the prior written consent of the Authority. Consent by the Authority shall not be deemed to relieve the Contractor/Consultant of its obligations to comply fully with all terms and conditions of this Agreement.
- B. The Authority retains the right to assign the Work in whole or in part to another governmental jurisdiction or public agency as long as the assignment does not result in an increase in quantities above those in the original solicitation including option quantities that were evaluated as part of the award decision.

16. SUBCONTRACTING

The Authority hereby consents to the Contractor's subcontracting of portions of the Services to the parties identified below for the functions described in Contractor's proposal. The Contractor shall include in each subcontract agreement the stipulation that the Contractor, not the Authority, is solely responsible for payment to the subcontractor/sub consultant for the amounts owing and that the subcontractor/sub consultant shall have no claim, and shall take no action against Authority, Member Agencies or officers, directors, employees or sureties thereof for nonpayment by Contractor.

<u>Subcontractor/Subconsultant/s Names and Addresses</u>	<u>Services to Be Performed</u>
Eric's Backhoe Service PO Box 104/ 4780 Maryhill Rd. Acton, CA 93510	Site preparation and excavation for all task needed for installation of signal and communication.

17. INDEPENDENT CONTRACTOR

The Contractor's relationship to the Authority in the performance of this Agreement is that of an independent contractor. The Contractor's personnel performing Services under this Agreement shall at all times be under the Contractor's exclusive direction and control and shall be employees of the Contractor and not employees of the Authority. The Contractor shall pay all wages, salaries, and other amounts due its employees in connection with this Agreement and shall be responsible for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers ' compensation, and similar matters.

18. INSURANCE

Commercial General Liability to include Products/Completed Operations, independent contractor, Contractual Liability, and Personal Injury Liability; with at least the following limits of liability:

1. Primary Bodily Injury Liability Limits of \$4,000,000 per occurrence; and
2. Primary Property Damage Liability Limits of \$4,000,000 per occurrence; or
3. Combined single limits of liability for Primary Bodily Injury and Primary Property Damage of \$8,000,000 per occurrence.

B. Automobile Liability with the following limits:

1. Primary Bodily Injury with limits of \$1,000,000 per occurrence; and
2. Primary Property Damage with limits of \$1,000,000 per occurrence; or

3. Combined single limits of Liability for Primary Bodily and Primary Property Damage of \$2,000,000 per occurrence.
- C. **Workers' Compensation Insurance** with the limits established and required by the State of California.
- D. **Employer's Liability** with limits of \$1,000,000 per occurrence.
- E. **Environmental Insurance** with limits of \$4,000,000 per occurrence.
- F. **Builders Risk Insurance** with limits of \$3,000,000 per occurrence.
- G. **Railroad Protective Liability Insurance**
1. Contractor/Consultant shall provide, with respect to the operations they or any of their subcontractors perform on any property of Authority as per criteria shown in "Rules and Requirements for Construction on Railway Property," Railroad Protective Liability Insurance.
 2. The policy shall have limits of \$5,000,000 per occurrence, combined single limit, for coverage and for losses arising out of injury to or death of all persons, and for physical loss or damage to or destruction of property, including the loss of use thereof. A \$25,000,000 annual aggregate shall apply.
 3. Proposer shall include the following as insured under its Railroad Protective Liability Insurance.

Insured:

Southern California Regional Rail Authority (SCRRA)

Additionally Insured:

Burlington Northern Santa Fe Corporation (BNSF)
Los Angeles County Metropolitan Transportation Authority (MTA)
National Railroad Passenger Corporation (Amtrak)
Orange County Transportation Authority (OCTA)
Riverside County Transportation Commission (RCTC)
San Bernardino Associated Government (SANBAG)
Union Pacific Railroad Company (UPRR)
Ventura County Transportation Commission (VCTC)
Others at the request of Authority

"Occurrence," as used herein, means any event or related exposure to conditions which result in bodily injury or property damage.

Proof on Insurance will be required prior to commencement of work under the contract. A certificate of insurance will be required to be furnished to the Authority's Contract &

Compliance Administrator. The insurance coverage is subject to the following requirements:

The Authority, its member agencies, officers, directors, employees and agents are named as additional insured via endorsement on Commercial General Liability and Automobile Liability insurance with respect to performance of services under the contract.

The coverage shall be primary and noncontributory as to any other insurance with respect to liability hereunder.

Thirty days (30) days prior written notice of cancellation or of material changes in coverage is to be given to the Authority by endorsement.

Any deductibles or self-insured retentions (SIR) must be declared to and approved by the Authority. At the option of the Authority, either the Contractor shall reduce or eliminate such deductibles or self-insured retentions with respect to this Contract to be awarded or shall procure a bond guaranteeing the amount of the deductible or self-insured retention. If the Authority agrees in writing to a deductible or self-insured retention, then in the event of any claims or suits which may arise for which Authority seeks coverage under such policy as an additional insured, Contractor shall satisfy such deductible or self-insured retention to the extent of any loss covered by such policy arising from or connected with any alleged act or omission of Contractor its officers, directors, employees, agents, Subcontractors, or suppliers, even if Contractor is not a named defendant in the lawsuit. Contractor's policies shall neither obligate nor prohibit the Authority or any Additional Insured, from paying any portion of any Contractor deductible or SIR.

19. INDEMNITY

The Contractor shall indemnify, defend and hold harmless the Authority, and its member agencies, and their officers, directors, employees and agents from and against any and all liability, expense (including but not limited to defense costs and attorneys' fees), claims, causes of action, and lawsuits for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury or property damage (including property of Contractor) to the extent arising from or connected with any alleged negligent act and/or omission of the Contractor, its officers, directors, employees, agents, subcontractors or suppliers. This indemnity shall survive termination of this Agreement and/or final payment thereunder.

20. PERFORMANCE AND PAYMENT BONDS

Contractor shall give the Authority a Performance Bond and a Payment Bond. Both shall be supplied using the Authority's forms and shall be issued by admitted Sureties satisfactory to the Authority and authorized to issue such bonds in the State of California.

The Performance Bond shall be for one-hundred percent (100%) of the Total Contract Price and shall guarantee the faithful and timely performance of the Work in accordance with the terms and conditions of the Contract and in a manner acceptable to the Authority, as well as Material and workmanship free from defects. The Payment Bond shall be for one hundred percent (100%) of the Total Contract Price and shall cover the payment of all obligations arising under the Contract or incurred by reason of performance of the Work.

Should the Surety executing the bond no longer be admitted and authorized to issue bonds in the State of California, notice will be given the Contractor to that effect and they will have fifteen days to provide replacement Performance and Payment Bonds using the Authority's forms and issued by an admitted Surety or Sureties authorized to issue such bonds in the State of California.

Changes in the Services or extensions of time made pursuant to the Contract shall in no way relieve the Contractor or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety.

21. REVISIONS IN SCOPE OF WORK

By written notice or order, the Authority may, from time to time, order work suspension or make changes to this Agreement. Changes in the Services shall be mutually agreed to and incorporated into an amendment to this Agreement. Upon execution of an amendment, the Contractor shall perform the Services, as amended.

22. RIGHTS IN TECHNICAL DATA

- A. No material or technical data prepared by the Contractor under this Agreement is to be released by the Contractor to any other person or entity except as necessary for the performance of the Services. All press releases or information concerning the Services that might appear in any publication or dissemination, including but not limited to newspapers, magazines, electronic media, shall first be authorized in writing by the Authority.
- B. The originals of all letters, documents, reports and other products and data produced under this Agreement shall become the property of the Authority without restriction or limitation on their use and shall be made available upon request to the Authority at any time. Original copies of such shall be delivered to the Authority upon completion of the work or termination of the work. The Contractor shall be permitted to retain copies of such items for the furtherance of its technical proficiency; however, publication of this material is subject to the prior written approval of the Authority.

23. OWNERSHIP OF REPORTS AND DOCUMENTS

The originals of all letters, documents, reports and other products and data produced under this Agreement shall be delivered to, and become the property of the Authority. Copies may be made for the Contractor's records, but shall not be furnished to others

without written authorization from the Authority. Such deliverables shall be deemed works made for hire, and all rights in copyright therein shall be retained by the Authority.

24. RIGHTS IN PROPERTY

- A. The Authority and all its designees shall have access at all reasonable times to the premises in which any Authority property is located for the purpose of inspecting the Authority's property.
- B. The Contractor shall be responsible and accountable for all Authority property and material provided under this Agreement. The Contractor will provide an inventory list of all material located at project location prior to beginning installation, as well as an inventory of all material obtained and all material returned to the Authority.
- C. The Contractor must secure all Authority property from damage. If damage occurs to Authority property, the Contractor shall either replace any items not otherwise covered by any warranties or shall make the necessary repairs at no additional charge to the Authority.
- D. Changes to Service Property, Authority Equipment, and As-Built Drawings

The Contractor shall make no changes to the Authority equipment to be used in providing the Services or to as-built drawings without the Authority's prior written approval. The Contractor shall be responsible to maintain the integrity of the as-built drawings located in each communication and signal enclosure. The Contractor will notify the Authority of any deficiencies or missing plans immediately upon discovery.

- E. Upon completing this Agreement or at such earlier dates as may be fixed by the Authority: (1) The Contractor shall prepare and submit a final inventory list of all Authority property which includes the property's description, location and condition, and (2) The Contractor shall prepare for shipment, and deliver F.O.B. origin, Authority property as may be directed or authorized by the Authority.

25. SUBMITTAL OF CLAIMS BY CONTRACTOR

The Contractor shall file any and all claims with the Authority's Contract Manager in writing within thirty (30) days of the event or occurrence giving rise to the claim. The claim shall be in sufficient detail to enable the Authority to ascertain the claim's basis and amount, and shall describe the date, place, and other pertinent circumstances of the event or occurrence giving rise to the claim and the indebtedness, obligation, injury, loss or damages allegedly incurred by Contractor.

If Authority's disallowance of any costs on an invoice which Contractor disputes, Contractor shall file a detailed written rebuttal to the disallowed amount within thirty (30) days to the Authority's Contract Manager.

The Contractor shall designate a knowledgeable informed and available representative to meet and confer with the Authority to resolve any claims or disallowed invoice costs.

Even though a claim may be filed and/or in review by the Authority, the Contractor shall continue to perform in accordance with this Agreement.

26. EQUAL OPPORTUNITY

In connection with the execution of this Agreement, the Contractor shall not discriminate against, or grant preferential treatment to, any individual or group, or any employee or applicant for employment because of race, age, religion, color, ethnicity, sex, national origin, ancestry, physical handicap, mental condition, political affiliation, sexual orientation, or marital status. The Contractor shall take action to ensure that applicants and employees are treated without regard to the above.

27. STANDARD OF PERFORMANCE

- A. The Contractor shall perform and exercise, and require its subcontractors to perform and exercise due professional care and competence in the performance of the Services in accordance with the requirements of this Agreement. The Contractor shall be responsible for the professional quality, technical accuracy, completeness and coordination of the Services, it being understood that the Authority will be relying upon such professional quality, accuracy, completeness and coordination in utilizing the Services. The foregoing obligations and standards shall constitute the "Standard of Performance" for purposes of this Agreement. The provisions of this paragraph shall survive termination or expiration of this Agreement and/or final payment thereunder.
- B. All workers shall have sufficient skill and experience to perform the Services assigned to them. Authority shall have the right, at its sole discretion, to require the removal of Contractor's personnel at any level assigned to the performance of the Services at no additional fee or cost to Authority, if Authority considers such removal in its best interests and requests such removal in writing and such request is not done for illegal reasons. Further, an employee who is removed from performing Services under this Agreement under this Article shall not be re-assigned to perform Services under this Agreement without the Authority's prior written authority.

28. NOTIFICATION OF EMPLOYMENT OF SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY BOARD MEMBERS/ALTERNATES AND EMPLOYEES

To ensure compliance with Authority's Ethics Policy, the Contractor shall provide written notice to the Authority disclosing the identity of any individual who the Contractor desires to employ or retain under a contract, and who (1) presently serves as a Board Member/Alternate or an employee of the Authority, or (2) served as a Board Member/Alternate or an employee of the Authority within the previous 12 months of the date of the proposed employment or retention by the Contractor. The Contractor's

written notice shall indicate whether the individual will be an officer, principal or shareholder of the entity and/or will participate in the performance of the Agreement.

29. COMPLIANCE WITH LAW

The Contractor shall familiarize itself with and perform the Services required under this Agreement in conformity with requirements and standards of the Authority, municipal and public agencies, public and private utilities, special districts, and railroad agencies whose facilities and services may be affected by Services under this Agreement. Contractor shall also comply with all Federal, and California Regulations and local laws and ordinances within the areas of their work.

30. COMPLIANCE WITH LOBBYING POLICIES

- A. The Contractor agrees that if it is a Lobbyist Employer or if it has retained a Lobbying Firm or Lobbyist, as such terms are defined by Authority in its Ethics Policy, it shall comply or ensure that its Lobbying Firm and Lobbyist complies with Authority's Ethics Policy.
- B. If the Contractor (Lobbyist Employer) or its Lobbying Firm or Lobbyist fails to comply, in whole or in part, with Authority's Ethics Policy, such failure shall be considered a material breach of this Agreement and Authority shall have the right to immediately terminate or suspend this Agreement.

31. PUBLIC RECORDS ACT

- A. All records, documents, drawings, plans, specifications and other material relating to conduct of Authority's business, including materials submitted by the Contractor in its proposal and during the course of performing the Services under this Agreement, shall become the exclusive property of Authority and may be deemed public records. Said materials may be subject to the provisions of the California Public Records Act. Authority's use and disclosure of its records are governed by this Act.
- B. The Authority will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act, including interpretations of the Act or the definitions of trade secret, confidential or proprietary. The Authority will accept materials clearly and prominently labeled "TRADE SECRET" or "CONFIDENTIAL" or "PROPRIETARY" as determined by the Contractor. Authority will endeavor to notify the Contractor of any request of the disclosure of such materials. Under no circumstances, however, will the Authority be liable or responsible for the disclosure of any labeled materials whether the disclosure is required by law or a court order or occurs through inadvertence, mistakes or negligence on the part of the Authority or its officers, employees and/or Contractors.
- C. In the event of litigation concerning the disclosure of any material submitted by the Contractor, the Authority's sole involvement will be as a stake holder,

retaining the material until otherwise ordered by a court. The Contractor, at its sole expense and risk, shall be responsible for prosecuting or defending any action concerning the materials, and shall defend, indemnify and hold the Authority harmless from all costs and expenses, including attorneys' fees, in connection with such action.

32. WAIVER/INVALIDITY

No waiver of a breach of any provision of this Agreement by either party shall constitute a waiver of any other breach of the provision, or of any other breach of the provision of the Agreement. Failure of either party to enforce any provision of this Agreement at any time shall not be construed as a waiver of that provision.

The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision.

33. FORCE MAJEURE

Performance of each and all Contractor's and Authority's covenants herein shall be subject to such delays as may occur without Contractor's or Authority's fault from acts of God, strikes, riots, or from other similar causes beyond Contractor's or Authority's control.

34. GOVERNING LAW

The validity of this Agreement and of any of its terms or provisions, as well as the rights and duties of the parties hereunder, shall be governed by the laws of the State of California.

35. ENTIRE AGREEMENT

This Agreement, and any attachments or documents incorporated herein by inclusion or by reference, constitutes the complete and entire agreement between Authority and Contractor and supersedes any prior representations, understandings, communications, commitments, agreements or proposals, oral or written.

36. ★APPLICABILITY OF FEDERAL GRANT CONTRACT

This Contract may be subject to one or more financial assistance contracts between Authority and the U.S. Department of Transportation (DOT), which incorporate the current FTA Master Agreement and Circular 4220.1F. The Contractor and its Subcontractors are required to comply with all terms and conditions prescribed for third party contracts in these documents. Federal laws, regulations, policies and administrative practices may be modified or codified after the date this contract is established and may apply to this Contract. To assure compliance with changing federal requirements, acceptance of contract award indicates that the Contractor agrees to accept all changed requirements that apply to this Contract.

37. ★INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, and the Master Grant Agreement, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any Authority request that would cause Authority to be in violation of the FTA terms and conditions.

38. ★FEDERAL FUNDING LIMITATION

The Contractor understands that funds to pay for the Contractor's performance under this Contract are anticipated to be made available from the United States Department of Transportation through the Federal Transit Administration (FTA). All funds must be approved and administered by FTA. A portion of the Authority's obligation hereunder may be payable from funds that are appropriated and allocated by FTA for the performance of this Contract. If funds are not allocated, or ultimately are disapproved by FTA, Authority may terminate or suspend Contractor's services without penalty. Authority shall notify Contractor promptly in writing of the non-allocation, delay, or disapproval of funding.

39. ★NO FEDERAL GOVERNMENT OBLIGATION TO THIRD PARTIES

- A. The Contractor acknowledges and agrees that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the federal government, the federal government is not a party to this Contract and shall not be subject to any obligations or liabilities to the Contractor or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- B. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the Subcontractor who will be subject to its provisions.

40. ★FEDERAL CHANGES

In the event local, State or federal laws or regulations that were not announced or enacted at the time of the Contract award are enacted before performance of the Work and such laws or regulations make standards more stringent or compliance more costly under this Contract, the Contractor shall notify Authority in writing of such laws or regulations and their effects on the pricing or delivery schedule promptly after the Contractor first becomes aware of the laws and regulations and prior to incurring any such expenses.

The Authority will make a determination as to whether the Contractor should be reimbursed for any such expenses or any time extensions should be granted.

The Contractor shall be deemed to have had notice of any federal law or regulation announced or enacted at the time of contract award, even though such law or regulation did not take effect or become operative until some date after the Contract award.

The Contractor shall, immediately upon becoming aware of any such imposition or change of requirement, provide the Authority with full and detailed particulars of the changes required in the Work and of cost involved therein, or shall be deemed to have waived any rights under this Article. In the event any governmental requirements are removed, relaxed, or changed in any way after the date of contract award so as to make the Contractor's performance less expensive, or less difficult, then the Authority shall have the option either to require the Contractor to perform pursuant to the more rigorous requirements or to receive a reduction in the price of the Work affected for all savings in direct costs which may be realized by the Contractor by reason of such change and appropriate adjustments in deductions for overhead and profit made so as to reflect actual savings made by the Contractor. The Authority shall give the Contractor notice of the Authority's determination, and anticipated savings.

41. INTEREST OF MEMBERS OF, OR DELEGATES TO, CONGRESS

No member of, or delegate to, the Congress of the United States shall be admitted to a share or part of this Contract or to any benefit arising therefrom.

42. ★PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS

- A. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this Contract Work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the federal government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the federal government deems appropriate.
- B. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the federal government under a contract connected with a project that is financed in whole or in part with federal assistance originally awarded by FTA under the authority of 49 U.S.C. §5307, the government reserves the right to impose the penalties of 18 U.S.C. §1001 and 49 U.S.C. §5307(n)(1) on the Contractor, to the extent the federal government deems appropriate.

- C. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the Subcontractor who will be subject to the provisions.

43. ★FEDERAL LOBBYING RESTRICTIONS

The Contractor certified in their Proposal that it has not and shall not use federally appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress in connection with obtaining any federal contract, grant or any other award covered by 31 U.S.C. §1352. Each and every Subcontractor at all tiers also certified to the tier above that it will not and has not used federal appropriated funds for such purpose. Each Contractor and Subcontractor at all tiers also disclosed the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-federal funds with respect to that federal contract, grant or award covered by 31 U.S.C. §1352. Such disclosures are forwarded from tier-to-tier up to the Authority.

The Contractor and Subcontractors at all tiers shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of a previously filed disclosure form. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence this federally funded Contract; or
- (2) A change in the person(s) influencing or attempting to influence this federally funded Contract; or
- (3) A change in the officer(s), employee(s) or member contracted to influence or attempt to influence this federally funded Contract.

44. ★ENERGY CONSERVATION REQUIREMENTS

The Contractor shall recognize mandatory standards and policies relating to energy efficiency which are contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. §6321 et seq.).

45. ★CLEAN WATER REQUIREMENTS

The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251, et seq. The Contractor agrees to report any violation of these requirements resulting from any project implementation activity to FTA and the appropriate U.S. EPA Regional Office.

46. ★CLEAN AIR

The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§7401, et seq. The Contractor agrees to report each violation to the Authority and understands and agrees that the Authority will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

47. ★REQUIREMENTS OF AMERICANS WITH DISABILITIES ACT

The Contractor is also required to comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), 42 USC §§ 12101, et seq.; Section 504 of the Rehabilitation Act of 1973, as amended, 29 USC § 794; and 49 USC § 5301(d), and the following regulations and any amendments thereto:

- A. U.S. Department of Transportation regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 CFR Part 37.
- B. U.S. Department of Transportation regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 CFR Part 27.
- C. U.S. Department of Justice (DOJ) regulations, "Nondiscrimination on the Basis of Disability in State and Local federal government Services," 28 CFR Part 35.
- D. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 CFR Part 36.
- E. U.S. General Services Administration regulations, "Accommodations for the Physically Handicapped," 41 CFR Subpart 101-19.
- F. U.S. Equal Employment Opportunity Commission (EEOC) "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630.
- G. U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 47 CFR Part 64, Subpart F.
- H. FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 CFR Part 609.
- I. Any implementing requirements that the FTA may issue.

48. ★CIVIL RIGHTS REQUIREMENTS

The following requirements apply to this Contract:

- A. Nondiscrimination: In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. §2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. §12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.
- B. Equal Employment Opportunity:
- (a) Race, Color, Creed, National Origin, Sex. In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. §2000e, and Federal transit laws at 49 U.S.C. §5332, the Contractor agrees to comply with all applicable equal opportunity requirements of the U.S. Department of Labor regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor, 41 CFR Parts 60 *et seq.*, (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity", 42 U.S.C. §2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect activities undertaken in the course of the Contract. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 - (b) Age. In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. §§623 and Federal transit law at 49 U.S.C. §5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reasons of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 - (c) Disabilities. In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. §12112, the Contractor agrees that it will comply with the requirements of the U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

49. DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

In accordance with federal financial assistance agreements with the U.S. DOT, Authority has adopted a Disadvantaged Business Enterprise (DBE) Program, in conformance with Title 49 CFR Part 26, "Participation by Disadvantaged Business Enterprises in Department of Transportation Programs." This DOT-assisted project is subject to these stipulated regulations, which are hereby incorporated as Exhibit 6 in their entirety by this reference. Consultant shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts. In the event of any conflicts or inconsistencies between the Regulations and Authority's DBE Program with respect to DOT-assisted contracts, the Regulations shall prevail.

Please see Exhibit 1 for DBE Program requirements and forms.

50. PREFERENCE FOR RECYCLED PRODUCTS

To the extent practicable and economically feasible, the Contractor agrees to provide a competitive preference for recycled products to be used in the work pursuant to the U.S. Environmental Protection Agency Guidelines at 40 CFR Part 247-253, implementing Section 6002 of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. §6962.

The Contractor should use both sides of paper sheets for copying and printing where practicable.

Credit for sale of scrap materials will be the actual amount, without markup or fee.

51. FLY AMERICA

The federal government will not participate in the cost of international air transportation of any persons involved in or property acquired for this Contract unless that air transportation is provided by U.S. flag air carriers to the extent service by these carriers is available, as required by the International Air Transportation Fair Competitive Practices Act of 1974, as amended, 49 USC §40018, in accordance with U.S. General Accounting Office (GAO) regulations, "Uniform Standards and procedures for Transportation Transactions," 4 CFR Part 52, and U.S. GAO Guidelines for Implementation of the "Fly America Act," B-138942, 1981 US Comp. Gen LEXIS 2116, March 31, 1981.

52. CARGO PREFERENCE

Pursuant to 46 CFR part 381, the Contractor shall utilize privately owned United States flag commercial vessels to ship at least fifty percent (50%) of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States flag commercial vessels.

In addition, the Contractor shall furnish within twenty (20) days following the date of loading for shipments originating within the United States, or within thirty (30) working days following the date of loading for shipment originating outside the United States, a legible copy of a rated, commercial ocean bill of lading in English for each shipment of cargo to Authority (through the prime Contractor in the case of Subcontractor bills of lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, 400 Seventh Street, SW, Washington, D.C. 20590, marked with appropriate identification of the Contract.

53. ★AUDIT AND INSPECTION OF RECORDS

- A. The Contractor shall maintain a complete set of records relating to this Contract in accordance with generally accepted accounting procedures. The Contractor shall permit the authorized representatives of Authority, the U.S. Department of Transportation, and the Comptroller General of the United States to inspect and audit all work, materials, payrolls, books, accounts, and other data and records of the Contractor relating to its performance under this Contract until the expiration of three (3) years after final payment under this contract.
- B. The Contractor further agrees to include in all of its subcontracts under this Contract a provision to the effect that the Subcontractor agrees that the Authority, the U.S. Department of Transportation, and the Comptroller General of the United States, or any of their duly Authorized Representatives shall, until the expiration of three (3) years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and other records of the Subcontractor. The term "subcontract" as used in this Section excludes:
 - (1) Purchase orders not exceeding \$10,000.00 and
 - (2) Subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.
- C. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- D. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case the Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly Authorized Representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

54. DISPUTE RESOLUTION PROCEDURE

In the event of any dispute, claim, question, or disagreement arising from or relating to this Agreement or the breach thereof, the parties hereto shall use their best efforts to settle the dispute, claim, question, or disagreement. To this effect, they shall consult and negotiate with each other in good faith and, recognizing their mutual interests, attempt to reach a just and equitable solution satisfactory to both parties. If they do not reach such solution within a period of 60 days, then, upon notice by either party to the other, legal action may be filed to address any disputes, claims, questions or differences. Authority (or Agency or SCRRA, etc.) may however, in its sole discretion, waive this dispute resolution requirement upon providing written notice to Vendor (or Consultant, or Contractor, etc.) of such decision.

55. ★BUY AMERICA

The Contractor shall comply with 49 U.S.C. §5323(j) and 49 CFR Part 661.

Contractor is bound by its original certification and is not permitted at any point during the duration of the contract to change its certification (as required by 49 CFR 661.13(c)) and is not eligible for waiver of these requirements other than any waivers granted by FTA prior to the execution of this agreement.

56. ★DAVIS-BACON ACT

Contractor shall comply with the requirements of the Davis Bacon Act as amended 40 U.S.C. § 3141 et seq. including, without limitation the following:

A. Minimum Wages

1. All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (A)(4) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be

paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (A)(2) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its Subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

2. (a) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the "age determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:
 - (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (b) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an Authorized Representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.
- (c) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits,

where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

- (d) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs A.2(a) or (b) of this section, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.
- 3. Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- 4. If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

B. Withholding

The Authority shall upon its own action or upon written request of an Authorized Representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the Contract, the Authority may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

C. Payrolls and Basic Records

1. Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
2.
 - (a) The Contractor shall submit, on a weekly basis for each week in which any Contract Work is performed a copy of all payrolls to the Authority for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5. This information shall be submitted in the form specified by the Authority. The prime Contractor is responsible for the submission of copies of payrolls by all Subcontractors.
 - (b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:
 - (1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR part 5 and that such information is correct and complete;
 - (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from

the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR 3;

- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.
 - (c) The weekly submission of a properly executed certification as set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (C)(2)(B) of this section.
 - (d) The falsification of any of the above certifications may subject the Contractor or Subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
3. The Contractor or Subcontractor shall make the records required under paragraph (A)(C)(1) of this section available for inspection, copying, or transcription by Authorized Representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or Subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

D. Apprentices and Trainees

1. Apprentices

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or Subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

2. Trainees

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the

Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

3. Equal Employment Opportunity

The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR 30.

E. Compliance with Copeland Act Requirements

The Contractor shall comply with the requirements of 29 CFR 3, which are incorporated by reference in this contract.

F. Subcontracts

The Contractor or Subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any Subcontractor or lower tier Subcontractor with all the contract clauses in 29 CFR 5.5.

G. Contract Termination: Debarment

A breach of the Contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract, and for debarment as a Contractor and a Subcontractor as provided in 29 CFR 5.12.

H. Compliance with Davis-Bacon and Related Act Requirements

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this Contract.

I. Disputes Concerning Labor Standards

Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its Subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

J. Certification of Eligibility

1. By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
2. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
3. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

57. ★CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

A. Overtime Requirements

No Contractor or Subcontractor contracting for any part of the Contract Work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such Work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

B. Violation; Liability for Unpaid Wages; Liquidated Damages

In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any Subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

C. Withholding for Unpaid Wages and Liquidated Damages

The Authority shall upon its own action or upon written request of an Authorized Representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

D. Subcontracts

The Contractor or Subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in this section.

58. ★COPELAND ANTI-KICKBACK ACT

- A. Contractors shall comply with the Copeland "Anti-Kickback Act," 18 USC §276(c), as supplemented in U.S. Department of Labor regulations, 29 CFR Part 3. Under state and federal law, it is a violation for Contractor, or Subcontractors to accept or offer any money or benefit as a reward for favorable treatment in connection with the award of a contract or the purchase of goods or services.
- B. "Kickback" as defined by Federal Acquisition Regulations (FAR), means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind that is provided directly or indirectly to any prime Contractor, prime Contractor employee, Subcontractor or Subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

59. EXCLUSIONARY OR DISCRIMINATORY SPECIFICATIONS

Wherever brand, manufacturer, or product names are indicted in these specifications, they are included for the purposes of establishing identification and a general description of the item. Wherever such names appear, the term "OR APPROVED EQUAL" is considered to follow. The decision on the approved equal will be rendered by Authority.

It should be understood that specifying a brand name, components and/or equipment in this specification shall not relieve the Supplier from his responsibility to produce the product in accordance with the performance warranty and contractual requirements. The Supplier is responsible for notifying Authority of any inappropriate brand name,

component, and/or equipment that may be called for in the specifications, and to propose a suitable substitute for consideration.

Apart from inconsistent requirements imposed by Federal statute or regulations, the Contractor agrees that it will comply with the requirement of 49 U.S.C. §1836(c)(vi) by refraining from using any Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications.

60. PROMPT PAYMENT TO SUBCONTRACTORS

The Contractor agrees to make prompt payment to all Subcontractors (both Disadvantaged and Non-disadvantaged Business Enterprises) for satisfactory work performed. For purposes of this agreement "prompt payment" shall mean payment of all invoices substantiated to Contractor's requirements no later than seven (7) working days from Contractor's receipt of payment from Authority.

Should the Contractor retain partial payment of Subcontractor's invoice to insure performance or for any other reason, the Contractor agrees to make payment of such retainage within fifteen (15) working days of satisfactory completion of the work or other obligation.

Failure of the Contractor to make prompt payment as defined in this clause or to delay payment without prior written consent of Authority shall constitute noncompliance with this Contract, which may result in appropriate administrative sanctions which may include withholding of payment of Contractor's invoice by Authority until payment is made to the Subcontractor, or termination of the contract in accordance with the Article entitled TERMINATION FOR DEFAULT.

61. SEISMIC SAFETY

Contractor shall comply with all applicable regulations of U.S. DOT on seismic safety at 49 CFR part 41 and any implementing guidance FTA may issue.

62. ★SUBCONTRACTOR'S CERTIFICATION REGARDING DEBARMENT, SUSPENSION OR INELIGIBILITY

Contractor shall not knowingly enter into any subcontract exceeding \$100,000 with an entity or person who is debarred, suspended, or who has been declared ineligible from obtaining federal assistance funds; and shall require each subcontractor or subconsultant to complete the certification provided in the Form entitled "Certificate of Subcontractors Regarding Debarment, Suspension, and Other Responsibility Matters".

Each subcontract, regardless of tier, shall contain a provision that the subcontractor shall not knowingly enter into any lower tier subcontract with a person or entity who is debarred, suspended or declared ineligible from obtaining federal assistance funds, and a provision requiring each lower-tiered subconsultants provide the required certification.

63. ★WORKPLACE DRUG AND ALCOHOL TESTING PROGRAMS SAFETY & SECURITY REVIEW

The Contractor whose employees are performing safety-sensitive functions (as defined by Federal Transit Administration (FTA) rules for the Authority shall comply with the FTA drug and alcohol testing regulations (49 CFR Part 655) and the U.S. Department of Transportation (DOT) Procedures for Transportation Workplace Drug and Alcohol Testing Programs (49 CFR Part 40). Noncompliance may result in suspension or termination of contract and/or nonpayment of invoices, in accordance with CFR Part 219.

For purposes of this compliance program, safety-sensitive employees are defined as follows:

Those employees whose job functions are, or whose job descriptions include the performance of functions, related to the safe operation of mass transportation service.

The following are categories of safety-sensitive functions:

- a. Operating a revenue service vehicle, including when not in revenue service;
- b. Operating a non-revenue service vehicle when required to be operated by a holder of a Commercial Driver's License (CDL);
- c. Controlling dispatch or movement of a revenue service vehicle or equipment used in revenue service;
- d. Maintaining revenue service vehicles or equipment used in revenue service; and
- e. Carrying a firearm for security purposes.
- f. Engaged in installing, repairing, or maintaining signal systems.

Any supervisor who performs or whose job description includes the performance of any function listed above is also considered a safety-sensitive employee.

64. ★PRIVACY

- A. Should the Contractor, or any of its Subcontractors, or their employees administer any system of records on behalf of the federal government, the Privacy Act of 1974, 5 USC §552a, imposes information restrictions on the party administering the system of records.
- B. For purposes of the Privacy Act, when the Contract includes the operation of a system of records on individuals to accomplish a government function, Authority and any Contractors, third-party Contractors, Subcontractors, and their

employees involved therein are considered to be government employees with respect to the government function. The requirements of the Privacy Act, including the civil and criminal penalties for violations of the Privacy Act, apply to those individuals involved. Failure to comply with the terms of the Privacy Act or this provision of this contract will make this contract subject to termination.

The Contractor agrees to include this clause in all subcontracts awarded under this Contract that require the design, development, or operation of a system of records on individuals subject to the Privacy Act.

65. MODIFICATIONS TO AGREEMENT

Unless specified otherwise in the Agreement, this Agreement may only be modified by written mutual consent evidenced by signatures of representatives authorized to enter into and modify the Agreement. In order to be effective, amendments may require prior approval by the Authority's Board of Directors, and in all instances require prior signature of an authorized representative of the Authority.

66. WARRANTY OF SERVICES

- A. Contractor warrants that all Services shall be performed in a good and workmanlike manner, in compliance with all applicable federal, state and local laws, regulations or other valid orders of a governmental or quasi-governmental agency, applicable professional standards and the Standard of Performance set forth in Article 27 of this Agreement. Contractor warrants further that all parts and materials procured and installed by the Contractor used in provision of the Services shall be fit for the purposes for which such parts and materials are intended and shall satisfy Contractor's representation and warranty. Contractor shall employ a sufficient number of skilled and qualified employees to perform the Services.
- B. Contractor shall be responsible for taking any corrective action required to satisfy all warranties required pursuant to the terms and conditions of this Agreement. Within ten (10) days of Contractor's discovery of, or receipt of notice from Authority of, a breach of the foregoing warranties, Contractor shall at its sole expense remove, repair and/or replace any non-conforming work, including parts and materials procured and installed by the Contractor used in that work, and shall bear the cost of repair or replacement of any other portions of the Service Property or work performed by any other contractor, that is damaged by Contractor's non-conforming work. Contractor shall re-execute at no cost to Authority any work which does not comply with applicable laws, regulations, orders or professional standards or which has not been done in a good and workmanlike manner. Contractor's obligations under this Section 3.5 shall continue for one year after completion of the applicable Contract Task Order.
- C. If Contractor fails to perform its obligations under this Agreement within a reasonable time and to the reasonable satisfaction of Authority Contract

Manager, Authority shall have the right to correct and/or replace any work or materials which are defective or which do not comply with the standards stated in the Scope of Service (Attachment A). Contractor shall fully reimburse Authority for any expenses incurred by Authority hereunder, including Authority's overhead costs.

- D. Contractor may use equipment provided by Authority to perform work required to correct or address breaches of the warranties provided in this Article provided that such use and the performance of that work does not interfere with the work of Authority or any of Authority's other contractors.
- E. Notwithstanding any of the foregoing, in the event that Contractor's work or the work of a Subcontractor is not in compliance with this Agreement and creates a hazard to the public health or safety or the safety of Authority's employees or other contractors and their employees, Authority Contracting Officer may determine that Authority will undertake at Contractor's sole expense and without prior notice, all Services necessary to correct such hazardous situation.
- F. Contractor shall require any Subcontractor to undertake the same obligations to Contractor as Contractor is required to perform for the benefit of Authority as set forth in this Article.

67. PRECEDENCE

Conflicting provisions hereof, if any, shall prevail in the following descending order of precedence: (1) Amendments of Change Orders to the Agreement (2) The provisions of this Agreement, (3) Attachment A – Services, (4) Contractor's proposal and BAFO dated.

68. CONFIDENTIALITY

The Contractor agrees that for and during the entire term of this Agreement, any information, data, figures, records, findings and the like received or generated by the Contractor in the performance of this Agreement, shall be considered and kept as the private and privileged records of the Authority and will not be divulged to any person, firm, corporation, or other entity except on the direct written authorization of the Authority. Further, upon expiration or termination of this Agreement for any reason, the Contractor agrees that it will continue to treat as private and privileged any information, data, figures, records and the like, and will not release any such information to any person, firm, corporation or other entity, either by statement, deposition, or as a witness, except upon direct written authority of the Authority.

69. CONTRACTOR'S INTERACTION WITH THE MEDIA AND THE PUBLIC

- A. The Authority shall review and approve in writing all Authority related copy proposed to be used by the Contractor for advertising or public relations purposes prior to publication. The Contractor shall not allow the Authority related copy to be published in its advertisements and public relations programs prior to

receiving such approval. The Contractor shall ensure that all published information is factual and that it does not in any way imply that the Authority endorses the Contractor's firm, service, and/or product.

- B. Contractor shall refer all inquiries from the news media to the Authority, and shall comply with the procedures of the Authority's Public Affairs staff regarding statements to the media relating to this Agreement or the Services.
- C. If Contractor receives a complaint from a citizen or the community, Contractor shall inform Authority as soon as possible and inform Authority of any action taken to alleviate the situation.
- D. The provisions of this Article shall survive the termination or expiration of this Agreement.

70. CLASSIFICATION OF CONTRACTOR'S LICENSE

Throughout the duration of this Agreement, Contractor and its subcontractors, if any, shall possess the appropriate license(s) including those issued by the California State License Board to perform the Services herein.

71. LABOR COMPLIANCE AND PAYMENT OF PREVAILING WAGES

- A. The Contractor shall comply with all provisions of the Labor Code of the State of California. However, if any portion of this Agreement is Federally assisted, then Federal labor standards, including the Davis-Bacon requirements, must also be complied with and will also be enforced.
- B. If Federally assisted, then the U.S. Department of Labor will ascertain the prevailing hourly rate. However, if Federal and State wage rates are applicable, then the higher of the two will prevail.
- C. Labor Compliance Monitoring. The Contractor and all Subcontractors shall submit labor compliance reports during the course of the Agreement in accordance with California and Federal statutes and regulations. Authority reserves the right to modify these reporting forms/requirements as it deems appropriate.
- D. Certified Payroll Records. The Contractor shall maintain and furnish to the Authority on a monthly basis, a certified copy of each weekly payroll containing a Statement of Compliance signed under penalty of perjury, as required by California Labor Code. Contractor shall be responsible for the submission of copies of payrolls of any Subcontractors.

The Contractor shall forfeit to the Authority twenty-five dollars (\$25.00) per day, per worker for failing to comply with the payroll record requirements of Section 1776(a) of California Labor Code.

- E. Withholding Payments for Labor Compliance Violations. The Authority may withhold from any monies payable to the Contractor such sums as may be administratively determined to be necessary to satisfy any liabilities of the Contractor or its Subcontractor for unpaid wages and liquidated damages as specified in this Agreement.

72. LABOR AGREEMENTS

A. General

Nothing contained in the Agreement shall require the Contractor to perform any service or take any action that would violate any labor agreement, law, or regulation. The Authority does not accept, succeed to or assume, and the Agreement shall not be construed to impose or allow any acceptance, succession to or assumption of, any obligations of the Contractor under any of its collective bargaining agreements with its employees or their representatives. The Contractor shall use all applicable agreements in place with its employees or their representatives to obtain any and all available cost and other efficiencies in the work force that can be derived from such practices to the benefit of the Authority.

B. Rule Changes

The Authority shall not be required to reimburse the Contractor for any cost increases related to work rule changes, whether in the year the changes become effective or in any subsequent Fiscal Year unless the changes are the result of a change in law and mandated to be paid by the Authority.

C. Picketing

The Contractor's agreement with any bargaining unit shall include a no-strike clause or, in the alternative, a clause that requires the employees covered by that agreement to complete all of the dispute resolution procedures in that agreement and required by applicable law before engaging in any self-help actions. If employees of the Contractor picket facilities of the Authority, or lawfully honor a picket line of another union at an Authority facility, in connection with a labor dispute of any kind, and if the Contractor is unable to provide normally scheduled Services, the Contractor shall reimburse Authority for legal and related expenses, including but not limited to attorney's fees, incurred by the Authority in its efforts to terminate such picketing. To the extent that such picketing or honoring such picket lines disrupts the operation of the Authority Commuter Railroad Operations Services, the Contractor shall reimburse Authority for any and all costs related to the service disruption. If picketing activities cause the Contractor to incur any additional costs in meeting the Agreement, there will be no reimbursement by Authority of such costs.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the date shown below, and effective on the date first hereinabove written.

SOUTHERN CALIFORNIA
REGIONAL RAIL AUTHORITY


Name ROHIT SHARDA
Title VICE-PRESIDENT


Arthur T. Leahy
Chief Executive Officer

6/29/16
Date

6-27-16
Date

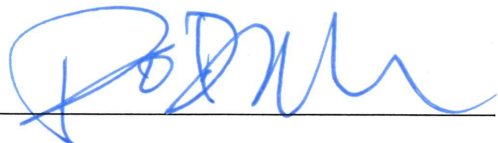
Name
Title

Date

Tax I.D. No. 04-1590230

APPROVED AS TO FORM:

DON O. DEL RIO
General Counsel



CONTRACT NO. MS260B-16
COMMUNICATION AND SIGNAL SYSTEMS INSTALLATION
SERVICES

ATTACHMENT A
SCOPE OF SERVICES

**SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
METROLINK COMMUTER RAIL SYSTEM**

CONTRACT NO. MS260-16

COMMUNICATION AND SIGNAL SYSTEMS INSTALLATION SERVICES

ATTACHMENT A

SCOPE OF SERVICES

1. SCOPE OF SERVICES

Contractor shall perform the Services and related tasks as described below. It is the responsibility of the Contractor to review all subdivision train schedules for conducting work within the schedules. This is a non-exclusive Agreement, under which Authority may, at its sole discretion, augment or supplement the Services with its own forces or forces of another contractor or entity. Contractor shall cooperate fully with Authority's staff or any other contractor or entity that may be providing similar or the same services for Authority

A. GENERAL STATEMENT OF WORK

Contractor shall provide Qualified staff and Sub-Contractors as required in Appendix B, to provide installation and renovation services for "Systems" integral to the operation, control, monitoring, reporting of train movement and equipment, stations, buildings, communication towers and wayside facilities on the Authority's Service Territory as it relates to Systems, including but not limited to hardware, firmware, software and related equipment and cabling for signals, grade crossings, communication equipment, back office train control, on board train control, positive train control (PTC), customer information systems (CIS) or predictive arrival and departure systems (PADS), electrical, power, lighting, security, video monitoring, and ancillary support work such as transporting, storing and warehousing associated with the above categories.

In performing the Services, Contractor shall ensure that at least fifty percent (50%) of the Services will be performed by its own employees and that no more than fifty percent (50%) of the Services will be performed by Subcontractors or their employees.

Services will be performed pursuant to fully executed CTOs and will include, but not be limited to:

1. Modifications and in-service testing of all Signal, Communications, and Positive Train Control Systems, procurement of material and equipment, when required in CTO, in accordance with industry best practices and procedures and current Authority standards, specifications and maintenance requirements including:
 - a. Modifications of underground and above ground facilities in support of Systems, including but not limited to planning, permitting, and commissioning of power services required for Systems usage.
 - b. Modifications of in pavement loops required for Exit Gate Management Systems, including but not limited to paving and grinding required for installation. Contractor shall be responsible for all traffic control measures and striping in the area of work that is required by the municipality.
 - c. Modifications of Communications Systems towers, including grading, foundation, and erection.
 - d. Modification of on board System equipment, including but not limited to, locomotives and cab-cars. Work will require coordination with mechanical department in order to perform work.
 - e. Modification of Customer Information System including but not limited to modification/change of signage and/or LED monitors, pulling and termination of fiber cable and copper cables to provide information to System. Contractor may be required to pull additional power cable for signage.
 - f. Modification of lighting within property, including but not limited to Systems warehouse facilities including parking lots, Terminal & River outdoor areas where lighting is a safety component to perform night work.
 - g. Modifications to CCTV Systems including but not limited to, platforms, Los Angeles Union Station, Terminal and River Subdivision areas, including back office support for functionality.
 - h. Modifications to Security System card readers, including but not limited to Metrolink Operations Center, Dispatcher Operations Center, and Melbourne Support Facility.
2. Signal, Communications, and Systems installation and support services in coordination with work being done by other contractors.

- a. The Contractor shall provide personnel as requested through the CTO process, to provide signal support for on track surfacing and other rail activities provided by others. Activities shall include marking of signal equipment located on or near the track, removal and replacement of track wires when practicable and make repairs as necessary and test Systems prior to releasing Systems return to service.
 - b. All Contractors and Sub-contractors shall provide accurate and timely as-built information including conduit installation as-built for inclusion in final circuit plans.
 - c. The Contractor and/or Sub-contractors shall provide Systems material and equipment in accordance with Authority approved vendors, products, and procurement practices, when requested through the CTO process.
 - d. The Contractor and/or Sub-contractors shall provide accurate and timely records of cost for all labor, material, and equipment used for each CTO.
 - e. The Contractor shall provide other related and incidental Services as required to complete installation of the "Systems". The Contractor will also provide the management, administrative support, daily work assignment coordination, equipment, and other services not specifically provided by The Authority.
3. The primary routes of Metrolink are shown in Appendix A and incorporate the following commuter railroad segments in its system:
 - Los Angeles – Montalvo
 - Los Angeles – Lancaster
 - Los Angeles – San Bernardino
 - Los Angeles – Riverside
 - San Bernardino – Irvine
 - Riverside – Fullerton
 - Los Angeles – Fullerton
 - Fullerton – Oceanside

- San Bernardino – Redlands
- Highgrove – Perris

The railroad segments are also used by Union Pacific and Burlington Northern Santa Fe freight trains and by Amtrak passenger trains. The lines are considered a part of the general railroad system of transportation. The size, weight, and length of freight trains and the speed of passenger trains are similar to other Class 1 railroad properties throughout North America.

2. CONTRACTOR’S RESPONSIBILITIES

A. GENERAL

The Contractor shall perform the Services as described in the foregoing, Section 1, Scope of Services, and will require the performance of its employees to be consistent with the best railroad industry practice, during the life of the Agreement, in a manner to protect the safety of the public and to preserve the economic life of the SERVICE PROPERTY. Contractor is solely responsible for directing the means and methods of performing the Services as described below.

B. SERVICES

The Contractor shall install, modify pre-test, test, and commission “Systems” including but not limited to wayside electrical power services and local distribution, wayside signal systems, highway-rail grade crossing warning systems which may be inclusive of Exit Gate Management Systems and in pavement loops, pedestrian devices, wayside hazard detectors, monitoring devices, VHF, ATCS data radio systems, Ethernet Radio systems, Card Readers, on board and field Positive Train Control systems, microwave carrier systems, fiber optic systems, PBX systems, Closed Circuit TV systems, Customer Information Systems, passenger facility equipment, and underground and overhead facilities associated with all systems including antennas and towers for associated equipment including Waveguide coaxial and Ethernet cable.

The Contractor shall perform other related duties, all as authorized by the Authority in conformance with federal, state, and local regulations and in accordance with the requirements set forth in the CTO. These Services are generally performed under live track conditions. Installation will at all times be in full compliance with all applicable codes and regulations.

The Contractor shall determine and name all Sub-contractors needed in order to fulfill their responsibilities in this Agreement for the purpose of furnishing Key Subcontractor(s) for modification and commissioning of the various systems and SUB-SYSTEMS.

C. APPLICABLE STANDARDS

Unless otherwise specifically stated in the CTO, all work shall be performed in conformance with the Authority's current standards and specifications which are included on the Authority's Website and in the Engineering Standards book. Signaling work shall be tested in conformance with the Authority Instructions Governing Installation, Maintenance, Inspection and Testing of Signal Apparatus and Signal Systems Manual and manufacturer instructions. Communications Systems work shall be installed and tested in conformance with the Authority Communication Maintenance Manual and manufacturer instructions. All work shall be done in conformance with the current applicable Federal, State, and Local regulations. The applicable regulations include, but are not limited to:

1. The following General Orders (G.O.) of the State of California Public Utilities Commission (CPUC) shall apply:
 - a. G.O. 26-D: Clearances on Railroads and Street Railroads as to Side and Overhead Structures, Parallel Tracks, and Crossings.
 - b. G.O. 75-D: Regulations Governing Standards for Warning Devices for At-Grade Highway-Rail Crossings in the State of California (Resolution No. SX-73)
 - c. G.O. 88B: Alteration of Existing Grade Crossing of Public Roads, Highways, and Streets with Railroads.
 - d. G.O. 118: Construction, Reconstruction, and Maintenance of Walkways and Control of Vegetation.
 - e. G.O. 128: Construction of Underground Electric Supply and Communication Systems.
2. The following parts of the Code of Federal Regulations, Title 49, Transportation shall apply:
 - a. Part 212: State Safety Participation Regulations
 - b. Part 213: Track Safety Standards
 - c. Part 214: Railroad Workplace Safety
 - d. Part 219: Control of Alcohol and Drug Use
 - e. Part 228: Hours of Service of Railroad Employees
 - f. Part 233: Signal Systems Reporting Requirements
 - g. Part 234: Grade Crossing Signal System Safety

- h. Part 235: Instructions Governing Application for Approval of a Discontinuance or Material Modification of a Signal System or Relief from the Requirements of Part 236.
- i. Part 236: Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices and Appliances
- j. The Manual on Uniform Traffic Control Devices California Supplement, Part VIII, Traffic Control Systems for Railroad-Highway Grade Crossings shall apply.
- k. CAL-OSHA.
- l. California Electric Code.

The Contractor shall be responsible for adherence to all of the above rules and reporting requirements of Part 228: Hours of Service and Part 219: Control of Alcohol and Drug Use including those regulations which require pre-employment drug testing and random drug testing of employees engaged in the installation and testing of signal facilities, and the reporting and tracking of employees injured in the performance of work on a railroad.

In addition to the regulations and code requirements specified in this Section, materials and equipment provided by the Contractor shall conform to the latest standards of the AREMA Communication and Signal Manuals and the Authority's signal and communications standards and specifications.

Where differences exist between the requirements of the various standards and procedures, the Authority's PTC & Systems Engineer or designate shall determine which standard or procedure shall be followed.

D. PROTECTION OF THE PUBLIC

The Contractor's employees shall perform their duties, including operation of motor vehicles on public or private roads, in compliance with all applicable laws and with due respect for members of the public (e.g. control of dust, noise), and shall safeguard the public at locations where Services are performed. Where Contractor's employees are required to gain access to the Authority property through private property, they shall cooperate with every legitimate request of such property owners to maintain such access privilege. All debris generated during installation process shall be removed within two (2) days of project completion.

E. PROTECTION OF AUTHORITY PROPERTY

Contractor's employees shall perform their duties in a manner which preserves the security of the Authority right-of-way and which protects Authority property from theft or loss due to fire, corrosion, or other damage. The Contractor's employees shall perform their duties in a manner that makes maximum practicable efficient use of Authority materials. Specific actions under this section include but are not limited to keeping gates locked, reporting acts of theft and vandalism to Authority, keeping material in original, or other secure containers, keeping sensitive material out of the weather.

F. VIOLATIONS OF GCOR AND SAFETY REGULATIONS, TRAIN ACCIDENTS, INJURIES TO PERSONS, DAMAGE TO PROPERTY

Contractor shall cooperate fully in any investigation of reports of accidents, injuries, damages, or violations of the GCOR, CPUC General Orders or Safety regulations. The Contractor shall defend, indemnify, hold harmless and reimburse Authority or pay fines and penalties levied by any regulatory agency for any violation of the CPUC General Orders, Code of Federal Regulations, or System Safety Plan attributable to an act or omission of Contractor's employees. These costs are not reimbursable.

G. MANAGEMENT OF THE INSTALLATION FUNCTION

1. Systems Contract Manager

Subject to the Authority's prior written approval, the Contractor shall designate a Systems Contract Manager (SCM) who will have the qualifications specified in Appendix B. The SCM shall be Authority's point of contact for the management, administration, and supervision of the Agreement. If Authority is dissatisfied with the performance of the SCM, and following consultation between the Contractor's appropriate corporate officer and Authority's Contract Manager, Contractor shall remove the SCM immediately and name an interim SCM, acceptable to Authority, within thirty (30) calendar days. A permanent replacement shall be in place no later than ninety (90) calendar days after the removal of the SCM. Contractor shall not otherwise transfer or reassign a SCM until a replacement has accepted the position and is available to begin work in that position. The SCM shall attend service meetings with Authority staff and others, as required.

2. Key Personnel

The Contractor shall select replacement Key Personnel to fill all positions reporting directly to the SCM. These key personnel shall be QUALIFIED in accordance with personnel qualifications as stated in Appendix B, and subject to Authority's prior written approval.

The SCM shall have the authority to discharge and replace all non-key personnel Contractor staff performing under this Agreement that does not meet Authority's requirements.

3. Other Management Personnel

To ensure continuity in the provision of the Services, the Contractor shall not transfer the SCM or approved Systems Signal Engineer, Systems Communications Engineer, or any direct reports that are assigned to providing the services from their assignment for at least one (1) year or except: (1) as required by applicable law or regulation; (2) as allowed as otherwise provided in this Agreement; or (3) with the written consent or at the request of Authority. In the event that an approved Engineer or key personnel change is anticipated, the Authority's Contract Manager will be given notice of the change and provided with a replacement for Authority's approval. Once the Authority approves the replacement, the Contractor will make available key personnel that shall be assigned to providing the Services required through the CTO process.

H. HIRING, TRAINING, QUALIFYING, AND ASSIGNMENT OF STAFF

The Contractor shall be responsible for the hiring, training, and qualifications of Contractor and Sub-contractor personnel to meet the requirements included in Appendix B. Contractor shall furnish Key Personnel meeting the requirements in Appendix B upon the initiation of Services, and shall furnish like QUALIFIED personnel to fill any personnel vacancies.

Any Contractor or Sub-contractor personnel found to be acting in violation of Federal, State, and Local regulations, Authority requirements, or safety rules will be removed from the worksite.

1. Contractor's Qualification for Systems Work

- a. Any Contractor, Subcontractor, and their employees that perform Services under this Agreement shall possess the appropriate Contractors License and certifications as required by state law.
- b. Contractor's systems field forces shall perform the work required under the Authority approved CTO.
- c. The Contractor's Authority-approved systems engineers or designate shall oversee all systems related work and when required, shall coordinate system work with related track construction, mechanical, State, County, or Local highway traffic representatives.

- d. The Contractor's work plan, with Authority approval, shall assign the level(s) of signal and communications engineers conducting the testing and commissioning of systems equipment. Assignment of the engineer(s) shall be identified in the work plan. Assignment will be based on magnitude of the in-service system testing to be conducted and as outlined in Appendix B. The Contractor's systems signal test engineer, systems signal engineer and/or systems communications engineer are responsible for ensuring that all applicable test documentation is completed immediately after, in-service testing is completed, and that all documentation is provided to Authority Project/Task Manager within 72 hours.
- e. The Contractor's SCM shall directly coordinate the phasing of all systems work with Authority operation staff or other Railroads and Contractors, and shall assist Authority maintenance forces as authorized by the Authority. The SCM shall plan the work in such a way that adequate time is allocated to complete the individual work tasks so that train delays are minimized and that **safety is not adversely affected.**
- f. All Contractor or Sub-contractor employees who are engaged in making modifications to existing signaling circuits, or who otherwise perform work which falls under CFR 49 part 228 requirements, shall have a minimum of five (5) years of relevant experience working for a Class 1 railroad, commuter rail system, or other Authority approved organization. Contractor or Sub-contractor employee shall be QUALIFIED and experienced in wiring, installation and testing on similar types of signaling equipment and systems and shall have demonstrated familiarity with signaling devices and systems to Authority's satisfaction prior to being assigned to perform the work.
- g. All Contractor or Subcontractor employee that may have direct involvement with the testing and/or adjustment of Authority's radio transmitters shall have a current active license from the Federal Communications Commission or the National Association of Broadcast Engineers Radio Service.
- h. The Contractor's Systems Communications Engineer shall direct and certify the successful completion of all tests on

communications equipment and systems prior to releasing the system for service. The Contractor's Systems Communications Engineer is responsible to ensure that all applicable site specific, addressing, GPS coordinates, power/watt output, signal strength, and applicable test results are documented immediately after in-service testing is completed. All documentation shall be provided to Authority Project/Task Manager within 72 hours.

- i. The Contractor's systems communications technicians shall perform the work required under the CTO. The Contractor's Systems Communications Engineer shall oversee all communications related work.
- j. The Contractor's Systems Communications Engineer shall directly coordinate the phasing of communications work with the Authority, other Railroads, and contractors, and will assist maintenance forces as authorized by the Authority. The SCM shall plan the work in such a way that adequate time is allocated to complete the individual work tasks so that train delays are minimized and the **safety is not adversely affected.**
- k. All Contractor or subcontractor employees who are designated as "Employee-in-Charge" shall have a minimum of three (3) years of field related experience working for a Class 1 railroad or commuter rail system which is governed by the General Code of Operating Rules. The "Employee-in-Charge" shall have attended Authority approved training classes as herein described and shall have demonstrated familiarity with Authority rules and the worksite to Authority's satisfaction prior to being assigned as an "Employee-in-Charge."
- l. All Contractor's or Sub-contractor Key Personnel must attend classroom training on the General Code of Operating Rules, safety classes, and emergency procedures prior to working on Authority projects. The Contractor's Key Personnel must obtain a "passing grade" on all examinations given during training.
- m. All Contractor and Sub-contractor field personnel must receive Authority approved RWP safety training, which shall include a thorough briefing in the rules of conduct in work areas where fast moving trains may be present.

2. Safety Program and Training

The Contractor shall provide the Authority Manager Safety and Security with five (5) copies of its construction safety manual which must include railroad environment safety practices prior to beginning any work on Authority property. The Contractor's safety manual shall include a detailed description of those practices and procedures which are required under federal, state, and local regulations and statutes as well as those required under labor agreements that are in force within the duration of this contract. No field related work shall be undertaken by the Contractor until after the Authority has accepted the Contractor's safety program as in conformance with the Authority's policies and practices. The cost for establishing and managing the Contractor's safety program shall be included in the approved Fully Burdened Labor Costs.

Prior to entering upon Authority operating right-of-way for the purposes of performing work, each Contractor and subcontractor employee shall be required to attend Contractor safety classes based upon the employee's work responsibilities.

- a. All workers and supervisory personnel who either are proposed to enter upon Authority right-of-way, except as herein described, shall either participate in a one day class on the subject of "Roadway Worker Safety" or a separate three day class on the subject of "General Code of Operating Rules. See Appendix "C". Participation shall include completion of a written examination for each class taken. Failure to obtain a passing grade on a written examination will render an individual ineligible for entry onto the right-of-way
- b. The Contractor's and Sub-contractor's personnel designated as "Employee-in-Charge", in addition to successful participation in the above three (3) days of safety classes, shall also receive specialized qualification training in order to request and obtain on-track protection on Metrolink controlled ROW.
- c. Successful completion of this qualification training will be determined by oral examination of the applicant by the Authority representative. Failure by the applicant to demonstrate complete familiarity with the worksite(s) to the satisfaction of the Authority representative will make the applicant ineligible for obtaining protection without additional instruction and testing.
- d. All direct and indirect costs for conducting employee training, and for setting up and administering the Contractor's own

safety and drug/alcohol control programs will be at the Contractor's sole expense.

3. Drug and Alcohol Testing

The Contractor and Sub-contractor shall comply with the Authority's FRA approved Drug and Alcohol Testing program, and as amended, throughout the term of this Agreement. Nothing in this Agreement shall prevent the Contractor or Sub-contractor from administering a drug and alcohol program or testing protocol as long as that program is clear that it is based on Contractor's or Sub-contractor's own requirements and not federal requirements. This enhanced Contractor-initiated program shall not use federal testing forms, but shall use testing forms and methodologies from the laboratory. The Contractor and Sub-contractor shall submit and administer a pre-employment drug and alcohol program for all Contractor employees providing the Services.

I. GENERAL REQUIREMENTS

1. The Contractor or Sub-contractor shall not begin any work without an Authority approved CTO.
2. The Contractor shall submit a detailed test plan for all systems a minimum of sixty (60) calendar days in advance of placing any system in service. These test plans shall reflect the latest revisions and changes approved by the Authority's PTC & Systems Engineer or designate and made as a result of field checks and conditions. The Contractor shall not proceed with the cutover or in-service testing until the Authority's PTC & Systems Engineer or designate approves the test plans. Plans shall include, but are not limited to:
 - a. Proposed plan for providing alternate methods of wayside signaling and highway crossing warning systems protection when signal components are relocated, deactivated, altered, or modified in order to accommodate construction work.
 - b. Plan for point protection and fouling when crossover or turnouts are installed or removed.
 - c. Proposed plan for interruptions to VHF, ATCS, Fiber, or networks and work around to prevent complete outage.
3. Prepare and submit a Systems Construction Sequencing Plan for each location where a system is to be modified, installed, or removed. The Plan, as a minimum, shall contain the following:

- a. A narrative description of the work to be undertaken at the designated location.
 - b. A step-by-step sequence of work description which identifies those steps during which the existing system will be disabled, and a description of what steps will be taken to assure that the signal and communications systems will be tested and returned to full operation without causing a delay to any train movement.
 - c. An estimate of time to complete the critical steps in the sequence specified in step-by-step sequence of work description.
4. Manufacturers' warranties and guarantees furnished for materials provided by the Contractor or Sub-contractor and used in the work, instruction sheets, and part lists supplied with materials shall be delivered to the Authority Project/Task Manager prior to acceptance of the project. All equipment, material warranties, and guarantees shall cover parts and labor for two years from the date of final "acceptance".
5. After a location is placed in service and prior to final acceptance of the project, the Contractor shall submit as-built documentation as follows:
- a. Detailed circuit Drawings within three (3) calendar days.
 - b. Final application logic documentation within three (3) calendar days.
 - c. Civil Drawings if presented with CTO which show the physical location of all signal apparatus and conduits, both along the tracks and perpendicular to it, and heights of all signal structures within sixty (60) calendar days.
6. Authority Project/Task Order Manager or their representative(s) may inspect the Contractor's furnished materials and work procedures during all phases of construction. Materials and procedures that fail to meet the requirements of these specifications, or regulations, shall not be installed or placed in operation.
7. Ensure that equipment used in the testing of wayside signal, on-board, and grade crossing warning systems and components shall be in proper calibration. Test meters and other test apparatus shall

have been inspected by a recognized facility that performs calibrations for proper calibration a minimum of 6 months prior to performing required tests. A sticker, or other documentation, must be made available for inspection at the request of the Authority Project/Task Manager.

J. QUALIFICATIONS AND DUTIES OF SIGNALING PERSONNEL

1. Key employees of the Contractor engaged in the final adjustment and testing of the various signaling systems shall be QUALIFIED and have had experience on an operating railroad in the type and level of signal installation and testing work as required herein.
2. Systems Signal Engineer as used herein shall be understood to mean Contractor's railroad signal engineer or engineers approved by the Authority. Systems Signal Electrician (signaler), as used herein, shall be understood to mean Contractor's electrician(s) used to perform non-intrusive to the active signal system wiring and installation of railroad signal underground cabling and grade crossing warning system inactive circuits, components, and control equipment and devices including their primary and backup power supply systems. When work requires termination or any modification to the active signal system the Signal Support Maintainer will perform modifications and test system which modifications were made when completed, under the direction of the System Signal Engineer. System Support Maintainer and System Signal Engineer are required whenever Signal Systems are modified to ensure that all applicable tests are performed
3. Systems Signal construction and installation personnel shall work under the authority of the Systems Signal Engineer. The Contractor's signaling construction forces shall work under the authority of a Systems Signal Engineer.
 - a. Systems Signal Engineer shall plan, direct, and oversee the adjustment, installation, and testing of signal related work and shall coordinate signal work with related track construction work and roadway work.
 - b. Systems Signal Engineer shall be responsible for all work under his/her charge and must have the authority to remove any personnel from the project who are not performing the work in a satisfactory manner. The Systems Signal Engineer shall obtain, review, and maintain documentation of the required minimum experience, a copy of the Electrician's license(s), and a record of wage rate paid for each Signal

Electrician (signaler) that performs Signal or Crossing Warning System work prior to that Electrician (signaler) starting any Signal related work. This documentation shall be available for review by the Authority or its appointed representative at all times upon request.

- c. Systems Signal Engineer shall be on site whenever signal related work or track construction work is in progress in the vicinity of existing wayside signaling equipment, highway grade crossings, and/or cabling.
4. The Systems Signal Engineer shall supervise and direct the work of all signal construction and installation personnel.
5. The Systems Signal Engineer shall direct and organize the performance of all tests on signaling equipment and systems, prior to releasing the systems for service. The Systems Signal Engineer shall be responsible to ensure that all applicable test documentation is completed prior to, or immediately after, in-service testing is completed.
6. The Contractors proposed Systems Signal Engineer shall demonstrate experience in the philosophy, application, and testing requirements of the various signaling systems. The proposed Systems Signal Engineer shall have a minimum of ten (10) years signal supervisory or management related experience on a Class I railroad, or commuter railroad comparable to SCRRRA. The proposed Systems Signal Engineer shall also demonstrate knowledge of the governing General Code of Operating Rules, including CPUC and FRA regulations and procedures. This demonstration shall be by interview of the proposed Systems Signal Engineer by the Authority's PTC & Systems Engineer or designate prior to commencement of any work that may affect the signal system. The work of this project includes working within tight windows on a live railroad consisting of freight trains, inter-city passenger trains, and Metrolink commuter trains. Candidate shall have a similar level of experience. The Authority's decision concerning the candidate's qualifications will be final. No signaling related work may begin prior to obtaining the Authority's approval of the Systems Signal Engineer. In addition, obtain the Authority's approval of each Systems Signal Engineer prior to beginning any work that may affect the signal system. Obtain approval of and provide additional Systems Signal Engineers as required depending upon the level and type of work being performed. The Contractor shall Propose alternate personnel if the original candidate is found unacceptable.

7. The Contractor shall propose alternate personnel if the original candidate is found unacceptable. Previous qualification as a Signal Engineer or Manager on other Metrolink projects does not constitute qualification as a Systems Signal Engineer or Manager for this Contract.
8. The Authority reserves the right to request to remove any Contractor employee at any time during the course of the Work.
9. The Signal Electricians (signaler) shall have a minimum 1,000 hours of experience in the wiring and installation of railroad signal and grade crossing warning system circuits, components, control equipment, and associated devices including their primary and backup power supply systems. Signal Electricians (signaler) shall perform the wiring, labeling and non-intrusive to existing signal systems termination, as appropriate, of all railroad signal and grade crossing warning system circuits, components, control equipment, and associated devices including their primary and backup power supply systems. All Signal Electricians (signaler) shall be licensed: Journeyman or Inside Electricians or an approved equal. Signal Electricians (signaler) shall be paid at the prevailing wage rate for the locality of the construction.
10. All Contractor field personnel shall receive safety training in accordance with SCRRRA Site Safety Requirements.

K. QUALIFICATION OF CONTRACTOR'S COMMUNICATIONS PERSONNEL

1. Key employees of the Contractor engaged in the modification, testing, and commissioning of the various systems shall be QUALIFIED and have had experience in the type and level of work as required herein. The following key employees of the Contractor are required to participate in the communications portion of the project:
 - a. Systems Communications Engineer: This individual shall direct the onsite day-to-day operations of the Contractor's staff while they are engaged in the modification and in-service testing of UHF, VHF, fiber optic, Ethernet Radio, Customer Information Systems, On-board PTC Systems, Back Office, and microwave systems related to this Work. This individual must possess a BSEE or demonstrate equivalent experience, with a minimum of 10 years of experience in communications systems design and installation, including a working knowledge of IP networking. This individual shall have a

thorough knowledge of railroad methods of communications system construction and maintenance under traffic. The individual shall demonstrate knowledge and understanding of Advanced Train Control Systems, Centralized Traffic Control communications equipment, microwave radio networks, and voice radio communications systems. The Radio Communications Systems Engineer shall be able to work outdoors in all weather conditions and shall have the ability to distinguish colors and hear warning signals, radio and telephone devices. This individual shall be headquartered at the Contractor's construction field office and shall be an active participant, when any radio/microwave installation, testing, or work is being performed within his/her responsibility.

- b. Fiber Optic Communications Technician on an as needed basis: This individual shall direct the onsite day-to-day operations of the Contractor's staff while they are engaged in the design review, installation, and in-service testing of fiber optic communications systems related to this Work. This individual shall possess an Advanced Fiber Optic Technician Certifications (AFOT) or demonstrate equivalent experience. This individual shall have minimum of (10) years of progressively responsible fiber optic based communications analysis, installation, and testing experience, and show evidence of installation on an active railroad. This individual shall be able to work outdoors in all weather conditions and shall have the ability to distinguish colors and hear warning signals, radio and telephone devices. This individual shall be headquartered at the Contractor's construction field office and shall be an active participant, on project site, when any fiber optic design, testing, or work is being performed within his/her responsibility.
- c. The Contractor's Systems Communication Engineer responsible for his/her area(s) of expertise shall direct and certify the successful completion of all tests on systems under their responsibility prior to releasing the system(s) for operation. The Contractor's Systems Communication Engineer is responsible to ensure that all applicable test documentation is completed immediately after, in- service testing is completed and such documentation is submitted to the SCRRA Communications Engineer or designate.
- d. The Contractors Systems Back Office Lead Technician oversees activities of workers engaged in assembly installation, testing and commissioning of train control and

communications hardware and software and in some cases may perform the work.

- e. The Contractors Systems On-Board Installation Lead Technician performs and/or directs activities of on-site workers engaged in assembling, testing installing, and upgrading railroad train control and communication hardware and software and interconnections with the applicable on board systems on the Authority's locomotives and cab cars.
- f. All Contractor personnel that work within the SCRRRA right-of-way shall receive safety training that shall include a thorough briefing in the rules of conduct in work areas where moving trains may be present.
- g. Any Contractor personnel found to be acting in violation of railroad safety or operating rules and regulations will be immediately removed and barred from the project.

L. TEST SYSTEM

- 1. During the course of any executed CTO, Systems tests and inspections shall be made both during the progress of this Contract and after completing installation or modification of equipment, and shall consist of circuit breakdown tests, wiring verification tests, continuity tests, resistance tests, voltage and current tests, applicable locking tests, operating tests, simulation tests, and other electrical and mechanical tests and inspections.
- 2. The work shall include all tests required to ensure proper and safe operation of all systems and subsystems, and to prove the adequacy and acceptability of the total installation specified herein. Tests to be performed shall cause each system and subsystem to be sequenced through its required operations, including imposition of simulated conditions to prove that the installation complies with all specified fail-safe requirements.
- 3. The Contractor shall conduct an acceptance test on all Authority furnished equipment prior to loading at the warehouse and provide certified acceptance reports with each unit at time of delivery.
- 4. The Contractor shall supply test equipment of proper type, capacity, range, and accuracy to perform required tests and inspections.
- 5. The Contractor's test equipment used shall be in good working order and properly calibrated within 6 months of the date of the tests. This

equipment shall display a sticker indicating its calibration date and the agency/vendor that performed the calibration.

- a. Calibration of each instrument shall be certified by a recognized testing facility. Instruments with out-of-date calibrations will be considered non-certified. Tests conducted with non-certified instruments will be rejected.
6. In the event that the system does not meet requirements, the Contractor shall make the necessary corrections and perform retesting at the sole expense of the Contractor. The Contractor shall complete all tests and inspections prior to performing final in-service tests.
7. Work shall include all necessary disconnecting and reconnecting in order to perform the specified tests.
8. Systems test work specified elsewhere in this Contract shall be construed as related to and inclusive with the testing described herein.
9. Field tests shall be coordinated with the Authority's PTC & Systems Engineer or designate. As many tests and inspections as possible shall be completed prior to the final cutover to avoid train delay, inconvenience to the traveling public, and cost to the Authority. Place systems in-service in phases where possible, thus reducing the actual cutover period.
10. Tests shall ensure conformance with CFR 49, Parts 234 and 236 where applicable, and shall be recorded on forms provided by the Authority and signed by the Contractor's Systems Signal Engineer directing each test and inspection.
11. Tests and inspections shall conform to the SCRRA Instructions Governing Installation, Maintenance, Inspection and Testing of Signal Apparatus and Signal Systems where applicable. The Authority will provide three (3) copies of this Manual at the Pre-Construction meeting. Request guidance from the Authority's PTC & Systems Engineer or designate where the test and inspection requirements written herein conflict with SCRRA Instructions Governing Installation, Maintenance, Inspection and Testing of Signal Apparatus and Signal Systems. In the event that the test or inspection to be provided by the Contractor is not provided in the SCRRA Instructions Governing Installation, Maintenance, Inspection and Testing of Signal Apparatus and Signal Systems the Contractor

shall request in writing to the Authority's PTC & Systems Engineer or designate instructions of the testing required.

12. Testing, including pre-testing shall include operating all switch machines and lighting all signals. The use of lamp simulators in lieu of, or in parallel with signal lamps will not be allowed in pre-testing. An exception may be authorized by the Authority's PTC & Systems Engineer or designate where a signal or switch machine is in service and will be reconfigured for final cutover, or cannot be installed or wired until final cutover.
13. An appropriate meter shall be used when testing circuits. Visual observation of a relay is only valid when coil voltage or current or contact voltage, as applicable, is also measured.
14. Test and inspection procedures shall be subject to the Authority's PTC & Systems Engineer or designates acceptance and shall comply with all regulatory requirements and the manufacturer's recommended test procedure.
15. Notify the Authority's PTC & Systems Engineer or designate in writing at least 48 hours prior to each field test. No part of the signal system shall be placed in service without an authorized representative of the Authority being present and witnessing the in-service tests.

M. SUBMITTALS

1. Submittal Procedure.

- a. The Contractor shall include in each submittal a list all materials, equipment, assembly, and installation required to carry out the functions and purposes indicated in the CTO, and to make the systems suitable for the purpose for which it is intended.
- b. Complete SSWPs, detailed installation documentation, and Plans shall be submitted to the SCRRA PTC & Systems Engineer or designate no later than sixty (60) calendar days prior to the scheduled installation date for each location and each subsystem unless otherwise noted in the CTO.
- c. SSWP submittals shall not be approved in advance of the SCRRA PTC & Systems Engineer or designate approval of

the respective Final Design Review Submittal if required by the CTO.

- d. Complete SSWPs, detailed installation documentation shall be submitted to the SCRRA PTC & Systems Engineer or designate no later than sixty (60) calendar days prior to the scheduled installation date for each location and each subsystem unless otherwise noted in the CTO.
- e. Product Samples as required in each CTO for SCRRA PTC & Systems Engineer or designate approval.
- f. A Test Plan shall be submitted no later than sixty (60) calendar days after SCRRA PTC & Systems Engineer or designate approval, outlining the Contractor's overall testing strategy and schedule including:
 - (1) A list of all tests to be performed for all systems, subsystems, integral equipment and materials to meet the requirements of the CTO.

N. System Pre-Testing and Testing

- 1. Contractor shall submit the following pre-test information to the SCRRA PTC & Systems Engineer or designate for acceptance:
 - a. Pre-testing authorization request shall be submitted at least fifteen (15) calendar days in advance of proposed pre-testing. Such request shall include:
 - (1) Names of Contractor's Systems Signal and or Systems Communications Engineer in charge of systems pre-testing.
 - (2) Other personnel assigned to the pre-test who will be performing the tests or assisting with the tests.
 - (3) List the assigned location(s) of the Contractor's personnel and their designated duties during the pre-test.
 - (4) An outline of the tests to be performed on each type of component, unit, and system, together with samples of the corresponding test records. The outline shall be arranged to indicate the proper sequence of each test to be performed on each component or unit. In addition, the date and time will be shown for each test.

- (5) Detailed description of each test to be performed, including the operating parameter(s) to be tested. Test equipment to be used for the test, including the model number, serial number, calibration period, last calibration date, and a brief description of the purpose of the test equipment.
 - (6) Description of equipment to be used for communication between the various individuals involved in the testing.
 - (7) Schedule of pre-testing Contractor proposes to perform which includes beginning and ending dates, times, and locations in a time-line format.
 - (8) Identify any test or operation that may disrupt or disarrange the existing signal circuits or systems. Include description of proposed safety provisions and back-up contingency plans.
2. Contractor shall submit the following in-service testing information to the Authority for acceptance:
- a. Submit, at least sixty (60) calendar days in advance of any in-service testing, a detailed cutover and in-service test procedure. This procedure shall indicate the Contractor's personnel involved, their assigned location, and responsibility during the in-service testing. Include the following for Contractor-directed signal cutovers (the following does not apply to Owner-directed signal cutovers): The test procedure shall adequately reflect the test to be performed and the sequence in which the tests shall be performed. A signal aspect chart indicating the appropriate signal aspect to be displayed as train simulation tests are made shall be included. The signal aspect chart shall indicate the progressive down grading of signals and track codes and shall reflect the resulting signal aspect displayed as a result of a light-out condition.
 - b. The test procedure shall include an outline of the systems tests to be performed on each type of component, unit, or system, together with corresponding samples of test record forms and cards. The outline shall be arranged to indicate the proper sequence of each test to be performed on each component or unit; the numbers of each type of component or unit to be tested to demonstrate adequacy of design and quality control; and a line diagram showing the grouping and sequencing of system and subsystem

3. Contractor's testing procedures and cut-over plan must pass the PTC & Systems Engineer or designate and the Operating Railroads review. Allow thirty (30) days for this approval process. In the event the Contractor's testing procedures and cutover plan is rejected in any manner, the Contractor shall not be entitled to any claim for delay or compensation from the Authority.
4. Record the results of each test, as herein specified, and submit copies of the field test reports to the Authority's PTC & Systems Engineer or designate immediately after the completion of the cut-over testing. Prepare final type-written test reports as indicated herein and submit to the Authority's PTC & Systems Engineer or designate within five (5) calendar days after the completion of each test. Final Type-written test reports shall include complete details of the test results and corrections or adjustments which were performed or which remain to be completed. The type-written test reports shall be signed and dated by the Contractor's responsible employee. Furnish certified test results for tests performed by any subcontractors, when such tests are required within the requirement(s).
5. Where required, submit test results on completed SCRRA test record forms.
6. Submit test reports for any additional tests required by the Contractor to ensure the safe operation of the system to the Authority's PTC & Systems Engineer or designate
7. Upon completion of all tests, submit a letter certifying that all tests necessary to comply with all current regulatory requirements of this Contract have been performed at listed locations.

O. QUALITY ASSURANCE

1. The Work and testing shall comply with the following standards and regulatory requirements: AREMA Communications and Signals Manual, Part 2.4.1. and CFR, Title 49, Parts 234 and 236.
2. Test instruments and equipment necessary to conduct the tests specified herein shall be available, ready for use not less than one week in advance of test need. "Ready for use" shall mean properly matched for test parameters, properly calibrated, and sufficiently supplied with leads, probes, adapters, stands, and similar items necessary to conduct the testing in a completely professional manner.

3. Temporary or interim test related materials, special tools, connections, jumpers, and similar items shall be furnished and available not less than one week in advance of the test need.

P. FIELD TEST PROCEDURES

1. The Contractor shall perform as many pre-tests as possible in advance of system in-service testing. Include, at a minimum, the adjustment of tunable joint couplers, microprocessor based coded track circuits, verify signal aspects against received and transmitted codes, radio frequency check and verification, OTDR testing, and powering up of communications equipment. Verify operation of, calibrate grade crossing prediction units, and adjust grade crossing signal control equipment as required to assure proper operation. In order to have a successful cut-over, it is essential that as much pre-testing and advance wiring be completed on the systems before in-service testing begins.
2. Condition precedent for in-service testing and cut-over will be the completion of pre-testing and the Authority's PTC & Systems Engineer or designate acceptance of the results. Complete pre-testing and submit the results to the Authority's PTC & Systems Engineer or designate not less than one (1) week prior to the proposed cut-over date.
3. The field tests performed shall cause each installed system and subsystem to be sequenced through its required operations, including the imposition of simulated conditions, to demonstrate that the installation complies with all specified fail-safe design requirements and operational functions.
4. The Contractor shall demonstrate the quality of installation by field tests for continuity, insulation resistance, and resistance of ground connections, circuit breakdown, visual inspection, and any other tests required by the Contract, SCRRA Specifications and regulations. The contractor shall perform these tests prior to any operational testing of systems.
5. The Contractor's test procedures shall consist of preprinted data sheets or inspection forms. Where applicable by regulations, results of test results shall be recorded on SCRRA forms. These forms will be provided by the Authority's PTC & Systems Engineer or designate. When completed by the field test personnel and checked for accuracy and completeness, submit the sheet as the test report.

6. When tests require specific meter or test instrument readings, the preprinted data sheet shall show the allowable range of values, for each part of the test. The test report shall also contain a check off system for each action and a blank space adjacent to the expected value in which to record the test readings.
7. All test reports shall be dated and signed by the responsible employee of the Contractor or subcontractor on the day the test is performed. Space also shall be provided for the signature of the witnessing inspector.
8. The report shall show the specific test instruments used on each test, with instruments identified by name, type, serial number, calibration date, and calibration due date.
9. Should an error be discovered during field testing due to field wiring and connections that do not agree with the accepted circuit plans, the Contractor may correct such errors without prior acceptance of the Authority's PTC & Systems Engineer or designate. The Contractor shall not, however, make any changes that deviate from the Contract Plans without prior written acceptance of the Authority's PTC & Systems Engineer or designate.
10. The Authority's PTC & Systems Engineer or designate will make all final determinations as to whether only a part, or a whole test, shall be rerun when any specific field test does not meet the requirements specified for the test.
11. Any changes made after completion of test procedure shall be re-tested in accordance with the applicable test procedure and regulatory requirement.

Q. AS-BUILT DOCUMENTATION

After any system or systems location is modified or placed in service, contractor shall submit as-built documentation as follows:

1. Submit detailed circuit Drawings to the Authority within three (3) calendar days.
2. Submit four copies of as-built corrections to the Authority's Signal Engineer or designate within three (3) calendar days.
3. Submit Civil Drawings which show the physical location of all signal apparatus and conduits, both along the tracks and perpendicular to it, and heights of all signal structures to the Authority within sixty (60) calendar days.

4. The Contractor shall annotate the As-Built drawing sets to show all approved circuiting and wiring changes made during installation and testing of the location prior to placing it in service, and any approved changes made after placement in service. Clearly identify all changes on the Drawings using the "Red In"/"Yellow Out" convention. Changes shall be dated and initialed by the Contractor's responsible Systems Signal and or Systems Communications Engineer. Identify the date that the location was tested and placed in service in the revision block of the Drawings.
5. In addition to the as-built Drawings provided to the Authority, one set shall be bound and shall be kept in the instrument enclosure at a location and manner approved by the Authority's PTC & Systems Engineer or designate. As-built Drawings shall be clean and legible. The as-built Drawings shall not be removed from the field location after the location is placed in service without the prior written approval of the Authority's PTC & Systems Engineer or designate.
6. The final as-built Drawings shall be 11 inches by 17 inches, unless authorized by the Authority's PTC & Systems Engineer or designate to substitute another size.
7. Each circuit that continues on another drawing shall be annotated with drawing number and routing information for the continuation of the circuit.
8. The circuit Drawings shall show all individual circuits. Typical circuits will not be accepted.
9. The location plans shall show all cable installed with the number of conductors, the size of conductors, the type of cable, termination points of conductors, and the circuit on each conductor. Separate cable plans shall be drawn if cable information cannot be shown in a neat and organized manner on the location plans.
10. The Shop Drawings shall be detailed equipment Drawings for each type of equipment installed.

R. TRACK AVAILABILITY REQUIREMENTS

1. General: Metrolink Commuter Service and any other passenger or freight service may not be interrupted by the Work of this Contract, except as provided by in the Contract Documents.
2. System Cutovers may be required under traffic.

3. System Cutovers under traffic will require coordination between the Contractor, Metrolink, other railroad(s), as applicable, and the Operating Railroad of Record to keep train delays to a minimum.

S. MOBILIZATION FOR INITIATION OF WORK

1. During the CTO MOBILIZATION PERIOD the Contractor shall assemble and organize the work force, materials, support functions, and equipment in accordance with the work plan submitted and approved in the CTO process.
2. The Contractor's staff shall be trained and QUALIFIED on the SCRRA Territory, GCOR, and FRWS by the Authority during the MOBILIZATION PERIOD. Personnel currently QUALIFIED on Authority territory, GCOR and FRWS need not be retrained or re-qualified in order to perform Services. Contractor is responsible and shall compensate its employees at its sole cost when receiving the above training.
3. Notwithstanding any of the foregoing, in the event that the Contractor's work or the work of a Subcontractor are not in compliance with this Agreement and create a hazard to the public health or safety or the safety of Authority's employees or other contractors and their employees, the Authority may undertake at the Contractor's sole expense and without prior notice, all Services necessary to correct that hazardous situation.
4. Contractor shall require any Subcontractor to undertake the same obligations to the Contractor and to Authority as are set forth in this agreement.

T. DEMOBILIZATION

1. During the CTO DEMOBILIZATION PERIOD or when any Key Personnel is removed/leaves from this Agreement, the Contractor shall return to the Authority the following:
 - a. All Contract specified test and inspection deliverables, IAW Authority's records retention policy.
 - b. Contract records.
 - c. Equipment site plans.
 - d. Test equipment.
 - e. Keys.

- f. Spare equipment parts.
- g. Equipment manuals.
- h. SCRRA supplied materials.

U. Contractor Storage/Laydown/Office Area

1. The Contractor shall be required to secure adequate space and permits for the installation of its own field offices, Subcontractor field offices and any and all other areas required to prosecute the work of the Contract including but not limited to all storage/laydown/parking and assembly areas are at the Contractor's expense.
2. The Contractor's work crews shall report for work each day at the worksite or at a Contractor designated site, which is conveniently located to the work so as to minimize travel time. Contractor crew reporting site shall be located no more than ten (10) miles from the site of the work.
3. Upon written authorization by the Authority, the Contractor may, at the Contractor's sole expense, set up and maintain a temporary field office on Authority property within close proximity to the CTO worksite. The Contractor's use of Authority property for setting up a temporary office site and/or for material storage shall be limited to work activities directly related to Authority authorized work. The Contractor shall be solely responsible for all expenses pertaining to maintaining these temporary facilities including but not limited to, insurance, security, fencing, safety, storage, lighting, safe egress from public RIGHT OF WAY, power, telephone, utilities, hygiene facilities, drainage or other Contractor related needs or requirements.
4. Except as herein noted, the Contractor shall not occupy, store material on or otherwise use any area or property belonging to the Authority for the purpose of storage or for office areas. The Authority's storage sites shall not be available to the Contractor except to pick up and/or deliver Authority-owned material.

V. SITE SPECIFIC WORK PLAN FOR CONTRACT TASK ORDER (CTO)

The Contractor shall prepare a detailed written work plan and schedule for each REQUEST FOR ESTIMATE issued. Site Specific Work Plan (SSWP) and Schedule shall be submitted with CTO estimate. Upon receipt of fully executed

CTO Contractor may revise SSWP and schedule if deemed necessary. Unless additional details are specified in the CTO, the work plan shall, at a minimum address the following issues.

1. The Contractor shall provide a detailed description of the work to be performed based upon the scope contained in the REQUEST FOR ESTIMATE that includes the following:
 - a. Anticipated START DATE of work
 - b. Mile Post of activities
 - c. Contact person in charge of the work
 - d. Listing of permits and licenses to be obtained and or applied for and from what municipality or agency including but not limited to Federal Communications Commission
 - e. Assigned Task Number, assigned Charge Number
 - f. Dig Alert documentation (dig ticket number)
 - g. Detailed description of work to be performed in a sequential order with labor assignments including Sub-contractor's personnel
 - h. Proposed assignment of personnel responsible for required testing and commissioning of communications and signal modifications and installations
 - i. Proposed testing, pre-testing and in-service, testing of systems modifications and installations
 - (1) Proposed daily testing and documentation to be conducted
 - (2) Proposed testing and documentation to be conducted for modifications to systems
 - (3) Proposed Pre-testing and documentation of all materials installed
 - (4) Proposed In-service (proposed cut over sheets) testing and documentation of system modifications and/or new installation of materials
 - (5) Proposed additional testing to be conducted and documented to fully verify the safe operation of systems.
 - (6) Proposed communications equipment installations or modifications must comply with the technical standards and operating requirements of the Federal Communications Commission (FCC),

and each location equipped with a radio shall have, at a minimum, an application for an FCC license delivered to the Authority prior to placing in service.

- j. Any extraordinary conditions that exist and what means will be taken to mitigate such conditions
 - k. Completion date. Any anticipated impact to systems availability or impact to rail operation.
2. All proposed testing must conform to and in compliance with applicable 49 CFR requirements, AREMA recommended practices, Authority Standards, Authority Specifications and Instructions, at all times utilizing industry best practices.
- a. Detailed schedule for completion of the work, including a sequence of major activities and testing and commissioning personnel assignments with milestone completion schedules in an Authority acceptable format. Contractor is encouraged to use an electronic submittal.
- (1) A fully resource loaded Schedule shall be developed using the Work Plan as the baseline of events.
 - (2) Submitted schedule shall be the baseline for the assigned CTO
 - (3) Schedule of each CTO shall be updated and submitted on a monthly basis with completion status updated.
 - (4) Each CTO schedule shall be submitted independently.
 - (5) An overall schedule of all CTOs shall be updated and submitted on a monthly basis with begin and end dates.

W. WORK AFFECTING THE EXISTING SYSTEMS

The mainline track(s) within the project limits will be in continuous use for both passenger and freight train operation throughout the construction period. The "General Code of Operating Rules" as modified by the latest Timetable and/or Bulletin as issued by the Authority governs train movements. The Contractor shall take no action without taking the appropriate steps to protect the movement of trains which:

- 1. Can directly or indirectly result in an unsafe condition (i.e., false clearing of a signal, failure to detect train occupancy or an open switch point, unauthorized unlocking of a switch, failure to activate

highway-rail grade crossing warning system, or any degradation of the signaling system).

2. Can cause delay to any train (i.e., display of a signal aspect less permissive than track conditions allow, obstruction of the right-of-way, etc.).
3. Can cause an improper activation of a highway-rail grade crossing warning system.
4. Is contrary to the directions of the Authority's Director, PTC, C&S Systems or designate, and maintenance management staff, and/or the Authority's Train Dispatcher.

The Contractor's SCM must inform the Authority Train Dispatcher of any conditions, which may affect the safety of train operations, railroad personnel, or the public.

The mainline track(s) within the project limits is under the direct control of the Authority Train Dispatcher. No site work shall be undertaken without the Contractor first receiving permission from the Train Dispatcher to occupy or foul the track way. All work must be completed in accordance with the FRWS requirements embodied in the Authority's On-Track Safety Manual.

The Contractor shall submit proposed plans for systems modifications to the Authority's PTC & Systems Engineer or designate for review and approval. No changes to the systems shall be undertaken without the prior written approval of the Authority Task Manager.

Existing signal cables, communications fiber cable and power cables as well as track wires are located at various locations along and across the track way. The Contractor's forces shall take all steps necessary in order to protect active cabling from damage during track, communications, and signal work. It is the Contractors responsibilities to perform a cable locate of all Authority cable and track wire prior to any excavation activities taking place. All replacement of damaged wires and cables will be at the Contractor's sole expense. The minimum precautions to be taken by the Contractor to protect the Authority's underground facilities including communications and signal cables are:

5. All personnel working in the vicinity of communications and signal equipment and cabling shall be instructed on proper procedures for working around such equipment. Any Contractor personnel found not to be taking proper precautions will be requested to be removed and/or barred from the worksite.

6. The location of communications and signal cables shall be determined by a careful examination of the site. The Contractor may utilize a search coil or cable locator to determine the general vicinity of buried power, communications and signal cabling.
7. Exploratory excavation by hand shall be done in any location where the presence of communications and signal cables are likely or are identified. Excavation in the immediate vicinity of a cable shall be done by hand. Excavation by hand shall be done by skimming the soil in small increments, rather than by digging straight down with the point of a shovel.

Excavation by machinery will be allowed only where the preceding precautions have been taken to assure that existing cabling is not at risk of damage.

Where placement of existing cabling interferes with placement of track work or where the cabling is at risk to damage from track work, the cabling shall be relocated as directed by the current Authority standards and/or Task Manager.

8. In addition to protection of existing Authority cabling, the Contractor must take all reasonable measures to contact and protect the various private and public utilities, which are within the railroad right-of-way or work area. As a mandatory requirement, the Contractor shall contact "Dig Alert" prior to any excavation system wide and abide by all related restrictions prior to proceeding with any excavation work where utilities may be present. In addition, on the Ventura Subdivision the Contractor shall be required to contact the Union Pacific Railroad (1-800-336-9193) for a location of Union Pacific Fiber. The Authority reserves the right to request from the person in charge of excavation for a valid dig ticket number and other information relating to the excavation on the Authority's property.

At the conclusion of each work day, and prior to leaving the worksite, the Contractor shall verify that the existing and/or modified communications, signal or highway-rail grade crossing systems are fully operational, and that all installation, wiring, and site cleanup work has been completed.

The Contractor shall bury all underground cabling, permanently secure all communications and signal appliances, aerial cabling, and backfill, water, and tamp to an acceptable level of compaction, all excavations prior to leaving the worksite. All modifications and/or repairs to the systems shall have been fully tested and documented to conform to Authority procedures prior to the Contractor leaving the worksite.

A complete set of circuit plans, which accurately reflect the status of the functioning system, shall be left in the equipment shelters at all times.

X. COORDINATION OF WORK WITH RAIL OPERATIONS

The following general procedures will be used for coordinating work near or on the track way:

1. On track protection and daily work activities shall conform to the FRWP requirements and in compliance with the Authority's On-Track Safety Manual requirements. Determination of form of protection and authorization shall be coordinated with the dispatcher and Contractor's EIC.
2. The Contractor is responsible for coordination and advance planning with operations and dispatch personnel. When work windows and track outages are established the Work Plan shall be revised immediately to reflect updated information and submitted to the Task Manager.
3. When specified in the CTO, the Contractor may be required to provide worksite protection for work crews of other contractors. Protection shall be provided in compliance with the Authority's On-Track Safety Manual requirements.

Y. COORDINATION WITH OTHER CONTRACTORS

When specified in the CTO, or when incidental to the completion of the assigned work, the Contractor shall cooperate with other contractors and/or agencies who may also be engaged in Authority related work in a common worksite. The Contractor's SCM shall attend project related construction meetings as requested by the Authority.

1. Material

At the Authority's discretion, the Authority may choose to furnish systems material. The Contractor shall furnish any or all material for specific projects as detailed in the CTO. The material shall be procured from Authority approved manufacturers or suppliers using compliant procurement practices as required by the project funding sources.

The Contractor shall complete a review of the all information provided with the REQUEST FOR ESTIMATE and CTO Scope and determine the accuracy of the materials need for each RFE. When materials are required to be ordered by the Contractor the Contractor shall price out the materials with taxes and shipping fully detailed in the CTO. Contractor shall also incorporate the lead time involved in the delivery of the material into the

schedule. Critical path long lead items shall have their own designator within the schedule.

For the purposes of this Contract, Consumable Supplies shall include that class of material that is incidental to the installation process and which is depleted during the installation process. Examples of consumable Supplies are tapes, lubricants, pull line and pull rope not left for future installation, batteries used for testing/flashlights, fuel and oil, and miscellaneous materials which do not remain as part of the project or are used during the installation process.

2. Documentation/Reporting Requirements

a. Documentation

- (1) A complete set of system circuit plans which have been annotated by the Contractor's Systems Signal and/or Systems Communications Engineer to show as-built conditions shall be left in the affected shelter(s) at all times. Upon placing a shelter or modification to a system location into service, the date that the modification was placed into service shall be noted on the plans. All annotations to the as-built plans shall be signed and dated by the Contractor's Systems Signal and/or Systems Communications Engineer.
- (2) The Contractor shall provide all information and coordination required for PTC system implementation and changes. The Contractor is required to follow the Check B 4 U Change notification and coordination required for the Change Control Board.
- (3) The Contractor shall provide accurate information as to the placement of signal appliances, including insulated joints.
- (4) Three (3) sets of the annotated as-built plans shall be signed and dated by the Contractor's Systems Signal and/or Systems Communications Engineer and forwarded to the Task Manager within three (3) working days after placing project modifications in service. When a project has multiple modifications being placed in service at different times during the project, the Contractors Systems Signal and/or Systems Communications Engineer shall perform the above tasks for each in service modification.

b. Reporting Requirements

All reports prepared pursuant to this Agreement shall be the property of the Authority, and the Contractor shall not voluntarily release or

disclose any of the contents of those reports without the prior written approval of the Authority.

- (1) Reports of tests and inspections performed shall be submitted on forms supplied by the Authority. The information and data provided on these forms shall be in accordance with instructions provided by the Authority.
- (2) Monthly, by CTO number and project number, all material and/or communications and signal materials installed.
- (3) Weekly, by CTO number and project number, the assigned budget and estimated remaining amount.
- (4) The Contractor shall notify the Authority Task Manager when Services under a CTO approach expenditure of 50% of the authorized value of the CTO. The notification shall include a status of the work completed to date and a projection of cost to complete the approved work.
- (5) The Contractor shall upon completion of an approved task, provide to the Authority or the Authority's representative all documentation for acceptance. The Authority or the representative of the Authority shall review all documentation and work performed by the Contractor and if found acceptable will release the contractor from the task.
- (6) The Contractor will, in the most expeditious manner, provide an initial report to the Authority Director of System Safety and security, of any personal injury, no matter how slight, to a Contractor or Sub-Contractor employee. This initial report will be followed by reports that revise the details of medical treatment or estimated disability, cause of the incident, or other significant factors of the accident to the above Authority personnel. These initial and follow-up reports will be made by telephone. If no contact with the above Authority personnel can be established within 12 hours of the incident, the Contractor must notify other Authority personnel in the Systems organization, explaining that this report is provided as an initial report of the incident due to unavailability to report such to the Authority's Manager of Safety and Security and PTC & Systems Engineer or designate. Within seventy-two (72) hours of the incident, two written reports describing the occurrence, disability, and medical treatment shall be submitted, separately addressed to the Authority's Manager of Safety and Security and the Director, PTC, C&S Systems or designate. The reports required under this part are

necessary for the Authority to comply with 49 CFR 225, Railroad Accidents/Incidents: Reports, Classification, and Investigations.

- (7) The Contractor's employees shall immediately notify the Authority's Task Manager of any GCOR violation that occurs within their area of supervision.
- (8) The Contractor's employees shall notify the Authority's Task Manager of any personal injury or vehicle accident which is sustained by the third party of other contractor working on the RIGHT OF WAY under their supervision no later than the start of business the next workday after the incident.
- (9) At the end of each calendar month a report of each personal injury and a summary of the injuries to date for the year will be submitted. This personal injury report will be addressed separately to the Authority's Manager of Safety and Security and to the Authority's PTC & Systems Engineer or designate and will include current status of each injured employee including summary of medical treatment received, summary of any restricted duty or lost work days, and current employment status.
- (10) The Contractor shall promptly notify the Authority whenever it becomes aware that representatives of any government agency are present on the ROW. The Contractor shall also promptly furnish to the Authority copies of any citations or complaints or reports in draft or final form issued by any enforcement or regulatory body which affect the Services or the ROW, directly or indirectly, and Contractor shall promptly advise Authority of the disposition of such citations or complaints, not handled directly by the Authority

EXHIBIT 1
DISADVANTAGED BUSINESS ENTERPRISE (DBE)
PROGRAM AND FORMS

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

In accordance with federal financial assistance agreements with the U.S. Department of Transportation (U.S. DOT), the Southern California Regional Rail Authority (Authority) has adopted a Disadvantaged Business Enterprise (DBE) Policy and Program, in conformance with Title 49 CFR Part 26, "Participation by Disadvantaged Business Enterprises in Department of Transportation Programs".

The project is subject to these stipulated regulations and the Authority's DBE program. In order to ensure that the Authority achieves its overall DBE Program goals and objectives, the Authority encourages the participation of DBEs as defined in 49 CFR 26 in the performance of contracts financed in whole or in part with U.S. DOT funds. Pursuant to the intent of these Regulations, the Authority's policy objectives are to:

1. Ensure non-discrimination in the award and administration of all the Authority's DOT-assisted contracts and subcontracts;
2. Create a level playing field by which DBEs can compete fairly for and perform on the Authority's DOT-assisted contracts;
3. Ensure the Authority's DBE Program meets legal standards for unique and narrow program tailoring;
4. Ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
5. Assist in the removal of procurement and contracting barriers which may inadvertently impede DBE participation;
6. Offer assistance to firms to enable them to compete successfully in the market place outside of the DBE Program;
7. Comply with federal regulations and financial assistance agreements;
8. Disseminate timely and accurate information regarding Authority's contracting opportunities to DBE Program participants and potential participants; and
9. Monitor and enforce contractor compliance with meeting established DBE goals and/or exercising Good Faith Efforts to do so as defined in 49 CFR 26.

Contractor must not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontractor.

Any terms used in this section that are defined in 49 CFR Part 26, or elsewhere in the Regulations, must have the meaning set forth in the Regulations. In the event of any conflicts or inconsistencies between the Regulations and the

Authority's DBE Program with respect to DOT-assisted contracts, the Regulations must prevail.

A. DBE Goal

This DOT-assisted contract is subject to these stipulated regulations, which are hereby incorporated in their entirety by this reference. In conformance with these regulations the Authority has established an overall triennial DBE goal of 10% for Federal Fiscal Years (FFY) 2016/18. DBE participation on this contract will assist the Authority in meeting its overall triennial DBE goal for the 2016/18 Federal Fiscal period.

The Authority shall establish contract-specific DBE goals to meet any portion of the overall DBE goal that the Authority does not project being able to meet using race-neutral means. The Authority will establish contract-specific goals only on those DOT-assisted contracts that have subcontracting opportunities.

The Authority may establish a DBE contract goal that is higher or lower than its overall goal, depending on such factors as the type of work involved, the location of the work, and the availability of DBEs for the work of the particular contract.

The Authority has established a 2% DBE contract-specific goal on this project. DBE responsiveness towards meeting the 2% DBE contract-specific goal on this project is required.

B. DBE CERTIFICATION AND ELIGIBILITY

1. The Authority requires all DBEs listed for participation to be DBE certified by a California Unified Certification Program (CUCP) certifying member agency. The Authority is a non-certifying member agency of the CUCP. Therefore, the Authority will accept DBE certifications from member agencies which certify the eligibility of DBEs in accordance with 49 CFR Part 26.81, under the CUCP. Listings of DBEs certified by the CUCP are available at www.dot.ca.gov/hq/bep/find_certified.htm.
2. It is the responsibility of the Contractor to verify the DBE certification status of all listed DBEs prior to listing the firm as a DBE participant.
3. It is also the responsibility of the Contractor to ensure that each DBE is certified in the NAICS code that corresponds to the DBE's contract scope of work. The Authority's evaluation of the "Disadvantaged Business Enterprise (DBE) Participation Listing" form requires DBEs to be certified for the scope listed in accordance with the regulatory requirements.
4. A DBE may participate as a prime Contractor, subcontractor, joint venture partner with a prime or subcontractor, vendor of material or supplies, or trucking company.

5. A DBE joint venture partner must be responsible for specific contract items of work, or clearly defined portions thereof. Responsibility means actually performing, managing and supervising the work with its own forces. The DBE joint venture partner must share in the capital contribution, control, management, risks and profits of the joint venture commensurate with its ownership interest.
6. A DBE must perform a commercially useful function in accordance with 49 CFR 26.55.
7. A DBE performs a commercially useful function when it is responsible for execution of work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.
8. A DBE should perform at least thirty percent (30%) of the total cost of its contract with its own workforce to presume that it is performing a commercially useful function.
9. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

C. DBE “FRAUDS” AND “FRONTS”

Only legitimate DBEs are eligible to participate in federally funded contracts. Therefore, Contractor are cautioned against knowingly and willfully using “fronts” to meet DBE goals. The use of “fronts” and “pass through” subcontracts to non-disadvantaged firms constitutes criminal violations. Further, any indication of fraud, waste, abuse, or mismanagement of Federal funds should be immediately reported to the Office of Inspector General (OIG), U.S. Department of Transportation, via the online hotline at <https://www.oig.dot.gov/dot-oig-hotline-complaint-form>, toll-free hotline at 800-424-9071, email at hotline@oig.dot.gov, online complaint form at <https://www.oig.dot.gov/dot-oig-hotline-complaint-form> or U.S. mail at DOT Inspector General, 1200 New Jersey Ave SE, West Bldg. 7th Floor, Washington, DC 20590. The hotline is open 24 hours per day, seven days per week. Additional information can be found on www.oig.dot.gov/hotline.

D. Submission of DBE Information and On-going Reporting Requirements (Post-Award)

If there is a DBE goal on the contract or a DBE firm has been listed by the Contractor, the Contractor must complete and submit the following DBE forms and/or documentation:

1. "Monthly DBE Subcontractor Commitment and Attainment Report/Payment Verification Summary" (Form 103)

If the Contractor is a DBE and/or has proposed to utilize DBEs, the Contractor will be required to complete and submit Form 103 to the Authority by the 15th of each month until completion of the Contract, following the first month of contract activity. Upon completion of the contract, the Contractor must clearly mark the last Form 103 submission "Final" to facilitate reporting and capturing actual DBE attainments.

The purpose of this form is to ensure Contractor DBE commitments are attained, properly reported and credited in accordance with DBE crediting provisions based on the capacity the DBE performs the scope of work. This form further serves to collect DBE utilization data required under 49 CFR Part 26.

The Monthly Form 103 must include the following information:

- a. General Contract Information – Including Contract Number and Name, Prime Contractor and the following:
 1. Original Contract Amount
 2. Running Total of Change Order Amount
 3. Current Contract Amount
 4. Amount Paid to Contractor during Month
 5. Amount Paid to Contractor from Inception to Date
 6. DBE Contract Goal
 7. Total Dollar Amount of DBE Commitment
 8. DBE Commitment as Percentage of Prime Current Contract Amount
- b. Listed and/Proposed Contractor/Subcontractor Information – For All DBE participation being claimed either Race Neutrally or Race Consciously, regardless of tier:
 1. DBE Firm Name, Address, Phone Number, DBE Type of Operation, Certification, and Type and Certification Number.
 2. DBE Firm Contract Value Information:

Original contract amount, running total of change order amount, Current contract amount, Amount paid to Contractor during month and Amount paid to Contractor to date.

2. Contractor Assurance of Full Compliance with Prompt Payment Provisions and Payment Verification(s)

Contractor to sign the prompt payment assurance statement of compliance contained within the Form 103. Contractor is to further maintain and submit a detailed running tally of related invoices submitted by DBE(s) and Non DBE(s), including dates of invoice submission, dates accepted and corresponding dates and amount of payments made. The Payment and Retention Reporting tally must also include:

DBE(s) and Non DBE(s) Invoice Number, Invoice Amount, Invoice Date, Prime Contractor's Invoice Number that incorporated the corresponding DBE and Non DBE invoice(s) for billing purposes, Date of Invoice submission to Authority, date and amount Authority paid on Prime Contractor's Invoice. The report must also reflect a breakout of retention withheld (including retention as specified in subcontract agreement(s) and disputed invoice retention) and retention payments made, check number and date paid to DBE and Non DBE.

Contractor is advised not to report the participation of DBE(s) toward the Contractor's DBE attainment until the amount being claimed has been paid to the DBE. Verification of payments and/or a signed Verification of Payment by the applicable DBE or Non DBE must be submitted with Form 103 to authenticate reported payments.

3. DBE Subcontract Agreements

The Contractor must submit to the Authority copies of executed subcontracts and/or purchase orders (PO) for all DBE firms participating on the contract within ten working days of award. The Contractor must immediately notify the Authority in writing of any problems it may have in obtaining the subcontract agreements from listed DBE firms within the specified time.

4. "Monthly DBE Trucking Verification" Form

Prior to the 15th of each month, the Contractor must submit documentation on the "Monthly DBE Trucking Verification" Form to the Authority showing the amount paid to DBE trucking companies. The Contractor must also obtain and submit documentation to the Authority showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. If the DBE leases trucks from a non-DBE, the Contractor may count only the fee or commission the DBE receives as a result of the lease arrangement.

The Contractor must also obtain and submit documentation to the Authority showing the truck number, owner's name, California Highway Patrol CA number, and if applicable, the DBE certification number of the owner of the truck for all trucks used during that month.

5. "Final Report-Utilization of Disadvantaged Business Enterprises (DBE), First Tier Subcontractors"

Upon completion of the contract, a summary of these records must be prepared on the: "Final Report-Utilization of Disadvantaged Business Enterprises (DBE), First Tier Subcontractors" and certified correct by the Contractor or the Contractor's authorized representative, and must be furnished to the Engineer. The form must be furnished to the Authority within 90 days from the date of contract acceptance. The amount of \$10,000 will be withheld from payment until a satisfactory form is submitted.

6. "Disadvantaged Business Enterprises (DBE) Certification Status Change"

If a DBE Subcontractor is decertified during the life of the project, the decertified Subcontractor must notify the Contractor in writing with the date of decertification. If a Subcontractor becomes a certified DBE during the life of the project, the Subcontractor must notify the Contractor in writing with the date of certification (Attach DBE certification/Decertification letter). The Contractor must furnish the written documentation to the AUTHORITY.

Upon completion of the contract, the "Disadvantaged Business Enterprises (DBE) Certification Status Change" must be signed and certified correct by the Contractor indicating the DBEs' existing certification status. If there are no changes, please indicate "No Changes". The certified form must be furnished to the Authority within 90 days from the date of contract acceptance.

E. DBE Crediting Provisions

Credit for DBE participation is determined according to the following provisions:

1. When a DBE is proposed to participate in the Contract, either as a prime Contractor or subcontractor, only the value of the work proposed to be performed by the DBE with its own forces may be counted toward DBE participation.
2. If the Contractor is a DBE joint venture participant, only the DBE proportionate interest in the joint venture shall be counted.
3. If a DBE intends to subcontract part of the work of its subcontract to a lower tier subcontractor, the value of the subcontracted work may be counted toward DBE

participation only if the DBE subcontractor is a certified DBE and actually performs the work with its own forces. Services subcontracted to a non-DBE firm may not be credited toward the prime Contractor's DBE attainment.

4. Contractor is to calculate and credit participation by eligible DBE vendors of equipment, materials, and suppliers toward DBE attainment, as follows:
 - a. Sixty percent (60%) of expenditure(s) for equipment, materials, and supplies required under the Contract, obtained from a regular dealer; or
 - b. One hundred percent (100%) of expenditure(s) for equipment, materials, and supplies required under the Contract, obtained from a DBE manufacturer.
5. The following types of fees or commissions paid to DBE subcontractors, brokers, and packagers may be credited toward DBE attainment, provided that the fee or commission is reasonable, and not excessive, as compared with fees or commissions customarily allowed for similar work, including:
 - a. Fees and commissions charged for providing bona fide professional or technical services, or procurement of essential personnel, facilities, equipment, materials, or supplies required in the performance of the Contract;
 - b. Fees charged for delivery of material and supplies (excluding the cost of materials or supplies themselves) when the licensed hauler, trucker, or delivery service is not also the manufacturer of, or a regular dealer in, the material and supplies;
 - c. Fees and commissions charged for providing any insurance specifically required in the performance of the Contract.
6. Contractor may count the participation of DBE trucking companies toward DBE attainment, as follows:
 - a. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular Contract.
 - b. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the Contract.
 - c. The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
 - d. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from

another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.

- e. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.
- f. For purposes of this paragraph, a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.
- g. If the Contractor listed a non-certified DBE 1st tier subcontractor to perform work on this Contract, and the non-certified DBE subcontractor subcontracts a part of its work or purchases materials and/or supplies from a lower-tier DBE certified subcontractor or Vendor, the value of work performed by the lower-tier DBE firm's own forces can be counted toward DBE participation on the Contract.
- h. The Contractor is advised not to count the participation of DBEs toward the Contractor's DBE attainment until the amount being counted has been paid to the DBE.

F. DBE Certification Status

If a listed DBE is decertified during the life of the project, the decertified DBE shall notify the Contractor in writing with the date of decertification. If a non-DBE becomes a certified DBE during the life of the project, the DBE shall notify the Contractor in writing with the date of certification. The Contractor shall furnish the written documentation to the Authority in a timely manner.

G. Commercially Useful Function Standards

- 1. A DBE must perform a commercially useful function in accordance with 49 CFR 26.55.
- 2. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

3. A DBE should perform at least thirty percent (30%) of the total cost of its contract with its own workforce to presume that it is performing a commercially useful function.
4. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

H. **Performance of DBE Subcontractors**

The following requirements govern the performance of DBE subcontractors:

1. DBEs listed by the Contractor in its "DBE Participation Listing" Form submitted with the executed Contract documents shall perform the work and supply the materials for which they are listed, unless the Contractor has received prior written authorization from the Authority to perform the work with other forces or to obtain the materials from other sources.
2. Contractor shall provide written notification to the Authority in a timely manner of any changes to its anticipated DBE participation. This notice should be provided prior to the commencement of that portion of the work.

I. **Additional DBE Subcontractors**

In the event that the Contractor identifies additional DBE subcontractors or suppliers not previously identified for DBE participation under the Contract, Contractor shall notify the Authority by completing and submitting a **"DBE and SBE Addition/ Substitution/ Termination Request" form** to enable Contractor to capture all DBE participation. Contractor shall also submit, for each DBE identified after Contract execution, a written confirmation from the DBE acknowledging that it is participating in the Contract for a specified value, including the corresponding scope of work (a subcontract agreement can serve in lieu of the written confirmation).

J. **DBE Substitutions and Terminations**

Contractor shall be required to comply with 49 CFR § 26.53 regarding DBE subcontractor terminations, including the following:

1. A Contractor shall not terminate a listed DBE subcontractor without the Authority's prior written consent.
2. Prior to the termination request, the prime Contractor must notify the DBE, in writing, of the intent to terminate, allowing for five days of response time in opposition of the rejection.
3. A Contractor may only terminate a DBE subcontractor for "good cause," as defined in 49 CFR § 26.53.

4. Good cause does NOT exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor (e.g., failure of the Contractor to make timely payments or the unnecessary placing of obstacles in the path of the DBE's work). Good cause also does NOT exist if the Contractor seeks to terminate a DBE so that it can self-perform the work of the terminated DBE.
5. In the event that the Contractor needs to substitute or terminate a DBE firm and if the substitution/termination request meets the definition of "good cause," the Contractor shall notify the Authority by completing and submitting a **"DBE Addition/Substitution/Termination Request"** form for the Authority's written approval prior to actualizing any changes.
6. The Contractor must make a Good Faith Effort (GFE) to replace the terminated DBE with another DBE. The Contractor's GFE shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the established DBE contract goal and/or the Contractor's DBE participation commitment approved by the Authority prior to award of the Contract.
7. Failure by the Contractor to adhere to these requirements may constitute a material breach of contract, which may result in the termination of the contract or such other remedy as the Authority deems appropriate.

K. Non-Compliance and Administrative Sanctions

A Contractor determined to be non-compliant with DBE Program requirements may be subject to administrative sanctions as outlined below:

1. A non-compliant Contractor may be notified by the DBELO or designee, that administrative remedies shall be imposed for failure to: (a) meet the contractor's DBE commitment by contract end, (b) submit documentation of Good Faith Efforts, (c) submit required DBE utilization reports, (d) submit verification of prompt payment to DBE subcontractors, and/or (e) comply with proper DBE termination procedures. The notice shall state the specific administrative remedies to be imposed.
2. The Contractor shall be given ten (10) working days from the date of the notice to file a written appeal to the Authority's Executive Director. Failure to respond within the ten (10) day period shall constitute a waiver of appeal.
3. The Executive Director or his designee may schedule a hearing to gather additional facts and evidence, and shall issue a final written determination on the matter within thirty (30) working days following receipt of the written appeal. The written decision of the Executive Director or designee is final and there is no further appeal.

4. Administrative remedies shall be determined by the DBELO and/or designee and may include, but will not be limited to:
 - a. Suspension of progress payments to the Contractor or of any monies held by the Authority as retention on the contract until the Contractor is brought into compliance; and/or
 - b. Termination of the contract in part or in whole.

L. Contractor's Assurance Clause Regarding Non-Discrimination

Contractor shall ensure that the following clause is placed in every Subcontract agreement:

"The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of federal law. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the Authority deems appropriate."

Proposer: Mass. Electric Construction Co.

- Proposers are required to complete and submit the Form PF-18 "DBE Participation Listing" identifying a DBE Firm(s) that will be utilized to meet or exceed the DBE contract goal of two percent (2%).
- The primary subcontracting opportunities available for this project are as follows:
 - Power and Communication Line and Related Structures Construction
 - Electrical Contractors and Other Wiring Installation Contractors
 - Traffic Control
- **If the Proposer fails to submit/list any DBE subcontractors, then they must submit their Good Faith Efforts to indicate their commitment to meet the DBE contract goal of two percent (2%)**

DBE Firm Name: Eric's Backhoe Service, Inc.	Description of Work to be Performed (NOTE: Proof of certification displaying the appropriate NAICS code(s) MUST be attached) equipment rental/ excavation and site preparation for signal and communication installation
--	---

Proposer: Mass. Electric Construction Co.

Address, City, State, Zip: PO Box 104/4780 Maryhill Rd Acton CA 93510	
Contact Person: Eric H. Serrano	Title: President
Email Address: serranohe@aol.com	Phone #: 661-965-7676
Estimated DBE subcontract % of Prime Contract Value: 2%	

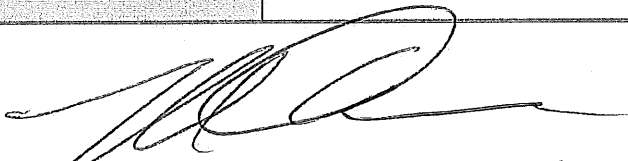
DBE Firm Name:	Description of Work to be Performed (NOTE: Proof of certification displaying the appropriate NAICS code(s) MUST be attached)
Address, City, State, Zip:	
Contact Person:	Title:
Email Address:	Phone #:
Estimated DBE subcontract % of Prime Contract Value:	

DBE Firm Name:	Description of Work to be Performed (NOTE: Proof of certification displaying the appropriate NAICS code(s) MUST be attached)
Address, City, State, Zip:	
Contact Person:	Title:
Email Address:	Phone #:
Estimated DBE Subcontract % of Prime Contract Value:	

NOTE: THIS PAGE CAN BE DUPLICATED UNTIL ALL PARTICIPATING DBEs ARE LISTED.

Proposer: Mass. Electric Construction Co.

Name of Prime Proposer:	Mass. Electric Construction Co.	SCRRA Contract #:	MS260-16
Contact Name:	Rohit Sharda	DBE Contract Goal Established by SCRRA:	2%
Title:	Area Manager	Prime Proposer's DBE Commitment % (of Total Price Proposed by Prime):	2 %
Address, City, State, Zip:	1925 Wright Ave. Suite C La Verne, CA 91750		
Phone #:	909-962-6001		
Email Address:	rsharda@masselec.com		



Signature of Authorized Representative

Michael J. Colpack
Name

President
Title

11/18/2015
Date

FOR SCRRA USE ONLY:

Approved DBE Commitment % After SCRRA Evaluation:	%	Met DBE Contract Goal? (Y/N)		GFE Required? (Y/N)	
Evaluator's Name/Title:		Date:		Signature:	

**MONTHLY DBE AND SBE UTILIZATION AND PAYMENT REPORT FORM
(SCRRA FORM 103)**

MONTHLY DBE AND SBE UTILIZATION AND PAYMENT REPORT (SCRRA FORM 103)

Reporting Period (Mo/Yr): _____	Contract Award Date: _____	Report prepared by: _____
Report Number: _____	Original Contract Award Amount: _____	Report reviewed by: _____
SCRRA Contract Number: _____	Current Contract Value: _____	Signature: _____
Prime Contractor/Consultant: _____	Total Dollars Paid to Prime to date: \$ _____	Title: _____
Contact Name: _____	SCRRA's Overall DBE Goal (%): 9%	SCRRA's SBE Contract Goal (%): n/a
Telephone #: _____	Prime's DBE Commitment (%): _____	Prime's SBE Commitment (%): _____
Email Address: _____	\$ Paid to DBEs this Reporting Period: \$ _____	\$ Paid to SBEs this Reporting Period: \$ _____
	Total \$ Paid to DBEs to date: \$ _____	Total \$ Paid to SBEs to date: \$ _____
	Race-Neutral DBE Participation % to date: _____ %	SBE Participation % to date: _____ %

DBE/SBE	List DBE, SBE or Both *	\$ Paid to DBE/SBE this Reporting Period	Total \$ Paid to DBE/SBE to Date	Type of Work Performed (Scope)	Original \$ Committed to DBE/SBE at Contract Award	% of Work Completed	List Reason(s) for Any Under-Utilization of DBEs/SBEs
Name: _____ Address: _____ City, State, Zip Code: _____ Phone #: _____ Email: _____ Please select: Subcontractor Broker Trucker Supplier/Regular Dealer Manufacturer Verification of Payment Attached? YES NO							
Name: _____ Address: _____ City, State, Zip Code: _____ Phone #: _____ Email: _____ Please select: Subcontractor Broker Trucker Supplier/Regular Dealer Manufacturer Verification of Payment Attached? YES NO							
Name: _____ Address: _____ City, State, Zip Code: _____ Phone #: _____ Email: _____ Please select: Subcontractor Broker Trucker Supplier/Regular Dealer Manufacturer Verification of Payment Attached? YES NO							

Comments and/or Good Faith Efforts performed during this reporting period: _____

DBE ADDITION/SUBSTITUTION/TERMINATION REQUEST FORM

DBE ADDITION/SUBSTITUTION/TERMINATION REQUEST FORM

INSTRUCTIONS TO PRIME Contractor

1. Prime Contractor shall provide the Authority with the information requested below upon identification of an additional DBE not previously listed to perform under this Contract.
2. Prime Contractor shall provide written confirmation from the DBE, that it is participating in this Contract for a specified dollar value and specified work item(s) (a signed subcontract agreement may serve as written confirmation).
3. Any DBE substitutions or terminations require written justification from the prime Contractor and shall only be permitted for "good cause."
4. All requests for DBE additions/substitutions/terminations shall be in accordance with the Contract Specifications and are subject to prior written approval by the Authority.

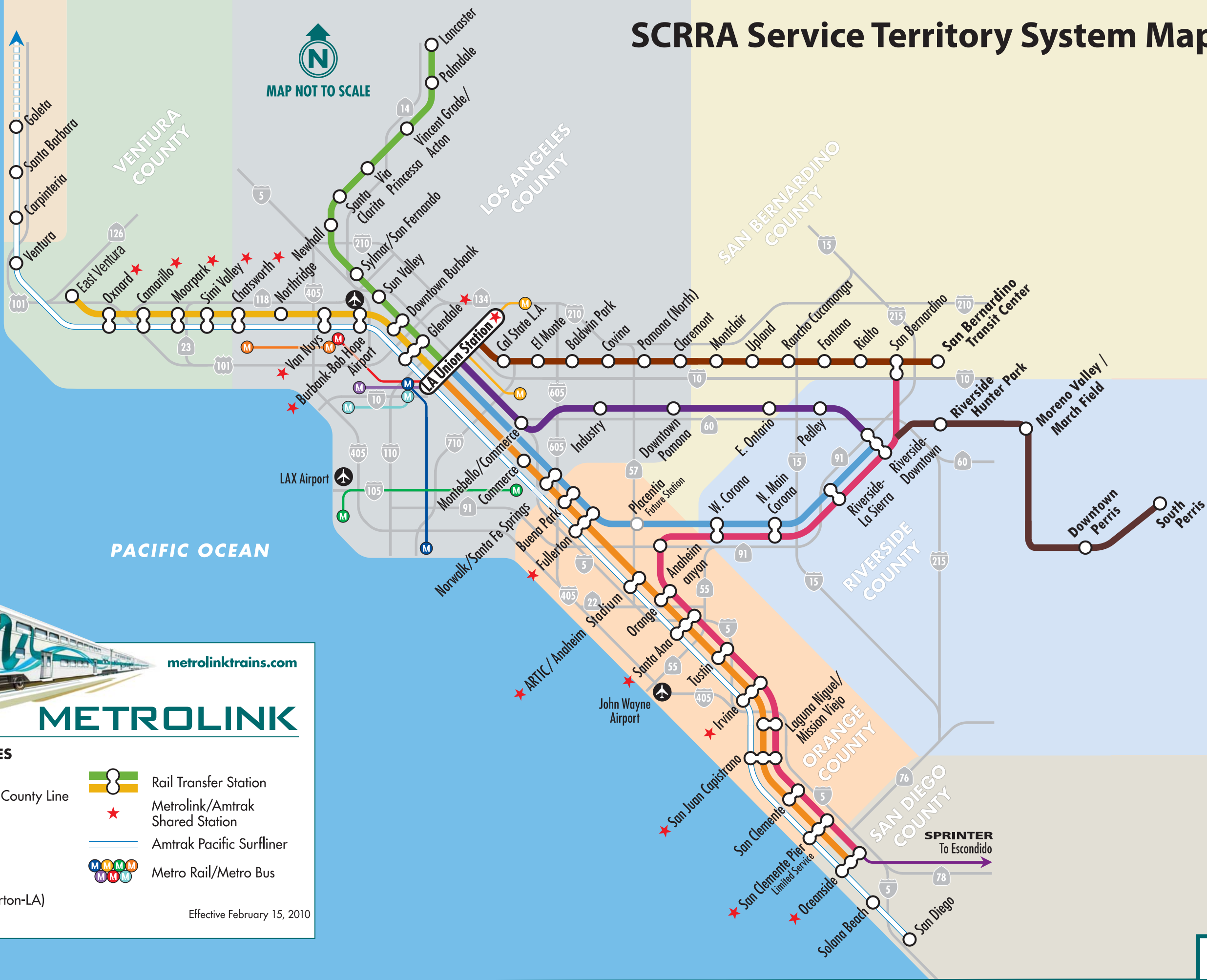
SCRRA Contract #:	Contract Name/Title:		
Prime Contractor:	Date of Contract Award:	Initial Contract \$ Value:	Current Contract \$ Value:
Name of Person Completing this Form:	Phone #: Email Address:	Email Address:	
Business Address, City, State and Zip:			
Please provide the following information for each proposed ADDITIONAL DBE:			
DBE Firm Name:		Proof of DBE certification attached? (REQUIRED) <input type="checkbox"/> YES	
Business Address, City, State and Zip:		Phone #:	
Contact Name:	Email Address:	Is the Additional DBE Replacing Another DBE? <input type="checkbox"/> YES <input type="checkbox"/> NO	
Summary of Proposed Scope of Work:			
Proposed DBE Subcontract Amount:	% of Current Prime Contract Value:	Type of Firm: <input type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Broker <input type="checkbox"/> Regular Dealer <input type="checkbox"/> Manufacturer <input type="checkbox"/> Trucker	
Please provide the following information for any DBE SUBSTITUTIONS/TERMINATIONS:			
Name of DBE to be Substituted/Terminated:		Type of Firm: <input type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Broker <input type="checkbox"/> Regular Dealer <input type="checkbox"/> Manufacturer <input type="checkbox"/> Trucker	
State Reason(s) for Substitution/Termination (attach all supporting documentation):			
Prime Contractor Signature:			Date:

FOR SCRRA USE ONLY:

If NOT approved, state reason(s):			
Reviewed by (PM):	Name: _____	Signature: _____	Date: _____
Reviewed by (CA):	Name: _____	Signature: _____	Date: _____
Approved by (DBELO):	Name: _____	Signature: _____	Date: _____

APPENDIX A
METROLINK SYSTEMS MAP & TRACK CHARTS

SCRRA Service Territory System Map



MAP NOT TO SCALE

PACIFIC OCEAN



metrolinktrains.com

METROLINK

METROLINK ROUTES

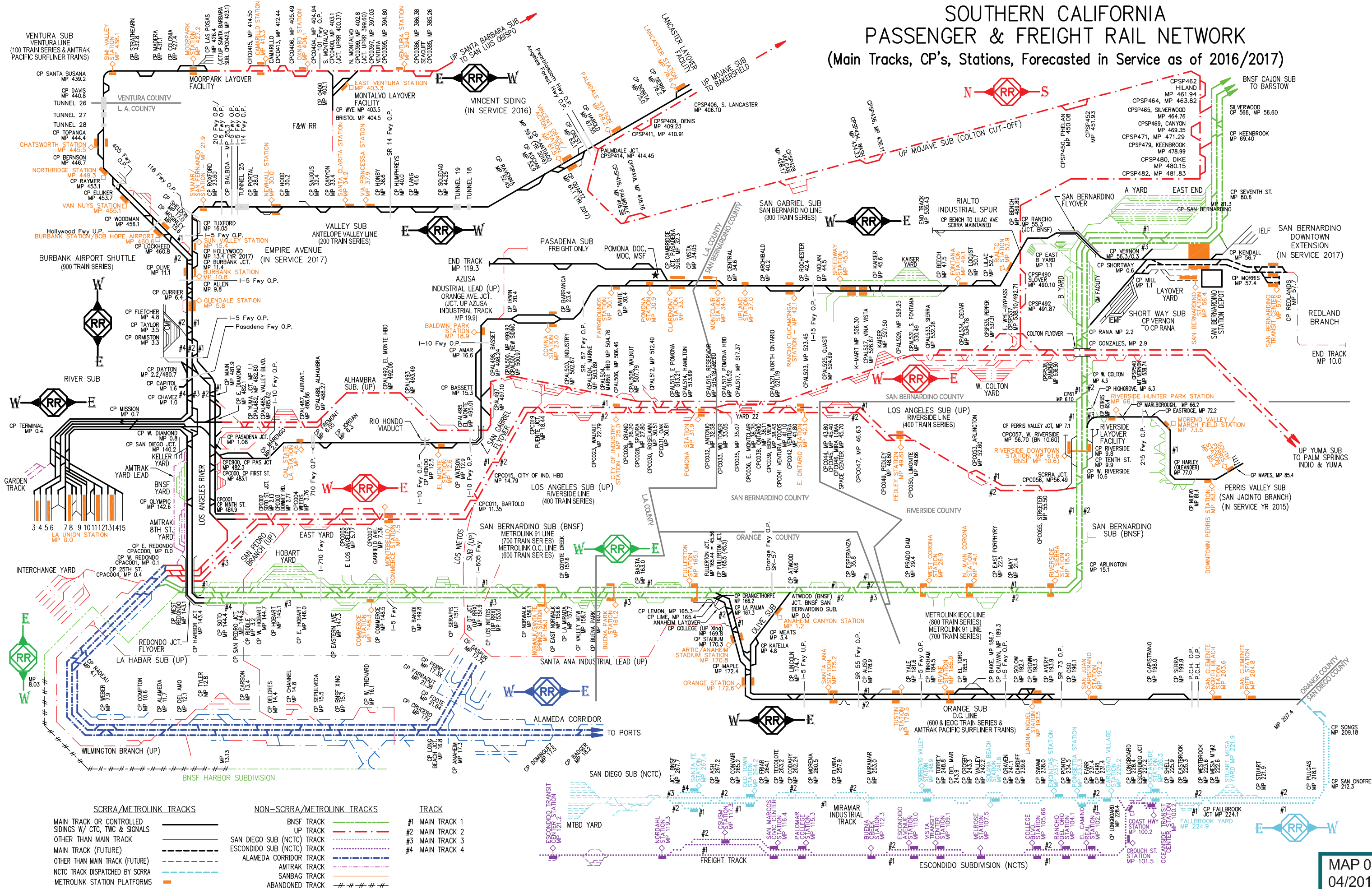
- Antelope Valley Line
- Inland Empire-Orange County Line
- Orange County Line
- Riverside Line
- San Bernardino Line
- Ventura County Line
- 91 Line (Riverside-Fullerton-LA)
- Perris Valley Line

- Rail Transfer Station
- Metrolink/Amtrak Shared Station
- Amtrak Pacific Surfliner
- Metro Rail/Metro Bus

Effective February 15, 2010

SOUTHERN CALIFORNIA PASSENGER & FREIGHT RAIL NETWORK

(Main Tracks, CP's, Stations, Forecasted in Service as of 2016/2017)



APPENDIX B
QUALIFICATION OF PERSONNEL

**APPENDIX B – QUALIFICATIONS OF PERSONNEL SOUTHERN CALIFORNIA
REGIONAL RAIL AUTHORITY**

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SYSTEMS CONTRACT MANAGER

Duties:

Systems Contract Manager plans, directs, and coordinates the activities of the Contractor (including all subcontractors) in performance of the services to assure compliance with contract conditions, applicable regulations, Authority standards, budgets and coordination with other Authority contractors and public agencies. Systems Contract Manager serves as the point of contact for Authority staff for all matters relating to the contract and performs regular consultation with the Authority's Directors and designated Project Managers. Systems Contract Manager shall be responsible for submitting, reviewing, revising and developing contract documents, work plans, material lists, on site inventories, schedules, budgets, CTO's, inspections, and invoices. Systems Contract Manager supervises, manages, transfers, and disciplines contractor staff and arranges with Authority for replacement or additional personnel in the event of vacancies or increased work effort requirements.

Systems Contract Manager shall attend all required meetings as scheduled.

Requirements:

Systems Contract Manager must have a minimum of ten years of progressively responsible experience in railroad signal equipment installation in a Class 1 or commuter operating railroad environment including at least four years' experience in supervising or directing the work of others engaged in railroad signal equipment installation plus a minimum of two years' experience in managing construction contracts.

Systems Contract Manager must possess knowledge of the safe and proper procedures for operating railroad construction equipment, including hand and power tools used for signal and communications equipment installation.

Systems Contract Manager shall be able to demonstrate ability to communicate in written and verbal English language with prior record keeping experience.

Systems Contract Manager must possess strong interpersonal skills.

Systems Contract Manager shall have knowledge of FTSS and FRWS and shall become qualified with a passing grade on Authority's examinations for part 213.7 of the FTSS and the GCOR related to these regulations.

Systems Contract Manager shall be previously qualified with a Class 1 freight railroad or heavy rail commuter service in order to provide workplace protection under FRWS and to inspect, test and supervise installation of communications and signal equipment and systems.

Systems Contract Manager shall have knowledge of the time for completion and the cost of installation of communications and signal facilities, and the ability to make value judgments regarding economic upgrades and replacement of these facilities.

Systems Contract Manager must have the ability to read and interpret civil drawings relating to system work, signal plans, communications plans, and specifications for railroad communications, signal installations and systems installations and oversee the work of others for compliance with these documents.

Systems Contract Manager shall possess good computer skills.

Systems Contract Manager must have the ability to complete work under time pressures and to maintain composure under the stress of emergency situations.

Systems Contract Manager must have the ability to perform scheduled and unscheduled installation work at any time on any day of the week, and when requested by the Authority, to oversee emergency restoration of services.

Systems Contract Manager must have the ability to work outdoors in all weather conditions and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

SYSTEMS OFFICE ENGINEER

Duties:

Under the leadership of the Systems Contract Manager (SCM), the Office Engineer shall serve as the second point of contact for Authority staff for all matters relating to the contract when the SCM is unavailable.

Provide general oversight and direction to the project office and all engineering support activities. Align contract activities with other Contractor staff and maximize interoffice activity between Contractor and Authority. Insure that project budgets and schedules are met and that all project administrative processes are current and complete. Assures that the Authority's policies and procedures are carried out and all Contractor work is compliant with the Agreement.

Able to read signal, communications, and systems engineering drawings and related technical specifications and develop material lists, estimates, schedules, and oversee work based on the engineering documents.

Responsible to insure quality reporting and documentation for invoicing, material procurement and control, and job task reporting. Prepare cost estimates and CTO scope of work to include schedule adherence and work planning in conjunction with the Authority's designated representative.

Requirements:

Five to eight years of progressively responsible experience in the railroad signal and communications construction environment. A minimum of three years of supervisory skills in a similar position working in a Contractor/Client environment with emphasis on railroad related project work.

A degree in engineering, construction management or business from a four year university is highly desirable, but at a minimum must have an associate degree from a community or junior college.

Must possess strong interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors, and with the general public in accordance with Authority's protocol for contractors.

Must possess strong scheduling skills with Microsoft Project or Primavera being a prerequisite for assignment to this position. Microsoft Project or Primavera shall be used for all scheduling with full resource loading.

Must possess excellent communication, writing, and computer literacy skills.

Must possess strong bookkeeping and accounting skills for project cost estimating, tracking, and submitting of weekly budget and monthly itemization which is incorporated into the invoice on a monthly basis.

Must be knowledge of FTSS and FRWS and shall become qualified on Authority's examinations for part 213.7 of the FTSS and the GCOR related to these regulations.

Must pass a pre-employment drug test.

Must possess a valid California driver's license in order to visit work sites for inventory listing and control.

SYSTEMS INSTALLATION SUPERINTENDENT

Duties:

Systems Installation Superintendent shall direct daily activities of work groups engaged in installing, and upgrading railroad communications equipment, signal equipment and systems. May be required to troubleshoot and repair system problems; address safety related issues to ensure a safe work environment. Read work orders stating location and extent of work effort necessary for the installation of systems equipment to determine number of workers and type of equipment and materials needed. Performs and documents FRA required tests and inspections to conform to CPUC and FRA regulations and Authority requirements. Responsible for the collection, inspection and documentation of systems equipment to assure installation material and equipment is damage free and correct for specific installation. Read and interpret system design and circuit plan documents. Development of daily work plan for workers under his/her direction. Direct and assist workers in systems, such as controlled interlocking, automatic and controlled wayside signals, positive train control, and highway-rail grade crossing warning systems. Inspect completed work for conformance to Authority specifications. Compile reports at end of day indicating work completed, location, materials used, and number of worker hours required for each job.

Systems Installation Superintendent may be required to perform other duties of a similar nature.

Requirements:

Systems Installation Superintendent must have a minimum of ten (10) years of progressively responsible experience in railroad signal maintenance and/or construction in a Class 1 or commuter operating railroad environment including at least two years' experience in supervising or directing the work of others engaged in railroad signal construction/maintenance activities.

Systems Installation Superintendent must demonstrate knowledge of railroad signal practices and systems, the GCOR, FRA and CPUC requirements.

Systems Installation Superintendent must be familiar with (ATCS) and (CTC) equipment and systems technology.

Systems Installation Superintendent must possess knowledge of FTSS and FRWS and shall become qualified on Authority's examinations for part 213.7 of the FTSS and the GCOR related to these regulations.

Systems Installation Superintendent shall previously be qualified with a Class 1 freight railroad or heavy rail commuter service in order to provide workplace protection under FRWS and to inspect, test and supervise installation of systems equipment.

Systems Installation Superintendent must have the ability to read and interpret civil drawings relating to systems work, signal plans, and specifications for railroad

communications, signal installations, and systems installation and oversee the work of others for compliance with these documents.

Systems Installation Superintendent must possess good computer skills.

Systems Installation Superintendent shall be able to complete work under time pressures and to maintain composure under the stress of emergency situations.

Systems Installation Superintendent shall have the ability to perform scheduled and unscheduled installation work at any time on any day of the week, and when requested by the Authority, to oversee emergency restoration of services.

Systems Installation Superintendent shall pass a pre-employment drug test.

Systems Installation Superintendent shall have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Installation Superintendent shall be able to demonstrate ability to communicate in written and verbal English language with prior record keeping experience.

Systems Installation Superintendent shall possess knowledge of safe and efficient manipulation of equipment and tools to perform construction tasks.

Systems Installation Superintendent must possess strong interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors, and with the general public in accordance with Authority's protocol for contractors.

SYSTEMS INSTALLATION FOREMAN

Duties:

Systems Installation Foreman directs activities of on-site workers engaged in installing, and upgrading railroad systems equipment. Systems Installation Foreman shall immediately address safety related issues to ensure a safe work environment. Systems Installation Foreman will follow work orders stating location and work necessary for the installation of systems equipment to determine number of workers and type of equipment and materials required. Responsible for the collection, inspection and documentation of systems equipment to assure installation material and equipment is damage free and correct for specific installation. Read and interpret system design and circuit plan documents. Systems Signal Foreman develops daily work plan for workers under his/her direction. Systems Signal Foreman inspects completed work for conformance to Authority standards and specifications. Systems Signal Foreman prepares reports at end of day indicating work completed, location, materials used, and number of worker hours required for each job.

Systems Signal Foreman may perform other duties of a similar nature.

Requirements:

Systems Signal Foreman shall have a minimum of five (5) years of progressively responsible experience in railroad systems construction in an operating railroad environment including at least two years' experience in directing the work of others engaged in railroad systems construction.

Systems Signal Foreman shall demonstrate knowledge of railroad signal practices and systems, the General Code of Operating Rules, Federal Railroad Administration (FRA) and California Public Utilities Commission (CPUC) requirements.

Systems Signal Foreman shall previously be qualified with a railroad to provide workplace protection under FRWS.

Systems Signal Foreman shall have the ability to read and interpret system drawings, plans, and specifications for railroad signal construction, and provide the immediate direction of the work of others for compliance with these documents.

Systems Signal Foreman shall be able to complete work under time pressures and to maintain composure under the stress of emergency situations.

Systems Signal Foreman shall be able to perform scheduled upgrades and construction work at any time of any day of the week.

Systems Signal Foreman shall pass a pre-employment drug test.

Systems Signal Foreman shall have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Signal Foreman shall be able to demonstrate ability to communicate in written and verbal English language.

Systems Signal Foreman shall possess the knowledge of safe and efficient manipulation of equipment and tools to perform construction tasks and be able to direct others in their usage.

Systems Signal Foreman shall possess strong interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors, and with the general public in accordance with Authority's protocol for contractors.

SYSTEMS INSTALLATION SIGNALER

Duties:

Systems Installation Signaler directly participates in the installation of highway-rail grade crossing warning and wayside signal equipment and systems, normally under the direction of the Systems Installation Foreman. Systems Installation Signaler's responsibilities include loading and unloading of equipment and supplies from warehouses and trucks or flatcars, digging of holes and trenches using shovels, backhoes or trenchers to install conduits, cables and/or related hardware. Systems Installation Signaler may be required to perform pole line work which involves climbing poles to make repairs or make modifications as required for system upgrades. Systems Installation Signaler may be required to wire signal equipment from a signal design drawing. Systems Installation Signaler generally works as part of a crew or may work independently. Signaler may direct the work of an Systems Installation Assistant Signaler. Systems Installation Signaler shall be licensed and qualified to operate a highway vehicle equipped with rail guide wheels, hydraulic booms, and lift gates when required for the work involved.

Signaler may be required to perform other duties of a similar nature.

Requirements:

Systems Installation Signaler shall have a minimum of three years' experience in railroad systems construction on a Class 1 or Commuter railroad.

Systems Installation Signaler shall be able to demonstrate the safe and efficient manipulation of equipment and tools to perform construction tasks.

Systems Installation Signaler shall have general knowledge of 49 CFR, CPUC, FRWS and the ability to be qualified on the Authority's GCOR examinations.

Systems Installation Signaler shall have the ability to assist in the testing processes necessary to support the Systems Installation Engineer and/or Systems Installation Maintainers.

Systems Installation Signaler shall have the ability to perform scheduled and unscheduled construction work at any time on any day of the week.

Systems Installation Signaler shall pass a pre-employment drug test.

Systems Installation Signaler shall have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Installation Signaler shall have the ability to communicate in the written and verbal English language.

SYSTEMS INSTALLATION ASSISTANT SIGNALER

Duties:

Systems Installation Assistant Signaler assists Systems Installation Signalers and Systems Installation Signal Foreman to install and repair railroad systems and systems equipment, working as a member of a crew. Systems Installation Assistant Signaler's responsibilities include assisting the loading and unloading of equipment and supplies from warehouses and trucks or flatcars, digging of holes and trenches using shovels, backhoes or trenchers to install conduits, cables and/or related systems hardware. Systems Installation Assistant Signaler may be required to perform pole line work which involves climbing poles to make repairs or make modifications as required for system upgrades. Systems Installation Assistant Signaler generally works as part of a crew or may work independently. Systems Installation Assistant Signaler shall be licensed and qualified to operate a highway vehicle equipped with rail guide wheels, hydraulic booms, and lift gates when required for the work involved. Systems Installation Assistant Signaler typically works under the direction of the Systems Installation Foreman.

Assistant Signaler may perform other duties of a similar nature.

Requirements:

Systems Installation Assistant Signaler should possess experience in construction, with a Class 1 or Commuter railroad.

Systems Installation Assistant Signaler shall possess ability to perform scheduled and unscheduled construction work at any time on any day of the week.

Systems Installation Assistant Signaler shall pass a pre-employment drug test.

Systems Installation Assistant Signaler shall possess a general understanding of electrical and/or electronic principles desirable.

Systems Installation Assistant Signaler shall possess the ability to work outdoors in all-weather condition, to lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Installation Assistant Signaler shall have the ability to communicate in the written and verbal English language.

SYSTEMS INSTALLATION SUPPORT MAINTAINER

Duties:

Systems Installation Support Maintainer shall perform and support the installation, inspection, testing, and upgrading of highway-rail grade crossings, systems, trackside detectors, control point, and wayside signal equipment. Systems Installation Support Maintainer shall install, make adjustments or modify system equipment as required. Systems Installation Support Maintainer shall read and interpret system design and circuit plan documents and follow documents for installation. Systems Installation Support Maintainer shall wire active systems equipment from a design drawing. Systems Installation Support Maintainer shall test system circuit connections, using standard testing equipment. Systems Installation Support Maintainer shall compile reports and documentation indicating equipment and systems installed, inspected, modified and tested. Systems Installation Support Maintainer shall document test and inspection information on required forms for compliance of regulatory and Authority required tests and inspections. Provide appropriate work activity protection for self and/or work group, address safety related issues to ensure a safe work environment.

Systems Installation Support Maintainer shall perform and support track related activities as assigned. Track related work may require Systems Installation Support Maintainer to perform duties as an individual rather than with a group. This may include support of tie installation, rail installation, bridge installation, crossing rehabilitation, and or restoration of services.

Systems Installation Support Maintainer may perform other duties of a similar nature.

Requirements:

Systems Installation Support Maintainer shall have a minimum of five (5) years' experience in railroad systems construction and/or maintenance on a Class 1 or Commuter railroad.

Systems Installation Support Maintainer shall be able to demonstrate a general knowledge of railroad signal systems and practices, CFR part 236 and CFR part 234, and General Code of Operating Rules.

Systems Installation Support Maintainer must be familiar with Advanced Train Control Systems (ATCS) Positive Train Control (PTC), and Centralized Traffic Control (CTC) equipment systems.

Systems Installation Support Maintainer shall demonstrate interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors and with the general public in accordance with Authority's protocol for contractors.

Systems Installation Support Maintainer shall pass a pre-employment drug test.

Systems Installation Support Maintainer shall have the ability to perform scheduled and unscheduled maintenance, repair or construction work at any time on any day of the week.

Systems Installation Support Maintainer shall have knowledge of FTSS and FRWS and shall become qualified on Authority's examinations for part 213.7 of the FTSS and the GCOR related to these regulations.

Systems Installation Support Maintainer shall pass a pre-employment drug test.

Systems Installation Support Maintainer shall have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 pounds and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Installation Support Maintainer shall be able to demonstrate ability to communicate in written and verbal English language with prior record keeping experience.

Systems Installation Support Maintainer shall possess knowledge of safe and efficient manipulation of equipment and tools to perform construction tasks.

Systems Installation Support Maintainer shall must possess strong interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors, and the general public in accordance with Authority's protocol for contractors.

SYSTEMS SIGNAL ENGINEER / SIGNAL INSPECTOR*

Duties:

Read and interpret signal and communications systems design drawing and specification documents to insure proper and compliant installation of systems and equipment. Should any exceptions be noted, documented notification of same must be forwarded to the appropriate Authority representative.

Direct and assist workers in installing, modifying, upgrading and testing of equipment and systems, including, but not limited to, interlockings, hazard detectors, automatic signals, controlled signals, positive train control, and highway-rail grade crossing warning systems.

Identifies, performs and documents appropriate operational tests of signal and communications equipment and systems to ensure compliance with regulatory and Authority requirements.

Provide engineering support to the Contractor's key staff and Authority and may be required to assist in the mitigation of systems related issues.

Identify project task areas for value engineering opportunities.

Responsible for addressing safety related issues to the proper entity to ensure a safe work environment.

Inspect completed work for conformance to Authority specifications, CTO's, agreements, and regulatory compliance.

May be responsible to compile reports at end of day indicating work completed, location, and materials used.

Perform other duties of a similar nature.

Requirements:

A minimum of ten (10) years of progressively responsible experience in railroad systems maintenance and/or construction in a Class 1 or commuter operating railroad environment including at least five (5) years' experience as a signal maintainer or signal technician.

Must possess a high level of knowledge of railroad signal best practices and systems testing, the General Code of Operating Rules, Federal Railroad Administration, and California Public Utilities Commission requirements.

Must possess a high level of knowledge and experience with highway-rail grade crossing warning systems and equipment.

Must be knowledgeable of field and office ATCS, Positive Train Control, and Centralized Traffic Control equipment and systems technology.

Must possess excellent communication, writing, and computer literacy skills.

Must be experienced with microprocessor setup and information extraction using a laptop computer.

Must be previously qualified with a railroad to provide work place protection under FRWS and to inspect, test, and supervise installation of signal equipment and systems.

Must have the ability to read and interpret drawings, plans, and specifications for railroad systems construction and supervise the work of others for compliance with these documents.

Must have the ability to complete work under time pressures and to maintain composure under the stress of emergency situations.

Must have the ability to perform scheduled and unscheduled systems installation work at any time on any day of the week.

Must pass a pre-employment drug test.

Must have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Must have knowledge of safe and efficient manipulation of equipment and tools necessary to perform installation tasks.

Must possess strong interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors, and with the general public in accordance with Authority's protocol for contractors.

SYSTEMS COMMUNICATIONS ENGINEER*

Duties:

Systems Communications Engineer oversees activities of workers engaged in assembly and installation of electronic communications equipment and related electrical installation. Systems Communications Engineer responsibilities include but are not limited to examining drawings, specifications and other information to determine location design, work procedures, estimate of costs, and needed materials and equipment. Inspect assembled and installed equipment, such as transmitters and receivers, and power and cable lines to verify conformance to Authority standards and government regulations. Systems Communications Engineer responsibilities include testing and commissioning of electronic data radio installations, PACMS, Microwave, and fiber optic installations using applicable testing apparatus. Systems Communications Engineer directs and certifies the completion of all tests on communications equipment and systems. Systems Communications Engineer ensures that all applicable test documentation is completed and provided to Authority as specified.

Systems Communications Engineer may perform other duties of similar nature.

Requirements:

Must have a minimum of ten (10) years of progressively responsible experience in railroad communications, PACMS, Microwave, and fiber optic installations and its related equipment in an operating railroad environment, including six (6) years' experience in supervising or directing the work of others engaged in railroad communications equipment installation.

Systems Communications Engineer shall possess a FCC or NABERS license.

Systems Communications Engineer shall demonstrate knowledge of railroad communications practices and systems, the General Code of Operating Rules, Federal Railroad Administration and Federal Communications Commission requirements.

Systems Communications Engineer shall have strong interpersonal skills and be able to demonstrate the ability to work under time pressures and to maintain composure under the stress of emergency situations.

Systems Communications Engineer shall possess and demonstrate strong personal computer skills.

Systems Communications Engineer shall be able to work outdoors in all weather conditions, and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Communications Engineer shall possess ability to complete accurately detailed FCC license applications.

Systems Communications Engineer shall perform scheduled and unscheduled systems installation work at any time on any day of the week.

Systems Communications Engineer shall previously be qualified with a railroad to provide workplace protection under FRWS and to inspect, test, and supervise installation of communications equipment and systems.

Systems Communications Engineer shall possess knowledge of safe and efficient manipulation of equipment and tools to perform installation tasks.

Systems Communications Engineer shall demonstrate knowledge of Advanced Train Control Systems, Public Address Changeable Message Signage, and Centralized Traffic Control communications equipment and systems technology utilizing fiber optic, radio and microwave information networks.

Systems Communications Engineer shall demonstrate knowledge of in-service and operational, (including documentation), testing requirements for railroad information communications equipment and systems.

Systems Communications Engineer shall be able to demonstrate knowledge of fiber optic systems and equipment operations, installations, and commissioning.

Systems Communications Engineer shall be knowledgeable of the time for completions and the cost of installation of communications and right-of-way facilities, and the ability to make value judgments regarding economic upgrades and replacement of these facilities.

Systems Communications Engineer shall possess ability to communicate in the written and verbal English language with prior record keeping experience.

SYSTEMS COMMUNICATIONS INSTALLATION TECHNICIAN

Duties:

Systems Communications Installation Technician duties shall include but will not be limited to; adjusts, installs, tests and programs high-powered stationary and mobile radio transmitting equipment, using hand tools and testing instruments and following wiring diagram(s). Listens to radio range station at frequent intervals during broadcasts to detect flaws in transmission and adjusts controls to eliminate flaws. Test equipment with instruments such as circuit analyzers, audiometers and voltmeters. Install and test components of data radio transmitting equipment and intercommunication telephone system. Maintain accurate documentation of technical equipment interconnections; inspect and recommend equipment improvements.

Systems Communications Installation Technician may perform other duties of a similar nature.

Requirements:

Systems Communications Installation Technician shall possess a FCC or NABERS license. Systems Communications Installation Technician shall have a minimum of five years of work experience as a communications technician working with radio equipment and other railroad related communications equipment.

Systems Communications Installation Technician shall be able to demonstrate knowledge of regulations mandating radio testing and a working knowledge of ATCS radio technology.

Systems Communications Installation Technician shall be able to demonstrate knowledge of railroad communications systems and equipment.

Systems Communications Installation Technician shall be able to demonstrate knowledge of fiber optic systems and equipment operations, installations, and commissioning.

Systems Communications Installation Technician shall demonstrate strong personal computer skills.

Systems Communications Installation Technician shall demonstrate ability to work outdoors in all weather conditions lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems Communications Installation Technician shall be able to communicate in the written and verbal English language.

Systems Communications Installation Technician shall be able to perform scheduled and unscheduled installation work at any time on any day of the week.

SYSTEMS PROJECT ENGINEER

(Two Positions)

Duties:

Provides both field and office engineering support, performs construction inspections and supervision, assists the incorporation of new technology and acts as relief in case of vacancies and absences for all the exempt Contractors staff and Supervisors and performs special engineering tasks at the request of the Authority.

Assists Contractor's Systems Office Engineer with contract activities with other Contractor staff and maximizes interoffice activity between Contractor and Authority. Insures that project budgets and schedules are met and that all project administrative process are current and complete. Performs scheduling and budgeting of projects and quality control documentation. Assists field personnel in performing signal and communication installations and signal cutovers. Assures that the Authority's policies and procedures are carried out and all Contractor work is compliant with the Agreement.

Provides engineering support to the Contractor's key staff and the Authority. Must be able to develop and read communications and signal engineering drawings and technical specifications and estimate, schedule and oversee work based on the engineering documents.

Responsible to ensure quality reporting and documentation for invoicing, material control, and job task reporting. Prepare cost estimates and Contract Task Order (CTO) scope of services to include schedule adherence and work planning in conjunction with the Authority's designated representative.

Assists Training Manager in developing training programs including the ability to develop Power Point and other presentation materials.

Requirements:

A Bachelor of Science Degree in Electrical Engineering or a related Engineering Field from a 4-Year Southern California University. Must have an Engineering-In-Training (EIT) Certificate.

Must be able to successfully pass all of the Authority Contractor required training programs for Contractor Supervisors and Inspectors, within two years of assignment on Authority's Services.

SYSTEMS BACK OFFICE LEAD TECHNICIAN (BOLT)

Duties:

Systems Back Office Lead Technician (Systems BOLT) oversees activities of workers and engaged in assembly and installation (rack and stack) and testing stand up and commissioning of train control and communications hardware and software and in some cases may perform the work within the primary and secondary Railroads Back Office centralized sites at the Pomona - Dispatch Operations Center (DOC), Metrolink Operations Center (MOC) and the maintenance support facility (MSF) at 2700 Melbourne and the Locomotive/Cab car simulator at LAUS - 413 Bauchett Street Los Angeles. Systems BOLT responsibilities include but are not limited to examining drawings, specifications and other information to determine location design, work procedures, estimate of costs, and needed hardware (primarily Dell) equipment, software (mostly Microsoft) and including electrical power connections and wiring to hardware. Inspect test and commission assembled and installed equipment, such as processors, virtual processors and power and communication cable lines to verify conformance to Authority standards and government regulations. Systems BOLT include assembly (rack and stack) stand up, testing reconfiguration and commissioning of Wabtec TMDs, BOS, MDM, CAD, WSRS, CIS Solar Winds Network Management, AVTEC communication console and other related systems. Systems BOLT directs and certifies the completion of all tests on Back Office systems in close coordination and supervision with the Authority's staff and applicable vendors. Systems BOLT ensures that all applicable test documentation is completed and provided to Authority as specified.

Systems BOLT may perform other duties of similar nature.

Requirements:

Must have a minimum of six (6) years of progressively responsible experience in high availability, highly redundant Railroad Sensitive Data Centers within a Railroad Control Center including three (3) years' experience in supervising or directing the work of others engaged in railroad data center hardware and software equipment assembly (rack and stack), installation, wiring, cabling, testing and commissioning.

Highly desirable to have a degree in Computer Science or a closely related field and multiple related applicable certifications (Dell, IBM, Microsoft, etc.)

Systems BOLT shall demonstrate knowledge of railroad data center and control center practices and systems, and be very familiar with the General Code of Operating Rules, Federal Railroad Administration requirements as it applies to railroad data centers,

Systems BOLT shall have strong interpersonal skills plus leadership skills and be able to demonstrate the ability to work under time pressures and to maintain composure under the stress of emergency situations and very tight schedule situations in a safety sensitive railroad data center environment.

Systems BOLT shall possess and demonstrate very strong personal computer skills and configuration and change management as it applies to safety sensitive railroad data centers and control centers.

Systems BOLT shall be able to work at off peak commuter rail traffic time periods especially nights and weekends conditions, and must have the ability to distinguish colors and to hear warning signals, radio.

System BOLT shall pass a pre- employment drug test and obtain a TSA TWIC card.

Systems BOLT shall possess ability to communicate in the written and verbal English language with prior record keeping experience.

SYSTEMS BACK OFFICE TECHNICIAN (BOT)

Duties:

Systems Back Office Lead Technician (Systems BOT) is directly engaged in assembly and installation (rack and stack) and testing stand up and commissioning of train control and communications hardware and software and in some cases may perform the work within the primary and secondary Railroads Back Office centralized sites at the Pomona - Dispatch Operations Center (DOC), Metrolink Operations Center (MOC) and the maintenance support facility (MSF) at 2700 Melbourne and the Locomotive/Cab car simulator at LAUS - 413 Bauchett Street Los Angeles. Systems BOT responsibilities include but are not limited to examining drawings, specifications and other information to determine location design, work procedures, estimate of costs, and needed hardware (primarily Dell) equipment, software (mostly Microsoft) and including electrical power connections and wiring to hardware. Inspect test and commission assembled and installed equipment, such as processors, virtual processors and power and communication cable lines to verify conformance to Authority standards and government regulations. Systems BOT include assembly (rack and stack) stand up, testing reconfiguration and commissioning of Wabtec TMDS, BOS, MDM, CAD, WSRS, CIS Solar Winds Network Management, AVTEC communication console and other related systems. Systems BOT directs and certifies the completion of all tests on Back Office systems in close coordination and supervision with the Authority's staff and applicable vendors. Systems BOLT ensures that all applicable test documentation is completed and provided to Authority as specified.

Systems BOT may perform other duties of similar nature.

Requirements:

Must have a minimum of four (4) years of progressively responsible experience in high availability, highly redundant Railroad Sensitive Data Centers within a Railroad Control Center performing the work in railroad data center hardware and software equipment assembly (rack and stack), installation, wiring, cabling, testing and commissioning.

Highly desirable to have a degree in Computer Science or a closely related field and multiple related applicable certifications (Dell, IBM, Microsoft, etc.).

Systems BOT shall demonstrate knowledge of railroad data center and control center practices and systems, and be very familiar with the General Code of Operating Rules, Federal Railroad Administration requirements as it applies to railroad data centers,

Systems BOT shall have strong interpersonal skills and be able to demonstrate the ability to work under time pressures and to maintain composure under the stress of emergency or very tight schedule situations in a safety sensitive railroad data center environment.

Systems BOT shall possess and demonstrate very strong personal computer skills and configuration and change management as it applies to safety sensitive railroad data centers and control centers.

Systems BOT shall pass a pre-employment drug test obtain a TSA TWIC card.

Systems BOT shall be able to work at off peak commuter rail traffic time periods especially nights and weekends conditions, and must have the ability to distinguish colors and to hear warning signals, radios, etc.

Systems BOT shall possess ability to communicate in the written and verbal English language with prior record keeping experience.

SYSTEMS ON BOARD INSTALLATION LEAD TECHNICIAN (OBILT)

Duties:

Systems On-Board Installation Lead Technician (OBILT) performs and/or directs activities of on-site workers engaged in assembling, testing installing, and upgrading railroad train control and communication hardware and software and interconnections with the applicable on board systems on the Authority's locomotives and cab cars. OBILT will follow work orders stating location and work necessary for the installation of systems equipment to determine number of workers and type of equipment including hardware and software and materials required. The tasks will typically include performing and testing the train control interface specifically the Wabtec I-ETMS PTC on-board system with the on-board electrical, communication and air brake systems. Responsible for the collection, inspection and documentation of systems equipment to assure installation material and equipment is damage free and correct for specific installation. Read and interpret and elevate errors and omissions for correction or clarification in on-board system design, schematic and circuit plan documents. Systems OBILT develops daily work plan for the task and workers under his/her direction. Systems OBILT inspects completed work for conformance to Authority standards and specifications and applicable Federal Regulations. System OBILT prepares reports at end of day indicating work completed, location, materials used, and number of worker hours required for each job.

Systems OBILT may perform other duties of a similar nature only on railroad rolling stock.

Requirements:

Systems OBILT shall have a minimum of six (6) years of progressively responsible experience in railroad on-board systems assembly, installation, testing and commissioning with operating railroad locomotive and cab car environment specifically Wabtec I-ETMS On-Board Systems including at least three (3) years' experience in directing the work of others engaged in railroad on-board train control systems installation and interface with other on-board locomotive and cab car electrical, mechanical and communication systems.

Systems OBILT shall demonstrate knowledge of railroad on board train control and mechanical systems (air brake, electrical, mechanical) practices and specific knowledge of Wabtec I-ETMS on board systems and all applicable Federal Railroad Administration (FRA) and California Public Utilities Commission (CPUC) requirements.

System OBILT n shall previously be qualified with a railroad to provide workplace protection under FRWS and Mechanical Facilities including blue flag protection and tag out. OBILT shall be able to work safely and efficiently testing and performing troubleshooting, testing and commissioning tasks on moving trains

System OBILT shall have the ability to read and interpret on-board system drawings, Schematics, plans, and specifications for railroad on board installation, and provide the immediate direction of the work of others for compliance with these documents.

Systems OBILT shall be able to complete work under time pressures and to maintain composure under the stress of emergency situations.

Systems OBILT Signal shall be able to perform scheduled upgrades and construction work at any time of any day or night of the week and on weekends.

Systems OBILT shall pass a pre-employment drug test and obtain a TSA TWIC card.

Systems OBILT shall have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 lbs. and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems OBILT shall be able to demonstrate ability to communicate in written and verbal English language.

Systems OBILT shall possess the knowledge of safe and efficient manipulation of equipment and tools to perform construction tasks and be able to direct others in their usage.

Systems Signal OBILT shall possess strong interpersonal, leadership and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other contractors, and with the general public in accordance with Authority's protocol for contractors.

SYSTEMS ON BOARD INSTALLATION TECHNICIAN (OBIT)

Duties:

Systems On-Board Installation Lead Technician (OBIT) performs activities of on-site workers engaged in assembling, testing installing, and upgrading railroad train control and communication hardware and software and interconnections with the applicable on board systems on the Authority's locomotives and cab cars. OBLT will follow OBILT directions and work orders stating location and work necessary for the installation of systems equipment to determine number of workers and type of equipment including hardware and software and materials required. The tasks will typically include performing and testing the train control interface with the on-board electrical, communication and air brake systems. Responsible for the collection, inspection and documentation of systems equipment to assure installation material and equipment is damage free and correct for specific installation. Read and interpret and elevate errors and omissions for correction or clarification in on-board system design, schematic and circuit plan documents. Systems OBLT follows daily work plan for the task and workers under his/her direction. Systems OBILT inspects completed work for conformance to Authority standards and specifications and applicable Federal Regulations. System OBIT assists in preparing reports at end of day indicating work completed, location, materials used, and number of worker hours required for each job.

Systems OBIT may perform other duties of a similar nature only on railroad rolling stock.

Requirements:

Systems OBIT shall have a minimum of three (3) years of progressively responsible experience in railroad on-board systems assembly, installation, testing and commissioning within an operating railroad locomotive and cab car environment including specifically Wabtec I-ETMS On-Board Systems and interfacing with other on board cab car and locomotive electrical, mechanical (including air brake) and communication systems.

Systems OBIT shall demonstrate knowledge of railroad on board train control and mechanical systems (air brake, electrical, mechanical) practices and all applicable Federal Railroad Administration (FRA) and California Public Utilities Commission (CPUC) requirements.

System OBIT shall previously be qualified with a railroad to provide workplace protection under FRWS and Mechanical Facilities including blue flag protection and tag out. OBIT shall be able to work safely and efficiently testing and performing troubleshooting, testing and commissioning tasks on moving trains.

System OBIT shall have the ability to read and interpret on-board system drawings, Schematics, plans, and specifications for railroad on board installation, and provide the immediate direction of the work of others for compliance with these documents.

Systems OBIT shall be able to complete work under time pressures and to maintain composure under the stress of emergency situations.

Systems OBIT shall be able to perform scheduled upgrades and construction work at any time of any day or night of the week and on weekends.

Systems OBIT shall pass a pre-employment drug test and obtain a TSA TWIC card.

Systems OBIT shall have the ability to work outdoors in all weather conditions, to lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

Systems OBIT shall be able to demonstrate ability to communicate in written and verbal English language.

Systems OBIT shall possess the knowledge of safe and efficient manipulation of equipment and tools to perform construction tasks and be able to direct others in their usage.

Systems OBIT shall possess strong interpersonal and organizational skills and demonstrate the ability to interact with a variety of public agency officials, other

Contractors, and with the general public in accordance with Authority's protocol for contractors.

FIBER OPTIC TECHNICIAN

The Fiber Optic Technician must have the ability to perform fiber optic splicing as well as understand engineering and splicing drawings. This person must possess strong project requirement skills, knowledge of construction practices for Outside Plant cable placement, and Inside Plant cable placement, sufficient experience with computers to update drawings and have a background in Fiber Optic splicing documentation practices. The person must have telecommunications experience and the ability to travel throughout the Metrolink System as required. In this role, an employee will be expected to develop and demonstrate proficiency within the following responsibilities and competencies.

Essential Duties

- Ability to fusion or mechanical splice SM or MM fiber optic cables, to include terminate various types of fiber optic connectors (ST,SC, LC)
- Work with engineers and/or PM's to perform fusion splicing as directed.
- Installation and testing of pressurized and non-pressurized closures on all types and sizes of cable.
- Develop standards and specifications for splice drawings and prepare drawing per the specifications.
- Experience and knowledge using Fiber Optic Scope and or a Fiber OTDR.
- Installation and dressing of fiber optic cables (vertical/horizontal).
- Serve as a resource to the Authority's staff on matters concerning splicing practices and procedures.
- Develop splicing diagrams and designs to facilitate network architecture.
- Provide management with detailed reports of field splicing activity.
- Maintain fiber asset inventory and splicing records.
- Manage multiple projects at one time.
- Organize splicing as-build files utilizing software packages for Authority's fiber cable inventory and route designs.
- Communicate with Project Manager and Team Leader on workload status in order to meet designated goals.
- Maintain a positive attitude and strong work ethic that can provide high productivity with minimal supervision
- Must have 5+ years of splicing experience.
- Education Level: High School/Some College Preferred.
- Field Of Study: Drafting, Electronics, or Telecommunications.
- Must have excellent verbal and written communication skills.
- Must have excellent organizational skills and be detail oriented.
- Ability to interact effectively with other team members.

- Excellent skills in Outlook, Excel and MS Word.
- Ability to work under pressure in a fast paced and quickly changing work environment with strict deadlines.
- Must be able to work independently without supervision.
- A combination of education and experience will be considered.

Requirements:

Fiber Optic Technician shall possess the necessary Fiber Optic Certifications required to work on fiber related equipment. Fiber Optic Technician shall have a minimum of 10 years of work experience as a Fiber Optic Technician working with fiber equipment and other railroad related communications equipment.

The Fiber Optic Technician shall be able to demonstrate knowledge of fiber optic railroad communications systems and equipment.

The Fiber Optic Technician shall be able to demonstrate knowledge of fiber optic systems and equipment operations, installations, and commissioning.

The Fiber Optic Technician shall demonstrate strong personal computer skills.

The Fiber Optic Technician shall demonstrate ability to work outdoors in all weather conditions lift objects weighing a minimum of 50 lbs and must have the ability to distinguish colors and to hear warning signals, radio and telephone devices.

The Fiber Optic Technician shall be able to communicate in the written and verbal English language.

The Fiber Optic Technician shall be able to perform scheduled and unscheduled installation work at any time on any day of the week

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APPENDIX C

**CONTRACTOR PROVIDED CERTIFICATION
AND TRAINING REQUIREMENTS**

APPENDIX C

CONTRACT NO. MS260B-16 COMMUNICATION AND SIGNAL SYSTEMS INSTALLATION SERVICES

REQUIREMENTS FOR CONTRACTOR'S TRAINING

1. Contractor Training of its Employees

- a. The Contractor's training programs shall be consistent with railroad industry "best practices" for the subject training. The Contractor shall validate both in the classroom and in the field that all employees subject to working within Railroad Operating Envelope know and fully understand Roadway Worker, GCOR, and GCOR territory limits and the Contractor's rule book and that each employee is fully qualified to perform the functions necessary for his or her position. The Contractor shall be responsible for assuring that no employee assumes a duty or position until he or she has received all of the required training and is fully qualified with a passing score.
- b. The Contractor shall provide the Authority with a curriculum for each training program identified in Table 1 and the proposed facilities where the training is to be performed. The Authority may review and provide comments to Contractor with respect to each training program curriculum and training facility location as well as any future training programs that the Authority and the Contractor agree upon as required by future unforeseen needs not covered in Appendix C.
- c. The Authority may at its sole discretion monitor and audit, classroom and field training, and conduct post-course assessments of actual on the job performance aimed at continually confirming the effectiveness of the individual Contractor's training modules described in Table 1 as well as of the Contractor's training program in its entirety.
- d. The Contractor's training program shall consist of a blend of classroom, field, or lab demonstrations, hands-on on-the job assessments and/or online training selected as most applicable to the subject matter. The Contractor shall make use of industry "best" practice training programs including those that are self-paced and interactive and utilize video-based or computer based media. Training materials will consist of a "Leader Guide" and "Participant's Notebook" with pre and post-tests.
- e. The Contractor's training programs and records shall be kept up-to-date and readily available for review and audits by the appropriate Authority personnel.

- f. Contractor shall provide the Authority with a monthly training report that includes a list of instruction provided, the names of training instructors, and the names of employees in attendance and the training sign in record for each training session. One month after the end of each quarter, the Contractor shall provide the Authority with a spreadsheet summarizing to-date the scores for employees and the names of employees who are disqualified from employment due to training failures. This information shall be cumulative and provided in a spreadsheet and automated database format for efficiency.
- g. The Contractor will submit a schedule, proposed course content, list, and /or number of employees to be trained. The Authority will review the schedule and reserves the right to request that the training schedule be altered to avoid disruption and conflicts with operation of the railroad.
- h. The Authority may monitor in person the Contractor's training classes for content, effectiveness, and quality of presentation and may visit or inspect any classroom site or program at any time. In the event that the Authority believes that course content or presentation is not meeting the objectives of the agreed upon and approved training requirements, the Contractor will provide a detailed plan and timeline with recommended adjustments to the training.
- i. The Contractor's training program including materials, equipment, presentations, electronic medium and any related presentation tools including electronic and hard copies shall be provided to the Authority for its use.

2. Qualifications, Testing, Employee Training Files

- a. Contractor shall require employees to be "qualified and or certified" in accordance with industry and State requirements. In addition, the Contractor shall require employees to be "re-qualified / certified" for their positions as required by the Contractor's training program within the time frames specified in Appendix C. "Qualified," means a status attained by an employee who has successfully completed any required training for, has demonstrated proficiency in, and has been authorized by the Contractor to perform the duties of a particular position or function. "Certified" means a status attained by an employee who has successfully completed any required training for, has demonstrated proficiency in, and has obtained Certification from the appropriate regulatory agency and has been assigned by the Contractor to perform the duties of a particular position or function."
- b. The Contractor shall maintain an individual training record file for each Contractor employee subject to the training identified in Appendix C. This file will include all documents related to the employee's training, the

employee's training history, test scores, dates of training and certifications, as well as any observed or documented training deficiencies. This employee training file shall be made available upon request for inspection by authorized Authority staff.

3. Authority Provided Training

- a. The Authority may provide Contractor required training as listed in Table 1.

4. Other training

- a. The Contractor will cooperate with Authority in developing training that may be necessary as a result of findings from incident and accident investigations.
- b. When requested to provide training to the Authority's staff or to other Authority contractor or consultant employees, Contractor shall provide the results of any written tests to the applicable Authority personnel. Contractor will not be responsible for "qualifying" any Authority or other contractor or consultant employee or for any post-test training program and post testing administrative requirements including any post-test record keeping, summary training report spreadsheets, or maintenance of employee training files.
- c. When requested by the Authority, the Contractor shall arrange for designated Contractor employees to attend other training sessions and workshops as may be required by regulatory agencies with jurisdiction over Authority.

Table 1

Recommended minimum hours of course training indicated in parentheses (XX hours)

Course No.	Training Module Course Description	Minimum Training Frequency	Position or Craft	Training Provided By
1.	Authority's General Code of Operating Rules / Maintenance of Way Rules and Instructions for C&S Installation Employees (Full course -16 hours) (Refresher course 4 hours)	Initial training then annual refresher course. - Full course every 3 years.	Assigned Contractor Employees.	Contractor. NOTE: <i>Course No. 1-5 taught as part of 3 day GCOR/RWP class. AUTHORITY supplied curriculum</i>
2.	Roadway Worker – CFR49 Section 214 On-Track Safety Program – (Full course 8 hours) (Refresher course 4 hours)	Initial training then annual refresher course. - Full course every 3 years.	Assigned Contractor Employees.	Contractor. NOTE: <i>Course No. 1-5 taught as part of 3 day GCOR/RWP class.</i> <i>AUTHORITY supplied curriculum</i>
3.	EIC – RWP –. (Full course -8 hours) (Refresher course 4 hours)	Initial training then annual refresher course. Full course every 3 years.	Assigned Contractor Employees	Contractor NOTE: <i>Course No. 1-5 taught as part of 3 day GCOR/RWP class. AUTHORITY supplied curriculum</i>
4.	Lone Worker/ RWP (Full course 8 hours) (Refresher course 4 hours)	Initial training then annual refresher course. Full course every 3 years.	Assigned Contractor Employees.	Contractor NOTE: <i>Course No. 1-5 taught as part of 3 day GCOR/RWP class.</i> <i>AUTHORITY supplied curriculum</i>

Course No.	Training Module Course Description	Minimum Training Frequency	Position or Craft	Training Provided By
5.	First responder/Hazardous Material, CPR first aid (Full course 12 hours) (Refresher course 4 hours)	Initial training then annual refresher course. Full course every 3 years.	All Contractor employees	Contractor
6.	Hi-Rail Equipment and Operation. (Full course -8 hours) (Refresher course 4 hours)	Initial training then annual refresher course. Full course every 3 years.	Assigned Contractor operators	Contractor <i>AUTHORITY supplied curriculum</i>
7.	Subdivision Territory Qualification. (4 hi-rail trips over the entire subdivision. 1 Qualifying trip territory) (4 hour refresher course including 1 hi-rail trip with supervisor)	Initial training then annual refresher course. Full course every 3 years.	Flaggers, EIC, Operators	Contractor <i>AUTHORITY supplied curriculum</i>
8.	Railroad Radio Rules and Railroad Radio use (Full course -1 hour) (Refresher course 1 hour)	Initial training then annual refresher course. Full course every 3 years.	All Contractor Employees	Contractor. <i>This is part of the GCOR/RWP 3 day course. And annual Recertification. AUTHORITY supplied curriculum</i>
9.	Wabtec TMDS Smart Mobile Client (Full course 16 hours classroom, 8 hours field, Refresher course 2 hours)	Initial training – course then annual refresher course. Full course every 3 years.	Assigned Contractor Personnel	Contractor.
10.	Best practices in preventing signal installation caused delays (Full course 4 hours) (Refresher course 2 hours)	Initial training then annual refresher course every 2 years	Assigned Contractor Personnel	Contractor

APPENDIX D
FORMS

CONTRACT TASK ORDER (CTO) FORMS

- 1) REQUEST FOR PROPOSAL (CTO REVISION)**
- 2) CTO REQUEST FOR PROPOSAL**
- 3) CTO CONTRACT PRICING PROPOSAL (FORM 60)**
- 4) INSTRUCTIONS FOR FORM 60**
- 5) CTO REQUEST FOR PROPOSAL TIME EXTENSION**
- 6) CONTRACT TASK ORDER (CTO) COST SUMMARY**
- 7) CONSULTANT CONFLICT OF INTEREST CERTIFICATION**
(in a separate file)

APPENDIX E
PRICING SCHEDULES

MS260-16 Labor & Equipment Evaluation Summary Sheet
Labor Rates for year 1 through year 5
Appendix E

	FBLC Eval Cost Total By Year	Overall Labor Rate of Increase From Prior Year	Total Annual S.T. & Differential Evaluation Cost					Total Contract S.T. & Differential Evaluation Cost	
			2016	2017	2018	2019	2020		
Systems Contract Manager (Exempt)	\$ 3,954,097.26	N/A	\$ 355,612.41	\$ 364,558.65	\$ 373,849.84	\$ 383,475.15	\$ 393,447.02	\$	1,870,943.08
Systems Office Engineer (Exempt)	\$ 4,073,447.66	3.02%	\$ 194,052.65	\$ 201,176.42	\$ 208,611.79	\$ 216,372.81	\$ 224,461.68	\$	1,044,675.34
Systems Project Engineer (Exempt)	\$ 4,213,083.76	3.43%	\$ 336,173.28	\$ 348,514.36	\$ 361,395.26	\$ 374,840.32	\$ 388,853.33	\$	1,809,776.55
Signal Systems Installation Engineer/Inspector			\$ 359,620.71	\$ 373,239.92	\$ 387,480.49	\$ 402,371.29	\$ 417,915.33	\$	1,940,627.74
Systems Installation Superintendent			\$ 312,055.32	\$ 323,873.17	\$ 336,230.21	\$ 349,151.47	\$ 362,639.58	\$	1,683,949.75
Systems Installation Foreman			\$ 312,270.92	\$ 323,803.94	\$ 335,173.32	\$ 350,611.35	\$ 367,512.60	\$	1,689,372.13
Systems Installation Signaler			\$ 1,159,982.33	\$ 1,201,471.73	\$ 1,242,372.45	\$ 1,297,909.87	\$ 1,358,711.17	\$	6,260,447.55
Systems Installation Assistant Signaler #4			\$ 86,827.81	\$ 89,844.47	\$ 92,818.32	\$ 96,856.39	\$ 101,277.20	\$	467,624.18
Systems Installation Assistant Signaler #3			\$ 75,969.12	\$ 78,533.28	\$ 81,061.05	\$ 84,493.42	\$ 88,251.10	\$	408,307.97
Systems Installation Assistant Signaler #2			\$ 61,416.16	\$ 63,376.99	\$ 65,309.99	\$ 67,934.74	\$ 70,808.27	\$	328,846.16
Systems Installation Assistant Signaler #1			\$ 39,051.22	\$ 40,408.72	\$ 41,746.95	\$ 43,564.09	\$ 45,553.45	\$	210,324.43
Systems Installation Support Maintainer			\$ 289,995.58	\$ 300,367.93	\$ 310,593.11	\$ 324,477.47	\$ 339,677.79	\$	1,565,111.89
Installation Communications System Engineer			\$ 120,307.44	\$ 124,609.84	\$ 128,851.20	\$ 134,610.37	\$ 140,915.39	\$	649,294.24
Systems Installation Communications Technician			\$ 111,067.73	\$ 114,888.69	\$ 118,655.44	\$ 123,770.15	\$ 129,369.64	\$	597,751.66
Fiber Optic Technician			\$ 19,129.63	\$ -	\$ -	\$ -	\$ -	\$	19,129.63
Systems Back Office Lead Technician (BOLT)			\$ 31,339.68	\$ 32,455.78	\$ 33,556.04	\$ 35,050.03	\$ 36,685.63	\$	169,087.16
Systems Back Office Technician (BOT)			\$ 28,942.79	\$ 29,933.99	\$ 30,911.13	\$ 32,237.95	\$ 33,690.53	\$	155,716.39
Systems On Board Installation Lead Technician (OBILT)			\$ 31,339.68	\$ 32,455.78	\$ 33,556.04	\$ 35,050.03	\$ 36,685.63	\$	169,087.16
Systems On Board Installation Technician (OBIT)			\$ 28,942.79	\$ 29,933.99	\$ 30,911.13	\$ 32,237.95	\$ 33,690.53	\$	155,716.39
			\$ 3,954,097.26	\$ 4,073,447.66	\$ 4,213,083.76	\$ 4,385,014.86	\$ 4,570,145.87	\$	21,195,789.41

Equipment Rate Sheet Total (Month)	
YEAR 1-July 1, 2016 thru June 30, 2017	\$ 38,904.20
YEAR 2-July 1, 2017 thru June 30, 2018	\$ 40,071.32
YEAR 3-July 1, 2018 thru June 30, 2019	\$ 41,273.46
YEAR 4 Option-July 1, 2019 thru June 30, 2020	\$ 42,511.67
YEAR 5 Option-July 1, 2020 thru June 30, 2021	\$ 43,787.02

MS260-16 Labor & Equipment Evaluation Summary Sheet

	2016	2017	2018	2019	2020	Total Monthly Equipment Evaluation Cost
Pick-up Truck 1/2 Ton Rating	\$ 2,259.07	\$ 2,326.84	\$ 2,396.65	\$ 2,468.55	\$ 2,542.61	\$ 11,993.72
Pick-up Truck 3/4 Ton Rating	\$ 1,285.94	\$ 1,324.51	\$ 1,364.25	\$ 1,405.18	\$ 1,447.33	\$ 6,827.21
Pick-up Truck 3/4 Ton Rating with Utility Body	\$ 3,094.69	\$ 3,187.53	\$ 3,283.15	\$ 3,381.65	\$ 3,483.10	\$ 16,430.12
Flat Bed Truck 1 Ton Rating	\$ 4,979.26	\$ 5,128.64	\$ 5,282.50	\$ 5,440.98	\$ 5,604.21	\$ 26,435.59
Stake Bed Truck 2 1/2 Ton Rating	\$ 1,156.33	\$ 1,191.02	\$ 1,226.75	\$ 1,263.55	\$ 1,301.46	\$ 6,139.09
Boom Truck 14 Ton rating	\$ 13,066.88	\$ 13,458.89	\$ 13,862.65	\$ 14,278.53	\$ 14,706.89	\$ 69,373.84
Hy-Rail Boom Truck 14 ton Rating	\$ 490.01	\$ 504.71	\$ 519.85	\$ 535.44	\$ 551.51	\$ 2,601.52
Backhoe	\$ 8,144.83	\$ 8,389.18	\$ 8,640.85	\$ 8,900.08	\$ 9,167.08	\$ 43,242.02
Bucket Truck	\$ 995.46	\$ 1,025.33	\$ 1,056.09	\$ 1,087.77	\$ 1,120.40	\$ 5,285.05
Air Compressor	\$ 58.61	\$ 60.37	\$ 62.18	\$ 64.05	\$ 65.97	\$ 311.19
Pavement Breaker/Tamper/ Digging Fork (Air Powered)	\$ 39.75	\$ 40.95	\$ 42.17	\$ 43.44	\$ 44.74	\$ 211.06
Air Boring Machine (Mole/4inch)	\$ 35.67	\$ 36.74	\$ 37.84	\$ 38.98	\$ 40.15	\$ 189.39
3.5KW Generator	\$ 691.15	\$ 711.88	\$ 733.24	\$ 755.24	\$ 777.89	\$ 3,669.40
Water Trailer 500 Gallon with pump & hoses	\$ 1,687.20	\$ 1,737.82	\$ 1,789.95	\$ 1,843.65	\$ 1,898.96	\$ 8,957.57
Trailer Mounted Light Tower	\$ 198.30	\$ 204.25	\$ 210.38	\$ 216.69	\$ 223.19	\$ 1,052.80
Vibratory Rammer (Wacker)	\$ 476.34	\$ 490.63	\$ 505.35	\$ 520.51	\$ 536.13	\$ 2,528.97
Walk Behind Pavement Saw with 14inch blade	\$ 91.82	\$ 94.57	\$ 97.41	\$ 100.33	\$ 103.34	\$ 487.46
Portable Rail Grinder	\$ 103.95	\$ 107.07	\$ 110.28	\$ 113.59	\$ 117.00	\$ 551.89
Portable Arc Welder	\$ 48.93	\$ 50.40	\$ 51.91	\$ 53.47	\$ 55.07	\$ 259.78
	\$ 38,904.20	\$ 40,071.32	\$ 41,273.46	\$ 42,511.67	\$ 43,787.02	\$ 206,547.66

Cost Proposal Submitted by: Mass. Electric Construction Co.

Appendix E

EAR 1-July 1, 2016 thru June 30, 2017

DIRECT LABOR Job Title: Position	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of Hours for 2nd Shift Evaluation	# of Hours for 3rd Shift Evaluation	Current Year Direct Labor Rates							Employee Fringe Benefits							
						Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate	
Systems Contract Manager (Exempt)	1		2000			\$ 71.21							\$ 39.86							
Systems Office Engineer (Exempt)	1		2000			\$ 43.58							\$ 17.04							
Systems Project Engineer (Exempt)	2		2000			\$ 37.74							\$ 14.76							
Systems Signal Engineer/Inspector	1		2000	100	100	\$ 67.52	\$ 101.27	\$ 79.20	\$ 118.80	\$ 88.72	\$ 133.08	\$ 135.03	\$ 33.20	\$ 49.81	\$ 38.95	\$ 58.42	\$ 43.63	\$ 65.45	\$ 66.41	
Systems Installation Superintendent	1		2000	100	100	\$ 58.59	\$ 87.88	\$ 68.72	\$ 103.08	\$ 76.98	\$ 115.47	\$ 117.17	\$ 28.81	\$ 43.22	\$ 33.80	\$ 50.70	\$ 37.86	\$ 56.79	\$ 57.63	
Systems Installation Foreman	1		2000	100	100	\$ 52.96	\$ 79.44	\$ 62.12	\$ 93.18	\$ 69.59	\$ 104.38	\$ 105.92	\$ 34.85	\$ 39.37	\$ 36.41	\$ 41.71	\$ 37.69	\$ 43.62	\$ 43.88	
Systems Installation Signaler	4		2000	100	100	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 33.94	\$ 38.00	\$ 35.35	\$ 40.11	\$ 36.49	\$ 41.83	\$ 42.07	
Systems Installation Assistant Signaler #4	1		500	100	100	\$ 42.30	\$ 63.45	\$ 49.62	\$ 74.43	\$ 55.58	\$ 83.37	\$ 84.60	\$ 33.03	\$ 36.64	\$ 34.28	\$ 38.51	\$ 35.30	\$ 40.04	\$ 40.25	
Systems Installation Assistant Signaler #3	1		500	100	100	\$ 35.96	\$ 53.93	\$ 42.18	\$ 63.26	\$ 47.24	\$ 70.87	\$ 71.91	\$ 30.01	\$ 33.08	\$ 31.07	\$ 34.67	\$ 31.94	\$ 35.97	\$ 36.14	
Systems Installation Assistant Signaler #2	1		500	100	100	\$ 27.50	\$ 41.24	\$ 32.25	\$ 48.38	\$ 36.13	\$ 54.19	\$ 54.99	\$ 25.91	\$ 28.26	\$ 26.73	\$ 29.48	\$ 27.39	\$ 30.47	\$ 30.60	
Systems Installation Assistant Signaler #1	1		500	100	100	\$ 19.04	\$ 28.55	\$ 22.33	\$ 33.49	\$ 25.01	\$ 37.52	\$ 38.07	\$ 14.85	\$ 16.47	\$ 15.41	\$ 17.31	\$ 15.87	\$ 18.00	\$ 18.09	
Systems Installation Support Maintainer	1		2000	100	100	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 33.94	\$ 38.00	\$ 35.35	\$ 40.11	\$ 36.49	\$ 41.83	\$ 42.07	
System Communications Engineer	1		833	40	40	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 33.94	\$ 38.00	\$ 35.35	\$ 40.11	\$ 36.49	\$ 41.83	\$ 42.07	
Systems Communications Installation Technician	1		833	40	40	\$ 42.30	\$ 63.45	\$ 49.62	\$ 74.43	\$ 55.58	\$ 83.37	\$ 84.60	\$ 33.03	\$ 36.64	\$ 34.28	\$ 38.51	\$ 35.30	\$ 40.04	\$ 40.25	
Fiber Optic Technician	1		120	12	12	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 33.94	\$ 38.00	\$ 35.35	\$ 40.11	\$ 36.49	\$ 41.83	\$ 42.07	
Systems Back Office Lead Technician (BOLT)	1		240	Non Prevailing Rate		\$ 47.63	\$ 71.44	Non Prevailing Rate					\$ 33.94	\$ 38.00	Non Prevailing Rate					
Systems Back Office Technician (BOT)	1		240	Non Prevailing Rate		\$ 42.30	\$ 63.45	Non Prevailing Rate					\$ 33.03	\$ 36.64	Non Prevailing Rate					
Systems On Board Installation Lead Technician (OBILT)	1		240	Non Prevailing Rate		\$ 47.63	\$ 71.44	Non Prevailing Rate					\$ 33.94	\$ 38.00	Non Prevailing Rate					
Systems On Board Installation Technician (OBIT)	1		240	Non Prevailing Rate		\$ 42.30	\$ 63.45	Non Prevailing Rate					\$ 33.03	\$ 36.64	Non Prevailing Rate					
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Employee FRINGE BENEFITS:	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of Hours for 2nd Shift Evaluation	# of Hours for 3rd Shift Evaluation	Employee Rates Incl. Direct Labor + Fringe Benefits							Adders				Employee Fully Burdened Labor Cost						
Employee Benefits Paid by the Contractor						Straight Time	Overtime	2nd Shift	2nd OT	3rd Shift	3rd OT	Double Time	G&A %	Overhead %	Profit %	Other	Straight Time	Overtime	2nd Shift	2nd OT	3rd Shift	3rd OT	Double Time
						Rate / Hr.	Rate / Hr.	Rate / Hr.	Rate / Hr.	Rate / Hr.	Rate / Hr.	Rate / Hr.	Proposer See: Appendix G	Proposer See: Appendix G	Proposer See: Article 4.e		Rate	Rate	Rate	Rate	Rate	Rate	Rate
Systems Contract Manager (Exempt)	1		2000			\$ 111.07							14.61%	28.47%	17.00%		\$ 177.81						
Systems Office Engineer (Exempt)	1		2000			\$ 60.61							14.61%	28.47%	17.00%		\$ 97.03						
Systems Project Engineer (Exempt)	2		2000			\$ 52.50							14.61%	28.47%	17.00%		\$ 84.04						
Systems Signal Engineer/Inspector	1		2000	100	100	\$ 100.72	\$ 151.08	\$ 118.15	\$ 177.22	\$ 132.35	\$ 198.52	\$ 201.44	14.61%	28.47%	17.00%		\$ 161.23	\$ 211.59	\$ 178.66	\$ 237.73	\$ 192.86	\$ 259.03	\$ 261.96
Systems Installation Superintendent	1		2000	100	100	\$ 87.40	\$ 131.10	\$ 102.52	\$ 153.78	\$ 114.84	\$ 172.26	\$ 174.80	14.61%	28.47%	17.00%		\$ 139.91	\$ 183.61	\$ 155.03	\$ 206.29	\$ 167.35	\$ 224.77	\$ 227.31
Systems Installation Foreman	1		2000	100	100	\$ 87.81	\$ 118.81	\$ 98.54	\$ 134.89	\$ 107.28	\$ 148.01	\$ 149.80	14.61%	28.47%	17.00%		\$ 140.57	\$ 171.56	\$ 151.29	\$ 187.65	\$ 160.03	\$ 200.76	\$ 202.56
Systems Installation Signaler	4		2000	100	100	\$ 81.57	\$ 109.45	\$ 91.22	\$ 123.92	\$ 99.08	\$ 135.71	\$ 137.33	14.61%	28.47%	17.00%		\$ 130.58	\$ 158.46	\$ 140.23	\$ 172.93	\$ 148.09	\$ 184.72	\$ 186.33
Systems Installation Assistant Signaler #4	1		500	100	100	\$ 75.33	\$ 100.09	\$ 83.90	\$ 112.94	\$ 90.88	\$ 123.41	\$ 124.85	14.61%	28.47%	17.00%		\$ 120.59	\$ 145.35	\$ 129.16	\$ 158.20	\$ 136.14	\$ 168.67	\$ 170.11
Systems Installation Assistant Signaler #3	1		500	100	100	\$ 65.97	\$ 87.01	\$ 73.25	\$ 97.93	\$ 79.18	\$ 106.83	\$ 108.05	14.61%	28.47%	17.00%		\$ 105.60	\$ 126.64	\$ 112.88	\$ 137.56	\$ 118.81	\$ 146.47	\$ 147.69
Systems Installation Assistant Signaler #2	1		500	100	100	\$ 53.41	\$ 69.50	\$ 58.98	\$ 77.85	\$ 63.52	\$ 84.66	\$ 85.59	14.61%	28.47%	17.00%		\$ 85.50	\$ 101.59	\$ 91.07	\$ 109.94	\$ 95.60	\$ 116.75	\$ 117.68
Systems Installation Assistant Signaler #1	1		500	100	100	\$ 33.88	\$ 45.02	\$ 37.74	\$ 50.80	\$ 40.88	\$ 55.52	\$ 56.16	14.61%	28.47%	17.00%		\$ 54.24	\$ 65.38	\$ 58.09	\$ 71.16	\$ 61.23	\$ 75.87	\$ 76.52
Systems Installation Support Maintainer	1		2000	100	100	\$ 81.57	\$ 109.45	\$ 91.22	\$ 123.92	\$ 99.08	\$ 135.71	\$ 137.33	14.61%	28.47%	17.00%		\$ 130.58	\$ 158.46	\$ 140.23	\$ 172.93	\$ 148.09	\$ 184.72	\$ 186.33
System Communications Engineer	1		833	40	40	\$ 81.57	\$ 109.45	\$ 91.22	\$ 123.92	\$ 99.08	\$ 135.71	\$ 137.33	14.61%	28.47%	17.00%		\$ 130.58	\$ 158.46	\$ 140.23	\$ 172.93	\$ 148.09	\$ 184.72	\$ 186.33
Systems Communications Installation Technician	1		833	40	40	\$ 75.33	\$ 100.09	\$ 83.90	\$ 112.94	\$ 90.88	\$ 123.41	\$ 124.85	14.61%	28.47%	17.00%		\$ 120.59	\$ 145.35	\$ 129.16	\$ 158.20	\$ 136.14	\$ 168.67	\$ 170.11
Fiber Optic Technician	1		120	12	12	\$ 81.57	\$ 109.45	\$ 91.22	\$ 123.92	\$ 99.08	\$ 135.71	\$ 137.33	14.61%	28.47%	17.00%		\$ 130.58	\$ 158.46	\$ 140.23	\$ 172.93	\$ 148.09	\$ 184.72	\$ 186.33
Systems Back Office Lead Technician (BOLT)	1		240	Non Prevailing Rate		\$ 81.57	\$ 109.45	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 130.58	\$ 158.46	Non Prevailing Rate				
Systems Back Office Technician (BOT)	1		240	Non Prevailing Rate		\$ 75.33	\$ 100.09	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 120.59	\$ 145.35	Non Prevailing Rate				
Systems On Board Installation Lead Technician (OBILT)	1		240	Non Prevailing Rate		\$ 81.57	\$ 109.45	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 130.58	\$ 158.46	Non Prevailing Rate				
Systems On Board Installation Technician (OBIT)	1		240	Non Prevailing Rate		\$ 75.33	\$ 100.09	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 120.59	\$ 145.35	Non Prevailing Rate				
	23																						

EAR 2-July 1, 2017 thru June 30, 2018

DIRECT LABOR Job Title: Position	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of Hours for 2nd Shift Evaluation	# of Hours for 3rd Shift Evaluation	Prior Year Labor Rates						Current Year Direct Labor Rates						Employee Fringe Benefits								
						Straight Time Rate / Hr.	Overtime Rate / Hr.	2nd Shift Rate / Hr.	2nd OT Rate / Hr.	3rd Shift Rate / Hr.	3rd OT Rate / Hr.	Double Time Rate / Hr.	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate
Systems Contract Manager (Exempt)	1		2000			\$ 71.21							\$ 73.35						\$ 40.52							
Systems Office Engineer (Exempt)	1		2000			\$ 43.58							\$ 44.88						\$ 17.95							
Systems Project Engineer (Exempt)	2		2000			\$ 37.74							\$ 38.88						\$ 15.55							
Systems Signal Engineer/Inspector	1		2000	100	100	\$ 67.52	\$ 101.27	\$ 79.20	\$ 118.80	\$ 88.72	\$ 133.08	\$ 135.03	\$ 69.54	\$ 104.31	\$ 81.57	\$ 122.36	\$ 91.38	\$ 137.07	\$ 139.08	\$ 34.99	\$ 52.49	\$ 41.05	\$ 61.57	\$ 45.98	\$ 68.97	\$ 69.99
Systems Installation Superintendent	1		2000	100	100	\$ 58.59	\$ 87.88	\$ 68.72	\$ 103.08	\$ 76.98	\$ 115.47	\$ 117.17	\$ 60.34	\$ 90.52	\$ 70.78	\$ 106.18	\$ 79.29	\$ 118.94	\$ 120.69	\$ 30.37	\$ 45.55	\$ 35.62	\$ 53.43	\$ 39.90	\$ 59.85	\$ 60.73
Systems Installation Foreman	1		2000	100	100	\$ 52.96	\$ 79.44	\$ 62.12	\$ 93.18	\$ 69.59	\$ 104.38	\$ 105.92	\$ 55.53	\$ 83.29	\$ 65.13	\$ 97.70	\$ 72.96	\$ 109.44	\$ 111.05	\$ 35.52	\$ 40.36	\$ 37.19	\$ 42.88	\$ 38.56	\$ 44.93	\$ 45.21
Systems Installation Signaler	4		2000	100	100	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 34.54	\$ 38.90	\$ 36.05	\$ 41.16	\$ 37.28	\$ 43.01	\$ 43.26
Systems Installation Assistant Signaler #4	1		500	100	100	\$ 42.30	\$ 63.45	\$ 49.62	\$ 74.43	\$ 55.58	\$ 83.37	\$ 84.60	\$ 44.35	\$ 66.53	\$ 52.02	\$ 78.03	\$ 58.28	\$ 87.41	\$ 88.70	\$ 33.56	\$ 37.44	\$ 34.90	\$ 39.45	\$ 36.00	\$ 41.08	\$ 41.31
Systems Installation Assistant Signaler #3	1		500	100	100	\$ 35.96	\$ 53.93	\$ 42.18	\$ 63.26	\$ 47.24	\$ 70.87	\$ 71.91	\$ 37.70	\$ 56.55	\$ 44.22	\$ 66.33	\$ 49.53	\$ 74.30	\$ 75.40	\$ 30.46	\$ 33.75	\$ 31.60	\$ 35.46	\$ 32.53	\$ 36.85	\$ 37.04
Systems Installation Assistant Signaler #2	1		500	100	100	\$ 27.50	\$ 41.24	\$ 32.25	\$ 48.38	\$ 36.13	\$ 54.19	\$ 54.99	\$ 28.83	\$ 43.24	\$ 33.81	\$ 50.72	\$ 37.88	\$ 56.82	\$ 57.66	\$ 26.26	\$ 28.78	\$ 27.13	\$ 30.08	\$ 27.84	\$ 31.15	\$ 31.29
Systems Installation Assistant Signaler #1	1		500	100	100	\$ 19.04	\$ 28.55	\$ 22.33	\$ 33.49	\$ 25.01	\$ 37.52	\$ 38.07	\$ 19.96	\$ 29.94	\$ 23.41	\$ 35.12	\$ 26.22	\$ 39.34	\$ 39.92	\$ 15.08	\$ 16.83	\$ 15.69	\$ 17.73	\$ 16.18	\$ 18.47	\$ 18.57
Systems Installation Support Maintainer	1		2000	100	100	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 34.54	\$ 38.90	\$ 36.05	\$ 41.16	\$ 37.28	\$ 43.01	\$ 43.26
System Communications Engineer	1		833	40	40	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 34.54	\$ 38.90	\$ 36.05	\$ 41.16	\$ 37.28	\$ 43.01	\$ 43.26

Appendix E

Systems Communications Installation Technician	1		833	40	40	\$ 42.30	\$ 63.45	\$ 49.62	\$ 74.43	\$ 55.58	\$ 83.37	\$ 84.60	\$ 44.35	\$ 66.53	\$ 52.02	\$ 78.03	\$ 58.28	\$ 87.41	\$ 88.70	\$ 33.56	\$ 37.44	\$ 34.90	\$ 39.45	\$ 36.00	\$ 41.08	\$ 41.31
Fiber Optic Technician	1		120	12	12	\$ 47.63	\$ 71.44	\$ 55.87	\$ 83.80	\$ 62.59	\$ 93.88	\$ 95.26	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 34.54	\$ 38.90	\$ 36.05	\$ 41.16	\$ 37.28	\$ 43.01	\$ 43.26
Systems Back Office Lead Technician (BOLT)	1		240	Non Prevailing Rate		\$ 47.63	\$ 71.44	Non Prevailing Rate				\$ 49.94	\$ 74.91	Non Prevailing Rate				\$ 34.54	\$ 38.90	Non Prevailing Rate						
Systems Back Office Technician (BOT)	1		240	Non Prevailing Rate		\$ 42.30	\$ 63.45	Non Prevailing Rate				\$ 44.35	\$ 66.53	Non Prevailing Rate				\$ 33.56	\$ 37.44	Non Prevailing Rate						
Systems On Board Installation Lead Technician (OBILT)	1		240	Non Prevailing Rate		\$ 47.63	\$ 71.44	Non Prevailing Rate				\$ 49.94	\$ 74.91	Non Prevailing Rate				\$ 34.54	\$ 38.90	Non Prevailing Rate						
Systems On Board Installation Technician (OBIT)	1		240	Non Prevailing Rate		\$ 42.30	\$ 63.45	Non Prevailing Rate				\$ 44.35	\$ 66.53	Non Prevailing Rate				\$ 33.56	\$ 37.44	Non Prevailing Rate						
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Employee FRINGE BENEFITS:	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of hours for 2nd shift Evaluation	# of hours for 3rd shift Evaluation	Employee Rates Incl. Direct Labor + Fringe Benefits						Adders				Employee Fully Burdened Labor Cost							
Employee Benefits Paid by the Contractor						Straight Time Rate / Hr.	Overtime Rate / Hr.	2nd Shift Rate / Hr.	2nd OT Rate / Hr.	3rd Shift Rate / Hr.	3rd OT Rate / Hr.	Double Time Rate / Hr.	G&A % Proposer See: Appendix G	Overhead % Proposer See: Appendix G	Profit % Proposer See: Article 4.e	Other	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate
Systems Contract Manager (Exempt)	1	3.00%	2000			\$ 113.87							14.61%	28.47%	17.00%		\$ 182.28						
Systems Office Engineer (Exempt)	1	3.00%	2000			\$ 62.84							14.61%	28.47%	17.00%		\$ 100.59						
Systems Project Engineer (Exempt)	2	3.00%	2000			\$ 54.43							14.61%	28.47%	17.00%		\$ 87.13						
Systems Signal Engineer/Inspector	1	3.00%	2000	100	100	\$ 104.54	\$ 156.80	\$ 122.62	\$ 183.93	\$ 137.36	\$ 206.04	\$ 209.07	14.61%	28.47%	17.00%		\$ 167.34	\$ 219.61	\$ 185.43	\$ 246.74	\$ 200.16	\$ 268.84	\$ 271.88
Systems Installation Superintendent	1	3.00%	2000	100	100	\$ 90.71	\$ 136.06	\$ 106.40	\$ 159.60	\$ 119.19	\$ 178.79	\$ 181.42	14.61%	28.47%	17.00%		\$ 145.21	\$ 190.56	\$ 160.90	\$ 214.10	\$ 173.69	\$ 233.29	\$ 235.92
Systems Installation Foreman	1	4.85%	2000	100	100	\$ 91.04	\$ 123.65	\$ 102.33	\$ 140.58	\$ 111.52	\$ 154.37	\$ 156.26	14.61%	28.47%	17.00%		\$ 145.74	\$ 178.35	\$ 157.02	\$ 195.28	\$ 166.22	\$ 209.07	\$ 210.96
Systems Installation Signaler	4	4.85%	2000	100	100	\$ 84.48	\$ 113.81	\$ 94.63	\$ 129.03	\$ 102.90	\$ 141.43	\$ 143.14	14.61%	28.47%	17.00%		\$ 135.23	\$ 164.56	\$ 145.38	\$ 179.78	\$ 153.65	\$ 192.19	\$ 193.89
Systems Installation Assistant Signaler #4	1	4.85%	500	100	100	\$ 77.91	\$ 103.96	\$ 86.93	\$ 117.48	\$ 94.27	\$ 128.50	\$ 130.01	14.61%	28.47%	17.00%		\$ 124.72	\$ 150.77	\$ 133.74	\$ 164.29	\$ 141.08	\$ 175.31	\$ 176.82
Systems Installation Assistant Signaler #3	1	4.85%	500	100	100	\$ 68.16	\$ 90.30	\$ 75.82	\$ 101.79	\$ 82.06	\$ 111.16	\$ 112.44	14.61%	28.47%	17.00%		\$ 109.11	\$ 131.25	\$ 116.77	\$ 142.74	\$ 123.01	\$ 152.11	\$ 153.39
Systems Installation Assistant Signaler #2	1	4.85%	500	100	100	\$ 55.09	\$ 72.02	\$ 60.94	\$ 80.80	\$ 65.72	\$ 87.97	\$ 88.95	14.61%	28.47%	17.00%		\$ 88.18	\$ 105.11	\$ 94.04	\$ 113.90	\$ 98.82	\$ 121.06	\$ 122.04
Systems Installation Assistant Signaler #1	1	4.85%	500	100	100	\$ 35.04	\$ 46.76	\$ 39.10	\$ 52.85	\$ 42.40	\$ 57.80	\$ 58.48	14.61%	28.47%	17.00%		\$ 56.10	\$ 67.82	\$ 60.15	\$ 73.90	\$ 63.46	\$ 78.86	\$ 79.54
Systems Installation Support Maintainer	1	4.85%	2000	100	100	\$ 84.48	\$ 113.81	\$ 94.63	\$ 129.03	\$ 102.90	\$ 141.43	\$ 143.14	14.61%	28.47%	17.00%		\$ 135.23	\$ 164.56	\$ 145.38	\$ 179.78	\$ 153.65	\$ 192.19	\$ 193.89
System Communications Engineer	1	4.85%	833	40	40	\$ 84.48	\$ 113.81	\$ 94.63	\$ 129.03	\$ 102.90	\$ 141.43	\$ 143.14	14.61%	28.47%	17.00%		\$ 135.23	\$ 164.56	\$ 145.38	\$ 179.78	\$ 153.65	\$ 192.19	\$ 193.89
Systems Communications Installation Technician	1	4.85%	833	40	40	\$ 77.91	\$ 103.96	\$ 86.93	\$ 117.48	\$ 94.27	\$ 128.50	\$ 130.01	14.61%	28.47%	17.00%		\$ 124.72	\$ 150.77	\$ 133.74	\$ 164.29	\$ 141.08	\$ 175.31	\$ 176.82
Fiber Optic Technician		4.85%				\$ 84.48	\$ 113.81	\$ 94.63	\$ 129.03	\$ 102.90	\$ 141.43	\$ 143.14	14.61%	28.47%	17.00%		\$ 135.23	\$ 164.56	\$ 145.38	\$ 179.78	\$ 153.65	\$ 192.19	\$ 193.89
Systems Back Office Lead Technician (BOLT)	1	4.85%	240	Non Prevailing Rate			\$ 84.48	\$ 113.81	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 135.23	\$ 164.56	Non Prevailing Rate				
Systems Back Office Technician (BOT)	1	4.85%	240	Non Prevailing Rate			\$ 77.91	\$ 103.96	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 124.72	\$ 150.77	Non Prevailing Rate				
Systems On Board Installation Lead Technician (OBILT)	1	4.85%	240	Non Prevailing Rate			\$ 84.48	\$ 113.81	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 135.23	\$ 164.56	Non Prevailing Rate				
Systems On Board Installation Technician (OBIT)	1	4.85%	240	Non Prevailing Rate			\$ 77.91	\$ 103.96	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 124.72	\$ 150.77	Non Prevailing Rate				
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EAR 3-July 1, 2018 thru June 30, 2019

DIRECT LABOR Job Title: Position	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of Hours for 2nd Shift Evaluation	# of Hours for 3rd Shift Evaluation	Prior Year Labor Rates						Current Year Direct Labor Rates						Employee Fringe Benefits								
						Straight Time Rate / Hr.	Overtime Rate / Hr.	2nd Shift Rate / Hr.	2nd OT Rate / Hr.	3rd Shift Rate / Hr.	3rd OT Rate / Hr.	Double Time Rate / Hr.	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate
Systems Contract Manager (Exempt)	1		2000			\$ 73.35							\$ 75.55						\$ 41.22							
Systems Office Engineer (Exempt)	1		2000			\$ 44.88							\$ 46.23						\$ 18.93							
Systems Project Engineer (Exempt)	2		2000			\$ 38.88							\$ 40.04						\$ 16.40							
Systems Signal Engineer/Inspector	1		2000	100	100	\$ 69.54	\$ 104.31	\$ 81.57	\$ 122.36	\$ 91.38	\$ 137.07	\$ 139.08	\$ 71.63	\$ 107.44	\$ 84.02	\$ 126.03	\$ 94.12	\$ 141.18	\$ 143.26	\$ 36.90	\$ 55.34	\$ 43.28	\$ 64.92	\$ 48.48	\$ 72.72	\$ 73.79
Systems Installation Superintendent	1		2000	100	100	\$ 60.34	\$ 90.52	\$ 70.78	\$ 106.18	\$ 79.29	\$ 118.94	\$ 120.69	\$ 62.15	\$ 93.23	\$ 72.91	\$ 109.36	\$ 81.67	\$ 122.51	\$ 124.31	\$ 32.02	\$ 48.02	\$ 37.55	\$ 56.33	\$ 42.07	\$ 63.10	\$ 64.03
Systems Installation Foreman	1		2000	100	100	\$ 55.53	\$ 83.29	\$ 65.13	\$ 97.70	\$ 72.96	\$ 109.44	\$ 111.05	\$ 58.03	\$ 87.05	\$ 68.07	\$ 102.10	\$ 76.25	\$ 114.38	\$ 116.06	\$ 36.20	\$ 41.38	\$ 37.99	\$ 44.08	\$ 39.45	\$ 46.27	\$ 46.57
Systems Installation Signaler	4		2000	100	100	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 35.15	\$ 39.82	\$ 36.77	\$ 42.24	\$ 38.08	\$ 44.21	\$ 44.48
Systems Installation Assistant Signaler #4	1		500	100	100	\$ 44.35	\$ 66.53	\$ 52.02	\$ 78.03	\$ 58.28	\$ 87.41	\$ 88.70	\$ 46.35	\$ 69.53	\$ 54.37	\$ 81.55	\$ 60.90	\$ 91.36	\$ 92.70	\$ 34.11	\$ 38.25	\$ 35.54	\$ 40.40	\$ 36.71	\$ 42.15	\$ 42.40
Systems Installation Assistant Signaler #3	1		500	100	100	\$ 37.70	\$ 56.55	\$ 44.22	\$ 66.33	\$ 49.53	\$ 74.30	\$ 75.40	\$ 39.40	\$ 59.10	\$ 46.21	\$ 69.32	\$ 51.77	\$ 77.65	\$ 78.80	\$ 30.92	\$ 34.45	\$ 32.14	\$ 36.27	\$ 33.14	\$ 37.76	\$ 37.97
Systems Installation Assistant Signaler #2	1		500	100	100	\$ 28.83	\$ 43.24	\$ 33.81	\$ 50.72	\$ 37.88	\$ 56.82	\$ 57.66	\$ 30.13	\$ 45.19	\$ 35.34	\$ 53.01	\$ 39.59	\$ 59.38	\$ 60.26	\$ 26.61	\$ 29.31	\$ 27.54	\$ 30.70	\$ 28.30	\$ 31.84	\$ 32.00
Systems Installation Assistant Signaler #1	1		500	100	100	\$ 19.96	\$ 29.94	\$ 23.41	\$ 35.12	\$ 26.22	\$ 39.34	\$ 39.92	\$ 20.86	\$ 31.29	\$ 24.47	\$ 36.70	\$ 27.41	\$ 41.11	\$ 41.72	\$ 15.33	\$ 17.19	\$ 15.97	\$ 18.16	\$ 16.50	\$ 18.95	\$ 19.06
Systems Installation Support Maintainer	1		2000	100	100	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 35.15	\$ 39.82	\$ 36.77	\$ 42.24	\$ 38.08	\$ 44.21	\$ 44.48
System Communications Engineer	1		833	40	40	\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 35.15	\$ 39.82	\$ 36.77	\$ 42.24	\$ 38.08	\$ 44.21	\$ 44.48
Systems Communications Installation Technician	1		833	40	40	\$ 44.35	\$ 66.53	\$ 52.02	\$ 78.03	\$ 58.28	\$ 87.41	\$ 88.70	\$ 46.35	\$ 69.53	\$ 54.37	\$ 81.55	\$ 60.90	\$ 91.36	\$ 92.70	\$ 34.11	\$ 38.25	\$ 35.54	\$ 40.40	\$ 36.71	\$ 42.15	\$ 42.40
Fiber Optic Technician						\$ 49.94	\$ 74.91	\$ 58.58	\$ 87.87	\$ 65.62	\$ 98.43	\$ 99.88	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 35.15	\$ 39.82	\$ 36.77	\$ 42.24	\$ 38.08	\$ 44.21	\$ 44.48
Systems Back Office Lead Technician (BOLT)	1		240	Non Prevailing Rate			\$ 49.94	\$ 74.91	Non Prevailing Rate				\$ 52.19	\$ 78.29	Non Prevailing Rate				\$ 35.15	\$ 39.82	Non Prevailing Rate					
Systems Back Office Technician (BOT)	1		240	Non Prevailing Rate			\$ 44.35	\$ 66.53	Non Prevailing Rate				\$ 46.35	\$ 69.53	Non Prevailing Rate				\$ 34.11	\$ 38.25	Non Prevailing Rate					
Systems On Board Installation Lead Technician (OBILT)	1		240	Non Prevailing Rate			\$ 49.94	\$ 74.91	Non Prevailing Rate				\$ 52.19	\$ 78.29	Non Prevailing Rate				\$ 35.15	\$ 39.82	Non Prevailing Rate					
Systems On Board Installation Technician (OBIT)	1		240	Non Prevailing Rate			\$ 44.35	\$ 66.53	Non Prevailing Rate				\$ 46.35	\$ 69.53	Non Prevailing Rate				\$ 34.11	\$ 38.25	Non Prevailing Rate					
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Cost Proposal Submitted by: Mass. Electric Construction Co.

Appendix E

Systems Installation Assistant Signaler #2	1	4.51%	500	100	100	\$ 56.74	\$ 74.50	\$ 62.88	\$ 83.71	\$ 67.89	\$ 91.22	\$ 92.25	14.61%	28.47%	17.00%		\$ 90.83	\$ 108.59	\$ 96.97	\$ 117.80	\$ 101.98	\$ 125.31	\$ 126.34
Systems Installation Assistant Signaler #1	1	4.51%	500	100	100	\$ 36.19	\$ 48.48	\$ 40.44	\$ 54.86	\$ 43.91	\$ 60.06	\$ 60.77	14.61%	28.47%	17.00%		\$ 57.93	\$ 70.22	\$ 62.18	\$ 76.60	\$ 65.65	\$ 81.80	\$ 82.51
Systems Installation Support Maintainer	1	4.51%	2000	100	100	\$ 87.34	\$ 118.10	\$ 97.99	\$ 134.07	\$ 106.66	\$ 147.08	\$ 148.86	14.61%	28.47%	17.00%		\$ 139.82	\$ 170.58	\$ 150.46	\$ 186.54	\$ 159.13	\$ 199.55	\$ 201.34
						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -											
System Communications Engineer	1	4.51%	833	40	40	\$ 87.34	\$ 118.10	\$ 97.99	\$ 134.07	\$ 106.66	\$ 147.08	\$ 148.86	14.61%	28.47%	17.00%		\$ 139.82	\$ 170.58	\$ 150.46	\$ 186.54	\$ 159.13	\$ 199.55	\$ 201.34
Systems Communications Installation Technician	1	4.51%	833	40	40	\$ 80.46	\$ 107.78	\$ 89.91	\$ 121.95	\$ 97.61	\$ 133.51	\$ 135.10	14.61%	28.47%	17.00%		\$ 128.80	\$ 156.12	\$ 138.25	\$ 170.29	\$ 145.95	\$ 181.85	\$ 183.43
Fiber Optic Technician		4.51%		12	12	\$ 87.34	\$ 118.10	\$ 97.99	\$ 134.07	\$ 106.66	\$ 147.08	\$ 148.86	14.61%	28.47%	17.00%		\$ 139.82	\$ 170.58	\$ 150.46	\$ 186.54	\$ 159.13	\$ 199.55	\$ 201.34
Systems Back Office Lead Technician (BOLT)	1	4.51%	240	Non Prevailing Rate		\$ 87.34	\$ 118.10	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 139.82	\$ 170.58	Non Prevailing Rate					
Systems Back Office Technician (BOT)	1	4.51%	240	Non Prevailing Rate		\$ 80.46	\$ 107.78	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 128.80	\$ 156.12	Non Prevailing Rate					
Systems On Board Installation Lead Technician (OBILT)	1	4.51%	240	Non Prevailing Rate		\$ 87.34	\$ 118.10	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 139.82	\$ 170.58	Non Prevailing Rate					
Systems On Board Installation Technician (OBIT)	1	4.51%	240	Non Prevailing Rate		\$ 80.46	\$ 107.78	Non Prevailing Rate				14.61%	28.47%	17.00%		\$ 128.80	\$ 156.12	Non Prevailing Rate					
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4 Option-July 1, 2019 thru June 30, 2020

DIRECT LABOR Job Title: Position	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of Hours for 2nd Shift Evaluation	# of Hours for 3rd Shift Evaluation	Prior Year Labor Rates							Current Year Direct Labor Rates							Employee Fringe Benefits						
						Straight Time Rate / Hr.	Overtime Rate / Hr.	2nd Shift Rate / Hr.	2nd OT Rate / Hr.	3rd Shift Rate / Hr.	3rd OT Rate / Hr.	Double Time Rate / Hr.	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate
Systems Contract Manager (Exempt)	1		2000			\$ 75.55							\$ 77.82	Modified as this was not greyed out in bid form						\$ 41.96						
Systems Office Engineer (Exempt)	1		2000			\$ 46.23							\$ 47.62	Modified as this was not greyed out in bid form						\$ 19.97						
Systems Project Engineer (Exempt)	2		2000			\$ 40.04							\$ 41.24	Modified as this was not greyed out in bid form						\$ 17.29						
Systems Signal Engineer/Inspector	1		2000	100	100	\$ 71.63	\$ 107.44	\$ 84.02	\$ 126.03	\$ 94.12	\$ 141.18	\$ 143.26	\$ 73.78	\$ 110.67	\$ 86.54	\$ 129.81	\$ 96.94	\$ 145.41	\$ 147.55	\$ 38.92	\$ 58.38	\$ 45.65	\$ 68.48	\$ 51.14	\$ 76.71	\$ 77.83
Systems Installation Superintendent	1		2000	100	100	\$ 62.15	\$ 93.23	\$ 72.91	\$ 109.36	\$ 81.67	\$ 122.51	\$ 124.31	\$ 64.02	\$ 96.03	\$ 75.09	\$ 112.64	\$ 84.12	\$ 126.18	\$ 128.04	\$ 33.77	\$ 50.65	\$ 39.61	\$ 59.42	\$ 44.37	\$ 66.56	\$ 67.54
Systems Installation Foreman	1		2000	100	100	\$ 58.03	\$ 87.05	\$ 68.07	\$ 102.10	\$ 76.25	\$ 114.38	\$ 116.06	\$ 61.47	\$ 92.21	\$ 72.11	\$ 108.16	\$ 80.78	\$ 121.16	\$ 122.95	\$ 37.08	\$ 42.71	\$ 39.02	\$ 45.63	\$ 40.61	\$ 48.01	\$ 48.33
Systems Installation Signaler	4		2000	100	100	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 55.29	\$ 82.93	\$ 64.85	\$ 97.28	\$ 72.65	\$ 108.97	\$ 110.57	\$ 35.94	\$ 41.01	\$ 37.70	\$ 43.63	\$ 39.12	\$ 45.77	\$ 46.07
Systems Installation Assistant Signaler #4	1		500	100	100	\$ 46.35	\$ 69.53	\$ 54.37	\$ 81.55	\$ 60.90	\$ 91.36	\$ 92.70	\$ 49.10	\$ 73.65	\$ 57.59	\$ 86.39	\$ 64.52	\$ 96.78	\$ 98.20	\$ 34.81	\$ 39.31	\$ 36.37	\$ 41.64	\$ 37.63	\$ 43.54	\$ 43.80
Systems Installation Assistant Signaler #3	1		500	100	100	\$ 39.40	\$ 59.10	\$ 46.21	\$ 69.32	\$ 51.77	\$ 77.65	\$ 78.80	\$ 41.74	\$ 62.60	\$ 48.96	\$ 73.43	\$ 54.84	\$ 82.26	\$ 83.47	\$ 31.52	\$ 35.34	\$ 32.84	\$ 37.33	\$ 33.92	\$ 38.94	\$ 39.16
Systems Installation Assistant Signaler #2	1		500	100	100	\$ 30.13	\$ 45.19	\$ 35.34	\$ 53.01	\$ 39.59	\$ 59.38	\$ 60.26	\$ 31.92	\$ 47.87	\$ 37.44	\$ 56.15	\$ 41.94	\$ 62.90	\$ 63.83	\$ 27.07	\$ 29.99	\$ 28.08	\$ 31.51	\$ 28.90	\$ 32.74	\$ 32.91
Systems Installation Assistant Signaler #1	1		500	100	100	\$ 20.86	\$ 31.29	\$ 24.47	\$ 36.70	\$ 27.41	\$ 41.11	\$ 41.72	\$ 22.10	\$ 33.14	\$ 25.92	\$ 38.88	\$ 29.03	\$ 43.55	\$ 44.19	\$ 15.65	\$ 17.67	\$ 16.35	\$ 18.72	\$ 16.92	\$ 19.57	\$ 19.69
Systems Installation Support Maintainer	1		2000	100	100	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 55.29	\$ 82.93	\$ 64.85	\$ 97.28	\$ 72.65	\$ 108.97	\$ 110.57	\$ 35.94	\$ 41.01	\$ 37.70	\$ 43.63	\$ 39.12	\$ 45.77	\$ 46.07
System Communications Engineer	1		833	40	40	\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 55.29	\$ 82.93	\$ 64.85	\$ 97.28	\$ 72.65	\$ 108.97	\$ 110.57	\$ 35.94	\$ 41.01	\$ 37.70	\$ 43.63	\$ 39.12	\$ 45.77	\$ 46.07
Systems Communications Installation Technician	1		833	40	40	\$ 46.35	\$ 69.53	\$ 54.37	\$ 81.55	\$ 60.90	\$ 91.36	\$ 92.70	\$ 49.10	\$ 73.65	\$ 57.59	\$ 86.39	\$ 64.52	\$ 96.78	\$ 98.20	\$ 34.81	\$ 39.31	\$ 36.37	\$ 41.64	\$ 37.63	\$ 43.54	\$ 43.80
Fiber Optic Technician						\$ 52.19	\$ 78.29	\$ 61.22	\$ 91.83	\$ 68.58	\$ 102.87	\$ 104.38	\$ 55.29	\$ 82.93	\$ 64.85	\$ 97.28	\$ 72.65	\$ 108.97	\$ 110.57	\$ 35.94	\$ 41.01	\$ 37.70	\$ 43.63	\$ 39.12	\$ 45.77	\$ 46.07
Systems Back Office Lead Technician (BOLT)	1		240	Non Prevailing Rate		\$ 52.19	\$ 78.29	Non Prevailing Rate					\$ 55.29	\$ 82.93	Non Prevailing Rate					\$ 35.94	\$ 41.01	Non Prevailing Rate				
Systems Back Office Technician (BOT)	1		240	Non Prevailing Rate		\$ 46.35	\$ 69.53	Non Prevailing Rate					\$ 49.10	\$ 73.65	Non Prevailing Rate					\$ 34.81	\$ 39.31	Non Prevailing Rate				
Systems On Board Installation Lead Technician (OBILT)	1		240	Non Prevailing Rate		\$ 52.19	\$ 78.29	Non Prevailing Rate					\$ 55.29	\$ 82.93	Non Prevailing Rate					\$ 35.94	\$ 41.01	Non Prevailing Rate				
Systems On Board Installation Technician (OBIT)	1		240	Non Prevailing Rate		\$ 46.35	\$ 69.53	Non Prevailing Rate					\$ 49.10	\$ 73.65	Non Prevailing Rate					\$ 34.81	\$ 39.31	Non Prevailing Rate				
	22																									

Employee FRINGE BENEFITS:	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of Hours for 2nd Shift Evaluation	# of Hours for 3rd Shift Evaluation	Employee Rates Incl. Direct Labor + Fringe Benefits						Adders				Employee Fully Burdened Labor Cost							
Employee Benefits Paid by the Contractor						Straight Time Rate / Hr.	Overtime Rate / Hr.	2nd Shift Rate / Hr.	2nd OT Rate / Hr.	3rd Shift Rate / Hr.	3rd OT Rate / Hr.	Double Time Rate / Hr.	G&A % Proposer See: Appendix G	Overhead % Proposer See: Appendix G	Profit % Proposer See: Article 4.e	Other	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate
Systems Contract Manager (Exempt)	1	3.00%	2000			\$ 119.78							14.61%	28.47%	17.00%		\$ 191.74						
Systems Office Engineer (Exempt)	1	3.00%	2000			\$ 67.58							14.61%	28.47%	17.00%		\$ 108.19						
Systems Project Engineer (Exempt)	2	3.00%	2000			\$ 58.54							14.61%	28.47%	17.00%		\$ 93.71						
						\$ -																	
Systems Signal Engineer/Inspector	1	3.00%	2000	100	100	\$ 112.69	\$ 169.04	\$ 132.19	\$ 198.29	\$ 148.08	\$ 222.12	\$ 225.39	14.61%	28.47%	17.00%		\$ 180.40	\$ 236.75	\$ 199.90	\$ 265.99	\$ 215.79	\$ 289.83	\$ 293.10
Systems Installation Superintendent	1	3.00%	2000	100	100	\$ 97.79	\$ 146.68	\$ 114.71	\$ 172.06	\$ 128.49	\$ 192.74	\$ 195.58	14.61%	28.47%	17.00%		\$ 156.54	\$ 205.43	\$ 173.46	\$ 230.81	\$ 187.25	\$ 251.49	\$ 254.33
Systems Installation Foreman	1	5.93%	2000	100	100	\$ 98.55	\$ 134.91	\$ 111.13	\$ 153.79	\$ 121.39	\$ 169.17	\$ 171.28	14.61%	28.47%	17.00%		\$ 157.76	\$ 194.12	\$ 170.34	\$ 213.00	\$ 180.60	\$ 228.38	\$ 230.49
Systems Installation Signaler	4	5.93%	2000	100	100	\$ 91.23	\$ 123.94	\$ 102.55	\$ 140.91	\$ 111.77	\$ 154.74	\$ 156.64	14.61%	28.47%	17.00%		\$ 146.04	\$ 178.75	\$ 157.36	\$ 195.72	\$ 166.58	\$ 209.56	\$ 211.45
Systems Installation Assistant Signaler #4	1	5.93%	500	100	100	\$ 83.91	\$ 112.96	\$ 93.96	\$ 128.03	\$ 102.15	\$ 140.32	\$ 142.00	14.61%	28.47%	17.00%		\$ 134.32	\$ 163.37	\$ 144.37	\$ 178.44	\$ 152.57	\$ 190.73	\$ 192.42
Systems Installation Assistant Signaler #3	1	5.93%	500	100	100	\$ 73.26	\$ 97.95	\$ 81.80	\$ 110.76	\$ 88.76	\$ 121.20	\$ 122.63	14.61%	28.47%	17.00%		\$ 117.27	\$ 141.96	\$ 125.81	\$ 154.77	\$ 132.77	\$ 165.22	\$ 166.65
Systems Installation Assistant Signaler #2	1	5.93%	500	100	100	\$ 58.98	\$ 77.86	\$ 65.52	\$ 87.66	\$ 70.84	\$ 95.65	\$ 96.74	14.61%	28.47%	17.00%		\$ 94.42	\$ 113.30	\$ 100.96	\$ 123.10	\$ 106.28	\$ 131.09	\$ 132.18
Systems Installation Assistant Signaler #1	1	5.93%	500	100	100	\$ 37.74	\$ 50.81	\$ 42.26	\$ 57.60	\$ 45.95	\$ 63.12	\$ 63.88	14.61%	28.47%	17.00%		\$ 60.42	\$ 73.49	\$ 64.94	\$ 80.27	\$ 68.62	\$ 85.80	\$ 86.56
Systems Installation Support Maintainer	1	5.93%	2000	100	100	\$ 91.23	\$ 123.94	\$ 102.55	\$ 140.91	\$ 111.77	\$ 154.74	\$ 156.64	14.61%	28.47%	17.00%		\$ 146.04	\$ 178.75	\$ 157.36	\$ 195.72	\$ 166.58	\$ 209.56	\$ 211.45
						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -											
System Communications Engineer	1	5.93%	833	40	40	\$ 91.23	\$ 123.94	\$ 102.55	\$ 140.91	\$ 111.77	\$ 154.74	\$ 156.64	14.61%	28.47%	17.00%		\$ 146.04	\$ 178.75	\$ 157.36	\$ 195.72	\$ 166.58	\$ 209.56	\$ 211.45
Systems Communications Installation Technician	1	5.93%	833	40	40	\$ 83.91	\$ 112.96	\$ 93.96	\$ 128.03	\$ 102.15	\$ 140.32	\$ 142.00	14.61%	28.47%	17.00%		\$ 134.32	\$ 163.37	\$ 144.37	\$ 178.44	\$ 152.57	\$ 190.73	\$ 192.42
Fiber Optic Technician		5.93%				\$ 91.23	\$ 123.94	\$ 102.55	\$ 140.91	\$ 111.77	\$ 154.74	\$ 156.64	14.61%	28.47%	17.00%		\$ 146.04	\$ 178.75	\$ 157.36	\$ 195.72	\$ 166.58	\$ 209.56	\$ 211.45
Systems Back Office Lead Technician (BOLT)	1	5.93%	240		Non Prevailing Rate	\$ 91.23	\$ 123.94						14.61%	28.47%	17.00%		\$ 146.04	\$ 178.75			Non Prevailing Rate		
Systems Back Office Technician (BOT)	1	5.93%	240		Non Prevailing Rate	\$ 83.91	\$ 112.96						14.61%	28.47%	17.00%		\$ 134.32	\$ 163.37			Non Prevailing Rate		
Systems On Board Installation Lead Technician (OBILT)	1	5.93%	240		Non Prevailing Rate	\$ 91.23	\$ 123.94						14.61%	28.47%	17.00%		\$ 146.04	\$ 178.75			Non Prevailing Rate		
Systems On Board Installation Technician (OBIT)	1	5.93%	240		Non Prevailing Rate	\$ 83.91	\$ 112.96						14.61%	28.47%	17.00%		\$ 134.32	\$ 163.37			Non Prevailing Rate		
	22																						

Cost Proposal Submitted by: Mass. Electric Construction Co.

Appendix E

[illegible]

Employee FRINGE BENEFITS:	# of positions for Evaluation	Annual Inflation %	# of Hours for Evaluation	# of hours for G&A Evaluation	# of hours for Overhead Evaluation	Employee Rates Incl. Direct Labor + Fringe Benefits							Adders				Employee Fully Burdened Labor Cost						
Employee Benefits Paid by the Contractor						Straight Time Rate / Hr.	Overtime Rate / Hr.	2nd Shift Rate / Hr.	2nd OT Rate / Hr.	3rd Shift Rate / Hr.	3rd OT Rate / Hr.	Double Time Rate / Hr.	G&A % Proposer See: Appendix G	Overhead % Proposer See: Appendix G	Profit % Proposer See: Article 4.e	Other	Straight Time Rate	Overtime Rate	2nd Shift Rate	2nd OT Rate	3rd Shift Rate	3rd OT Rate	Double Time Rate
Systems Contract Manager (Exempt)	1	3.00%	2000			\$ 122.89							14.61%	28.47%	17.00%		\$ 196.72						
Systems Office Engineer (Exempt)	1	3.00%	2000			\$ 70.11							14.61%	28.47%	17.00%		\$ 112.23						
Systems Project Engineer (Exempt)	2	3.00%	2000			\$ 60.73							14.61%	28.47%	17.00%		\$ 97.21						
						\$ -																	
Systems Signal Engineer/Inspector	1	3.00%	2000	100	100	\$ 117.05	\$ 175.57	\$ 137.30	\$ 205.95	\$ 153.80	\$ 230.70	\$ 234.10	14.61%	28.47%	17.00%		\$ 187.37	\$ 245.89	\$ 207.62	\$ 276.27	\$ 224.12	\$ 301.02	\$ 304.42
Systems Installation Superintendent	1	3.00%	2000	100	100	\$ 101.57	\$ 152.35	\$ 119.14	\$ 178.71	\$ 133.46	\$ 200.19	\$ 203.13	14.61%	28.47%	17.00%		\$ 162.59	\$ 213.37	\$ 180.16	\$ 239.73	\$ 194.48	\$ 261.21	\$ 264.15
Systems Installation Foreman	1	6.11%	2000	100	100	\$ 103.28	\$ 142.02	\$ 116.68	\$ 162.12	\$ 127.61	\$ 178.50	\$ 180.75	14.61%	28.47%	17.00%		\$ 165.34	\$ 204.07	\$ 178.74	\$ 224.17	\$ 189.66	\$ 240.55	\$ 242.80
Systems Installation Signaler	4	6.11%	2000	100	100	\$ 95.49	\$ 130.32	\$ 107.54	\$ 148.40	\$ 117.36	\$ 163.14	\$ 165.16	14.61%	28.47%	17.00%		\$ 152.86	\$ 187.69	\$ 164.91	\$ 205.77	\$ 174.73	\$ 220.50	\$ 222.52
Systems Installation Assistant Signaler #4	1	6.11%	500	100	100	\$ 87.69	\$ 118.63	\$ 98.40	\$ 134.68	\$ 107.12	\$ 147.77	\$ 149.56	14.61%	28.47%	17.00%		\$ 140.38	\$ 171.31	\$ 151.08	\$ 187.37	\$ 159.80	\$ 200.45	\$ 202.25
Systems Installation Assistant Signaler #3	1	6.11%	500	100	100	\$ 76.47	\$ 102.77	\$ 85.57	\$ 116.41	\$ 92.98	\$ 127.54	\$ 129.06	14.61%	28.47%	17.00%		\$ 122.41	\$ 148.71	\$ 131.51	\$ 162.36	\$ 138.93	\$ 173.48	\$ 175.01
Systems Installation Assistant Signaler #2	1	6.11%	500	100	100	\$ 61.44	\$ 81.55	\$ 68.40	\$ 91.99	\$ 74.07	\$ 100.49	\$ 101.66	14.61%	28.47%	17.00%		\$ 98.36	\$ 124.77	\$ 105.31	\$ 128.90	\$ 110.98	\$ 137.41	\$ 138.57
Systems Installation Assistant Signaler #1	1	6.11%	500	100	100	\$ 39.44	\$ 53.36	\$ 44.26	\$ 60.59	\$ 48.18	\$ 66.48	\$ 67.28	14.61%	28.47%	17.00%		\$ 63.14	\$ 77.06	\$ 67.96	\$ 84.29	\$ 71.88	\$ 90.17	\$ 90.98
Systems Installation Support Maintainer	1	6.11%	2000	100	100	\$ 95.49	\$ 130.32	\$ 107.54	\$ 148.40	\$ 117.36	\$ 163.14	\$ 165.16	14.61%	28.47%	17.00%		\$ 152.86	\$ 187.69	\$ 164.91	\$ 205.77	\$ 174.73	\$ 220.50	\$ 222.52
						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -											
System Communications Engineer	1	6.11%	833	40	40	\$ 95.49	\$ 130.32	\$ 107.54	\$ 148.40	\$ 117.36	\$ 163.14	\$ 165.16	14.61%	28.47%	17.00%		\$ 152.86	\$ 187.69	\$ 164.91	\$ 205.77	\$ 174.73	\$ 220.50	\$ 222.52
Systems Communications Installation Technician	1	6.11%	833	40	40	\$ 87.69	\$ 118.63	\$ 98.40	\$ 134.68	\$ 107.12	\$ 147.77	\$ 149.56	14.61%	28.47%	17.00%		\$ 140.38	\$ 171.31	\$ 151.08	\$ 187.37	\$ 159.80	\$ 200.45	\$ 202.25
Fiber Optic Technician		6.11%				\$ 95.49	\$ 130.32	\$ 107.54	\$ 148.40	\$ 117.36	\$ 163.14	\$ 165.16	14.61%	28.47%	17.00%		\$ 152.86	\$ 187.69	\$ 164.91	\$ 205.77	\$ 174.73	\$ 220.50	\$ 222.52
Systems Back Office Lead Technician (BOLT)	1	6.11%	240	Non Prevailing Rate		\$ 95.49	\$ 130.32	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 152.86	\$ 187.69	Non Prevailing Rate				
Systems Back Office Technician (BOT)	1	6.11%	240	Non Prevailing Rate		\$ 87.69	\$ 118.63	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 140.38	\$ 171.31	Non Prevailing Rate				
Systems On Board Installation Lead Technician (OBILT)	1	6.11%	240	Non Prevailing Rate		\$ 95.49	\$ 130.32	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 152.86	\$ 187.69	Non Prevailing Rate				
Systems On Board Installation Technician (OBIT)	1	6.11%	240	Non Prevailing Rate		\$ 87.69	\$ 118.63	Non Prevailing Rate					14.61%	28.47%	17.00%		\$ 140.38	\$ 171.31	Non Prevailing Rate				
	22																						

YEAR 1-July 1, 2016 thru June 30, 2017

Equipment Line Number	Equipment Description	Wet Rate Pricing											
		Number of Hours	Hourly Rate	Hourly Rate Total	Number of Days	Daily Rate	Daily Rate Total	Number of Weeks	Weekly Rate	Weekly Rate Total	Number of Months	Monthly Rate	Monthly Rate Total
1	Pick-up Truck 1/2 Ton Rating		\$14.12	\$ -		\$112.95	\$ -		\$564.77	\$ -	1	\$2,259.07	\$ 2,259.07
2	Pick-up Truck 3/4 Ton Rating		\$16.07	\$ -		\$128.59	\$ -	2	\$642.97	\$ 1,285.94		\$2,571.87	\$ -
3	Pick-up Truck 3/4 Ton Rating with Utility Body		\$19.34	\$ -		\$154.73	\$ -		\$773.67	\$ -	1	\$3,094.69	\$ 3,094.69
4	Flat Bed Truck 1 Ton Rating		\$31.12	\$ -		\$248.96	\$ -		\$1,244.82	\$ -	1	\$4,979.26	\$ 4,979.26
5	Stake Bed Truck 2 1/2 Ton Rating		\$36.14	\$ -	4	\$289.08	\$ 1,156.33		\$1,445.41	\$ -		\$5,781.63	\$ -
6	Boom Truck 14 Ton rating		\$81.67	\$ -		\$653.34	\$ -		\$3,266.72	\$ -	1	\$13,066.88	\$ 13,066.88
7	Hy-Rail Boom Truck 14 ton Rating	6	\$81.67	\$ 490.01		\$653.34	\$ -		\$3,266.72	\$ -		\$13,066.88	\$ -
8	Backhoe		\$50.91	\$ -		\$407.24	\$ -		\$2,036.21	\$ -	1	\$8,144.83	\$ 8,144.83
9	Bucket Truck		\$62.22	\$ -	2	\$497.73	\$ 995.46		\$2,488.66	\$ -		\$9,954.62	\$ -
10	Air Compressor	3	\$19.54	\$ 58.61		\$156.30	\$ -		\$781.51	\$ -		\$3,126.05	\$ -
11	Pavement Breaker/Tamper/ Digging Fork (Air Powered)	3	\$13.25	\$ 39.75		\$106.01	\$ -		\$530.04	\$ -		\$2,120.18	\$ -
12	Air Boring Machine (Mole/4inch)	3	\$11.89	\$ 35.67		\$95.12	\$ -		\$475.62	\$ -		\$1,902.50	\$ -
13	3.5KW Generator		\$17.28	\$ -		\$138.23	\$ -	1	\$691.15	\$ 691.15		\$2,764.59	\$ -
14	Water Trailer 500 Gallon with pump & hoses		\$10.55	\$ -		\$84.36	\$ -		\$421.80	\$ -	1	\$1,687.20	\$ 1,687.20
15	Trailer Mounted Light Tower		\$12.39	\$ -	2	\$99.15	\$ 198.30		\$495.75	\$ -		\$1,982.99	\$ -
16	Vibratory Rammer (Wacker)		\$5.95	\$ -		\$47.63	\$ -	2	\$238.17	\$ 476.34		\$952.69	\$ -
17	Walk Behind Pavement Saw with 14inch blade	4	\$22.95	\$ 91.82		\$183.63	\$ -		\$918.16	\$ -		\$3,672.64	\$ -
18	Portable Rail Grinder		\$4.33	\$ -	3	\$34.65	\$ 103.95		\$173.25	\$ -		\$693.01	\$ -
19	Portable Arc Welder	4	\$12.23	\$ 48.93		\$97.86	\$ -		\$489.30	\$ -		\$1,957.20	\$ -

YEAR 2-July 1, 2017 thru June 30, 2018

Equipment Line Number	Equipment Description	Wet Rate Pricing											
		Number of Hours	Hourly Rate	Hourly Rate Total	Number of Days	Daily Rate	Daily Rate Total	Number of Weeks	Weekly Rate	Weekly Rate Total	Number of Months	Monthly Rate	Monthly Rate Total
1	Pick-up Truck 1/2 Ton Rating		\$14.54	\$ -		\$116.34	\$ -		\$581.71	\$ -	1	\$2,326.84	\$ 2,326.84
2	Pick-up Truck 3/4 Ton Rating		\$16.56	\$ -		\$132.45	\$ -	2	\$662.26	\$ 1,324.51		\$2,649.03	\$ -
3	Pick-up Truck 3/4 Ton Rating with Utility Body		\$19.92	\$ -		\$159.38	\$ -		\$796.88	\$ -	1	\$3,187.53	\$ 3,187.53
4	Flat Bed Truck 1 Ton Rating		\$32.05	\$ -		\$256.43	\$ -		\$1,282.16	\$ -	1	\$5,128.64	\$ 5,128.64
5	Stake Bed Truck 2 1/2 Ton Rating		\$37.22	\$ -	4	\$297.75	\$ 1,191.02		\$1,488.77	\$ -		\$5,955.08	\$ -
6	Boom Truck 14 Ton rating		\$84.12	\$ -		\$672.94	\$ -		\$3,364.72	\$ -	1	\$13,458.89	\$ 13,458.89
7	Hy-Rail Boom Truck 14 ton Rating	6	\$84.12	\$ 504.71		\$672.94	\$ -		\$3,364.72	\$ -		\$13,458.89	\$ -
8	Backhoe		\$52.43	\$ -		\$419.46	\$ -		\$2,097.29	\$ -	1	\$8,389.18	\$ 8,389.18

MS260-15
Contractor Furnished Equipment

Cost Proposal Submitted by: Mass. Electric Construction Co.

9	Bucket Truck		\$64.08	\$ -	2	\$512.66	\$ 1,025.33		\$2,563.32	\$ -	\$10,253.26	\$ -
10	Air Compressor	3	\$20.12	\$ 60.37		\$160.99	\$ -		\$804.96	\$ -	\$3,219.83	\$ -
11	Pavement Breaker/Tamper/ Digging Fork (Air Powered)	3	\$13.65	\$ 40.95		\$109.19	\$ -		\$545.95	\$ -	\$2,183.78	\$ -
12	Air Boring Machine (Mole/4inch)	3	\$12.25	\$ 36.74		\$97.98	\$ -		\$489.89	\$ -	\$1,959.57	\$ -
13	3.5KW Generator		\$17.80	\$ -		\$142.38	\$ -	1	\$711.88	\$ 711.88	\$2,847.53	\$ -
14	Water Trailer 500 Gallon with pump & hoses		\$10.86	\$ -		\$86.89	\$ -		\$434.45	\$ -	\$1,737.82	\$ 1,737.82
15	Trailer Mounted Light Tower		\$12.77	\$ -	2	\$102.12	\$ 204.25		\$510.62	\$ -	\$2,042.48	\$ -
16	Vibratory Rammer (Wacker)		\$6.13	\$ -		\$49.06	\$ -	2	\$245.32	\$ 490.63	\$981.27	\$ -
17	Walk Behind Pavement Saw with 14inch blade	4	\$23.64	\$ 94.57		\$189.14	\$ -		\$945.70	\$ -	\$3,782.82	\$ -
18	Portable Rail Grinder		\$4.46	\$ -	3	\$35.69	\$ 107.07		\$178.45	\$ -	\$713.80	\$ -
19	Portable Arc Welder	4	\$12.60	\$ 50.40		\$100.80	\$ -		\$503.98	\$ -	\$2,015.92	\$ -

YEAR 3-July 1, 2018 thru June 30, 2019

Equipment Line Number	Equipment Description	Wet Rate Pricing											
		Number of Hours	Hourly Rate	Hourly Rate Total	Number of Days	Daily Rate	Daily Rate Total	Number of Weeks	Weekly Rate	Weekly Rate Total	Number of Months	Monthly Rate	Monthly Rate Total
1	Pick-up Truck 1/2 Ton Rating		\$14.98	\$ -		\$119.83	\$ -		\$599.16	\$ -	1	\$2,396.65	\$ 2,396.65
2	Pick-up Truck 3/4 Ton Rating		\$17.05	\$ -		\$136.42	\$ -	2	\$682.12	\$ 1,364.25		\$2,728.50	\$ -
3	Pick-up Truck 3/4 Ton Rating with Utility Body		\$20.52	\$ -		\$164.16	\$ -		\$820.79	\$ -	1	\$3,283.15	\$ 3,283.15
4	Flat Bed Truck 1 Ton Rating		\$33.02	\$ -		\$264.13	\$ -		\$1,320.63	\$ -	1	\$5,282.50	\$ 5,282.50
5	Stake Bed Truck 2 1/2 Ton Rating		\$38.34	\$ -	4	\$306.69	\$ 1,226.75		\$1,533.43	\$ -		\$6,133.73	\$ -
6	Boom Truck 14 Ton rating		\$86.64	\$ -		\$693.13	\$ -		\$3,465.66	\$ -	1	\$13,862.65	\$ 13,862.65
7	Hy-Rail Boom Truck 14 ton Rating	6	\$86.64	\$ 519.85		\$693.13	\$ -		\$3,465.66	\$ -		\$13,862.65	\$ -
8	Backhoe		\$54.01	\$ -		\$432.04	\$ -		\$2,160.21	\$ -	1	\$8,640.85	\$ 8,640.85
9	Bucket Truck		\$66.01	\$ -	2	\$528.04	\$ 1,056.09		\$2,640.22	\$ -		\$10,560.86	\$ -
10	Air Compressor	3	\$20.73	\$ 62.18		\$165.82	\$ -		\$829.11	\$ -		\$3,316.42	\$ -
11	Pavement Breaker/Tamper/ Digging Fork (Air Powered)	3	\$14.06	\$ 42.17		\$112.46	\$ -		\$562.32	\$ -		\$2,249.29	\$ -
12	Air Boring Machine (Mole/4inch)	3	\$12.61	\$ 37.84		\$100.92	\$ -		\$504.59	\$ -		\$2,018.36	\$ -
13	3.5KW Generator		\$18.33	\$ -		\$146.65	\$ -	1	\$733.24	\$ 733.24		\$2,932.96	\$ -
14	Water Trailer 500 Gallon with pump & hoses		\$11.19	\$ -		\$89.50	\$ -		\$447.49	\$ -	1	\$1,789.95	\$ 1,789.95
15	Trailer Mounted Light Tower		\$13.15	\$ -	2	\$105.19	\$ 210.38		\$525.94	\$ -		\$2,103.76	\$ -
16	Vibratory Rammer (Wacker)		\$6.32	\$ -		\$50.54	\$ -	2	\$252.68	\$ 505.35		\$1,010.71	\$ -
17	Walk Behind Pavement Saw with 14inch blade	4	\$24.35	\$ 97.41		\$194.82	\$ -		\$974.08	\$ -		\$3,896.30	\$ -
18	Portable Rail Grinder		\$4.60	\$ -	3	\$36.76	\$ 110.28		\$183.80	\$ -		\$735.21	\$ -
19	Portable Arc Welder	4	\$12.98	\$ 51.91		\$103.82	\$ -		\$519.10	\$ -		\$2,076.39	\$ -

YEAR 4 Option-July 1, 2019 thru June 30, 2020

Equipment Line Number	Equipment Description	Wet Rate Pricing											
		Number of Hours	Hourly Rate	Hourly Rate Total	Number of Days	Daily Rate	Daily Rate Total	Number of Weeks	Weekly Rate	Weekly Rate Total	Number of Months	Monthly Rate	Monthly Rate Total
1	Pick-up Truck 1/2 Ton Rating		\$15.43	\$ -		\$123.43	\$ -		\$617.14	\$ -	1	\$2,468.55	\$ 2,468.55
2	Pick-up Truck 3/4 Ton Rating		\$17.56	\$ -		\$140.52	\$ -	2	\$702.59	\$ 1,405.18		\$2,810.35	\$ -
3	Pick-up Truck 3/4 Ton Rating with Utility Body		\$21.14	\$ -		\$169.08	\$ -		\$845.41	\$ -	1	\$3,381.65	\$ 3,381.65
4	Flat Bed Truck 1 Ton Rating		\$34.01	\$ -		\$272.05	\$ -		\$1,360.24	\$ -	1	\$5,440.98	\$ 5,440.98
5	Stake Bed Truck 2 1/2 Ton Rating		\$39.49	\$ -	4	\$315.89	\$ 1,263.55		\$1,579.44	\$ -		\$6,317.75	\$ -
6	Boom Truck 14 Ton rating		\$89.24	\$ -		\$713.93	\$ -		\$3,569.63	\$ -	1	\$14,278.53	\$ 14,278.53
7	Hy-Rail Boom Truck 14 ton Rating	6	\$89.24	\$ 535.44		\$713.93	\$ -		\$3,569.63	\$ -		\$14,278.53	\$ -
8	Backhoe		\$55.63	\$ -		\$445.00	\$ -		\$2,225.02	\$ -	1	\$8,900.08	\$ 8,900.08
9	Bucket Truck		\$67.99	\$ -	2	\$543.88	\$ 1,087.77		\$2,719.42	\$ -		\$10,877.69	\$ -
10	Air Compressor	3	\$21.35	\$ 64.05		\$170.80	\$ -		\$853.98	\$ -		\$3,415.92	\$ -
11	Pavement Breaker/Tamper/ Digging Fork (Air Powered)	3	\$14.48	\$ 43.44		\$115.84	\$ -		\$579.19	\$ -		\$2,316.77	\$ -
12	Air Boring Machine (Mole/4inch)	3	\$12.99	\$ 38.98		\$103.95	\$ -		\$519.73	\$ -		\$2,078.91	\$ -
13	3.5KW Generator		\$18.88	\$ -		\$151.05	\$ -	1	\$755.24	\$ 755.24		\$3,020.94	\$ -
14	Water Trailer 500 Gallon with pump & hoses		\$11.52	\$ -		\$92.18	\$ -		\$460.91	\$ -	1	\$1,843.65	\$ 1,843.65
15	Trailer Mounted Light Tower		\$13.54	\$ -	2	\$108.34	\$ 216.69		\$541.72	\$ -		\$2,166.87	\$ -
16	Vibratory Rammer (Wacker)		\$6.51	\$ -		\$52.05	\$ -	2	\$260.26	\$ 520.51		\$1,041.03	\$ -
17	Walk Behind Pavement Saw with 14inch blade	4	\$25.08	\$ 100.33		\$200.66	\$ -		\$1,003.30	\$ -		\$4,013.19	\$ -
18	Portable Rail Grinder		\$4.73	\$ -	3	\$37.86	\$ 113.59		\$189.32	\$ -		\$757.27	\$ -
19	Portable Arc Welder	4	\$13.37	\$ 53.47		\$106.93	\$ -		\$534.67	\$ -		\$2,138.69	\$ -

YEAR 5 Option-July 1, 2020 thru June 30, 2021

Equipment Line Number	Equipment Description	Wet Rate Pricing											
		Number of Hours	Hourly Rate	Hourly Rate Total	Number of Days	Daily Rate	Daily Rate Total	Number of Weeks	Weekly Rate	Weekly Rate Total	Number of Months	Monthly Rate	Monthly Rate Total
1	Pick-up Truck 1/2 Ton Rating		\$15.89	\$ -		\$127.13	\$ -		\$635.65	\$ -	1	\$2,542.61	\$ 2,542.61
2	Pick-up Truck 3/4 Ton Rating		\$18.09	\$ -		\$144.73	\$ -	2	\$723.67	\$ 1,447.33		\$2,894.66	\$ -
3	Pick-up Truck 3/4 Ton Rating with Utility Body		\$21.77	\$ -		\$174.15	\$ -		\$870.77	\$ -	1	\$3,483.10	\$ 3,483.10
4	Flat Bed Truck 1 Ton Rating		\$35.03	\$ -		\$280.21	\$ -		\$1,401.05	\$ -	1	\$5,604.21	\$ 5,604.21
5	Stake Bed Truck 2 1/2 Ton Rating		\$40.67	\$ -	4	\$325.36	\$ 1,301.46		\$1,626.82	\$ -		\$6,507.28	\$ -
6	Boom Truck 14 Ton rating		\$91.92	\$ -		\$735.34	\$ -		\$3,676.72	\$ -	1	\$14,706.89	\$ 14,706.89
7	Hy-Rail Boom Truck 14 ton Rating	6	\$91.92	\$ 551.51		\$735.34	\$ -		\$3,676.72	\$ -		\$14,706.89	\$ -
8	Backhoe		\$57.29	\$ -		\$458.35	\$ -		\$2,291.77	\$ -	1	\$9,167.08	\$ 9,167.08

MS260-15
Contractor Furnished Equipment

Cost Proposal Submitted by: Mass. Electric Construction Co.

9	Bucket Truck		\$70.03	\$ -	2	\$560.20	\$ 1,120.40		\$2,801.00	\$ -	\$11,204.02	\$ -
10	Air Compressor	3	\$21.99	\$ 65.97		\$175.92	\$ -		\$879.60	\$ -	\$3,518.39	\$ -
11	Pavement Breaker/Tamper/ Digging Fork (Air Powered)	3	\$14.91	\$ 44.74		\$119.31	\$ -		\$596.57	\$ -	\$2,386.28	\$ -
12	Air Boring Machine (Mole/4inch)	3	\$13.38	\$ 40.15		\$107.06	\$ -		\$535.32	\$ -	\$2,141.28	\$ -
13	3.5KW Generator		\$19.45	\$ -		\$155.58	\$ -	1	\$777.89	\$ 777.89	\$3,111.57	\$ -
14	Water Trailer 500 Gallon with pump & hoses		\$11.87	\$ -		\$94.95	\$ -		\$474.74	\$ -	\$1,898.96	\$ 1,898.96
15	Trailer Mounted Light Tower		\$13.95	\$ -	2	\$111.59	\$ 223.19		\$557.97	\$ -	\$2,231.87	\$ -
16	Vibratory Rammer (Wacker)		\$6.70	\$ -		\$53.61	\$ -	2	\$268.06	\$ 536.13	\$1,072.26	\$ -
17	Walk Behind Pavement Saw with 14inch blade	4	\$25.83	\$ 103.34		\$206.68	\$ -		\$1,033.40	\$ -	\$4,133.59	\$ -
18	Portable Rail Grinder		\$4.87	\$ -	3	\$39.00	\$ 117.00		\$195.00	\$ -	\$779.99	\$ -
19	Portable Arc Welder	4	\$13.77	\$ 55.07		\$110.14	\$ -		\$550.71	\$ -	\$2,202.85	\$ -

APPENDIX F
BILLING REQUIREMENTS
(in a separate file)

APPENDIX G
GENERAL AND ADMINISTRATIVE/OVERHEAD COST

APPENDIX G

GENERAL AND ADMINISTRATIVE (G&A) AND OVERHEAD COSTS

The Contractor's G&A and Overhead Rates that adequately compensate the Contractor for those costs, are detailed below and in Article 4, of the Agreement, are included in the FBLC rates established under Appendix E. The detailed information on how those rates were calculated and the basis for data used in the calculation were included in the Contractor's Cost Proposal. G&A and Overhead expenses that are unallowable under the Federal Cost Principals should be excluded in the Contractor's rate calculations.

General and Administrative (G&A)

G&A expenses are any management, financial, and other expenses that are incurred by or allocated to a business unit and are for the general management and administration of the business unit as a whole, excluding those costs that can be distributed to cost objectives in reasonable proportion to the benefits received. The G&A rate should be calculated using a cost base representing the total activity of the Contractor.

Overhead

The cost of those indirect activities not incurred specifically for a contract that can be allocated to cost objectives based on benefits received as Overhead costs. Overhead costs should be allocated to work or cost objectives using a base that allocates those costs in reasonable proportion to the benefits received by cost objectives.

General Functions

The following general functions are not reimbursable as Direct Costs, but may be reimbursable as G&A or Overhead rates included as part of the FLBC rates, if they are consistent with the definitions above, reasonable in amount, allocable to the Contract and not otherwise unallowable under the Federal Cost Principals:

Administration of EEO and DBE Programs

Administration of Procurement

Affirmative Action

Consumer Affairs

Contract Administration

Corporate Development and Personnel Development

Division Management and Support

Emergency Procedures

Environmental Controls

Finance and Accounting:

- Accounts Payable Support
- Auditing
- Budgeting
- Corporate Accounting
- Material Accounting Support
- Payroll Support

Fines or penalties assessed by FRA or other instrumentality of government for non-compliance.

Government Affairs

Information Systems:

- Computer hardware and software required for corporate systems or reports
- Corporate systems
- Electronic communication lines and interfaces to corporate systems

Insurance premiums, Performance and Payment Bonds and all other costs necessary to comply with the contractor's insurance requirements as set forth in Section 15 of the Contract.

Labor Relations:

- Appeals and Litigation
- Claims and Handlings
- Investigations
- Negotiations

Management reports corporate

Medical program management

Miscellaneous analysis corporate

Personnel and Administration:

- Administration

- Benefit plans
- Hiring
- Personnel records

Planning – corporate

Police and security liaison

Preparation and printing of all plans and reports required by the Contract

Public Affairs

Purchasing support

Railroad liaison

Relocation of management employees

Rules examiner

Rules program management

Safety program management

Safety rewards and incentives

Salary, travel and expenses of all contractor staff other than positions identified in Approved Budget as directly billable positions

Substance Abuse Detection

APPENDIX H
SCRRRA SYSTEM SAFETY PLAN
(AVAILABLE ON CD, IF REQUESTED)