



METROLINK®

Southern California Regional
Rail Authority

Engineering & Construction

**RESIDENT ENGINEER'S
MANUAL**

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1.0 Overview

The Resident Engineer's Manual is a guide for Metrolink construction projects. Its purpose is to achieve uniformity in construction management practices and to ensure conformity with the Project Management Plans for major federally funded projects.

The Resident Engineer's Manual is not a contract document. Its procedures are not binding on the Contractor unless the procedure is also included in the contract documents or incorporated therein by reference. In case of conflict between this manual and any contract document, the contract document takes precedence.

1.1 Resident Engineer

The term Resident Engineer (RE) used throughout this manual in conjunction with an activity, action or response does not necessarily imply that the RE is personally executing these tasks. Some functions are delegated to other members of the RE's support staff. The RE, as the senior manager at the site, retains responsibility for the actions and performance of assigned staff.

1.2 Supporting Documents

The RE Manual is to be used with:

- Project Charter to facilitate a broader understanding of overall project objectives.
- PM Manual
- Design procedures manual
- QA/QC Manual
- Positive Train Control Configuration & Change Management Standard Operating Practice
- Program Management Office Change Management Standard Operating Procedure

Effective and equitable construction contract management presumes a thorough knowledge of, and frequent reference to, the General and Special Conditions of the particular contract being managed. The contract plans and specifications provide the technical definition of the expected end product of the construction effort and must be thoroughly understood by the RE and field staff.

All of these documents must be considered as a whole in order to manage a construction contract successfully.

1.3 Construction Contract Management Practices

Some of the practices outlined in this manual have evolved from Metrolink's past practices as well as other organizations, and have been used on many construction projects. They are meant to help the Resident Engineer understand the responsibilities and duties required for successful management of a construction project, as well as the rights, duties and obligations of parties to a contract. If the applicability of a section is doubtful, please consult with the Metrolink Program Manager or the Assistant Director, Capital Construction & Rehabilitation.

While a goal of the Resident Engineer Manual is uniformity of construction contract management practices, the individual requirements of a construction contract may vary between contracts. Variations that are known ahead of time are noted in this manual. In particular, significant differences

exist between trackwork and facility type contracts, and those related to communications and signals. One factor is that the communications and signals contracts may include significant off-site design and fabrication, and much of Metrolink signaling work is done in conjunction with on-call engineering contracts along with system wide signal installation and maintenance contracts. Nevertheless, all contracts are to follow the practices of this manual to the extent that these practices are consistent with individual contract requirements.

1.4 Forms

Word and Excel versions of the forms referenced in this manual are available from Metrolink Program Management Office.

2.0 Organization

2.1 Project Team

The organization for managing and supporting construction projects for Metrolink Engineering and Construction is set up as an integrated team of Metrolink staff and outside consultants.

Metrolink and Consultant Staff administrative and professional roles include:

- a. The Assistant Director Capital Construction & Rehabilitation directs the construction organization and reports directly to Metrolink Director of Engineering and Construction.
- b. The Program Manager is Metrolink's representative for managing a group of similar construction projects that form a part of a program of improvement. A Program Manager manages the activities of several Project Managers.¹ A Program Manager is typically a Metrolink employee. A Program Manager may occasionally act as a Project Manager.
- c. A Project Manager manages a project from initiation through construction and close-out. The Project Manager may be a Metrolink employee or a Consultant. Both the Design Engineer and Resident Engineer report to the Project Manager.
- d. The Resident Engineer (or Resident Inspector on smaller projects) administers the construction contract and reports to the Project Manager. The Resident Engineer may be a Metrolink employee or a Consultant.
- e. Consultants provide expertise to augment Metrolink staff, and may act within certain limits on behalf of the Agency under the direction of the Director of Engineering and Construction and the Program Manager. However, Metrolink management is ultimately responsible for all actions taken in the management of the contract.

Support roles include:

- a. The Resident Engineer is assisted by technical and administrative staff, inspectors, engineers, surveyors, and other personnel to administer the contract.

¹ Metrolink Engineering and Construction has three Program Managers. They are the Assistant Directors of the following groups:

- Capital Construction & Rehabilitation
- Standards & Design
- Public Projects

- b. Design support during construction will most often be provided by the General Engineering Consultant. Metrolink or the Engineering Consultant may retain other Representatives to assist with the design or review of certain portions of the work under the direction of the Program or Project Manager.
- c. Cost estimating and schedule review support are provided by the Program Management Office.
- d. Safety support may come from a consultant project safety officer or a representative from Metrolink’s System Safety Department.
- e. The Director of Public Affairs provides one or more representatives to act as a liaison with the Contractor, Resident Engineer, and residents of the area, neighbors of the project and the public. On smaller projects the Resident Engineer will coordinate public notification and public communication through the Public Affairs Department.

While the Resident Engineer is expected to cooperate to the fullest with the Public Affairs representative, System Safety representative, and other SCRRRA staff or consultants, direction and administration of the project in accordance with the contract and SCRRRA operational rules is the responsibility of the Resident Engineer.

2.2 Responsibilities

This section outlines key responsibilities for the Project Team members.

ASSISTANT DIRECTOR	The Metrolink Assistant Director provides technical and administrative support, guidance, and direction for construction.
PROGRAM MANAGER	<p>The Program Manager will:</p> <ul style="list-style-type: none"> • Provide direction for the RE(s) via the Project Manager if a Project Manager is assigned to the project. • Administer any construction management consultant contracts • Assign consultants or Metrolink staff to the RE position(s) • Coordinate support staff with the RE(s) • Approve payment requests and authorize Change Notices • Provide independent review of contract issues • Ensure uniformity in contract administration • Assist in dispute resolution <ul style="list-style-type: none"> – Represent or coordinate the presentation of Metrolink’s position in Dispute Review Board hearings

- Provide assistance in scheduling and resolving interface conflicts between adjacent civil contracts and follow-on systems contracts

PROJECT MANAGER

The Project Manager oversees the RE function and manages all aspects of a project, including funding, the construction contract administration, scheduling, and reporting.

RESIDENT ENGINEER

Each construction package is assigned to an RE or Resident Inspector. Once a contract is awarded, the RE is responsible for all elements of administering the construction phase of the contract.

The RE is the Contractor's single point of contact. Within the scope of delegated authority, the RE handles all matters on behalf of Metrolink. Changes to the work are made only through the RE. Commitments to the public that require actions by the Contractor must be cleared through the RE.

Correspondence and notices to the Contractor are directed through the RE. After the contract is awarded, all correspondence, including notices from the Contractor to Metrolink, will be directed to the RE. Contacts with the Contractor will be arranged or cleared through the RE.

In addition, the RE:

- Cooperates with Director of Public Affairs in matters of importance to the public
- Enforces the Contractor's compliance with the project's security and safety requirements

PROGRAM MANAGEMENT OFFICE

Program Management Office (PMO) is responsible for project controls and monitoring of project funding, scheduling, consultant expenditures, and overall control of the project costs. The PMO tracks all project expenditures, for each subdivision and for each contract. On smaller contracts, the Project Manager is responsible for these tasks with the assistance of the RE. The Program Management Office will:

- Assist the Project Manager in the development and adjustment of the Project Master Schedule
- Verify availability of funding for Change Orders and any other expenditure
- Provide the RE with support for reviewing the Contractor's schedule, schedule impacts and implication of changes in the schedule
- Monitor progress on individual contracts
- Track expenditures, encumbrances and projected

encumbrances

- Provide support for contract administration and Change Order management

DIRECTOR OF
PUBLIC AFFAIRS

The Director of Public Affairs may assign a community relations representative to any project. This representative is Metrolink's liaison with the neighborhood during the design and construction phases.

The Public Affairs representative is the principal public contact person during construction. The Public Affairs representative will:

- Provide information on construction to the public
- Ensure that concerns of the public are addressed
- Arrange for the RE and Contractor's management personnel to meet with and brief the public as needed
- Attend project meetings as needed
- Meet with construction management to be briefed and keep informed on project progress and expected events as needed

The Director of Public Affairs routes requests to the Contractor through the Project Manager. The Project Manager routes such requests to the RE and clears with the RE all commitments to the public that require actions by the Contractor.

The Director of Public Affairs is responsible for all contacts with the media.

SYSTEM SAFETY

Although the construction Contract General Conditions (see GC-48) assigns the responsibility for the safety of the Contractor's employees and others on the job site to the Contractor, the Resident Engineer is responsible for monitoring the Contractor's compliance with the security and safety requirements for the project and in particular the Contractor's adherence to the Roadway Worker Safety Requirements.

Certain elements of a project may generate considerable public interest and requests for project visits. The RE, Project Manager, Public Affairs representative, System Safety representative, and the Contractor will develop a policy regarding visitors from the general public to the project. The Contractor and the RE make the final determination about allowing visitors on the project.

3.0 Resident Engineer's Role

This section describes the RE's duties from the pre-construction phase through contract closeout. The RE may contribute to pre-construction activities, including constructability review, contract award, the pre-construction meeting and partnering. Once a contract is awarded, the RE takes responsibility for the direct management and administration of the construction under the leadership of the Metrolink Project Manager. The RE reports to Metrolink's Project Manager. The Project Manager reports to the Metrolink Program Manager.

REFERENCES

The RE must be familiar with the contract specifications and all other Metrolink procedures associated with administering a construction contract. Relevant Metrolink procedures are included in the following Metrolink publications:

- Project Management Manual (including Project Controls Procedures)
- QA/QC Manual
- Design Procedures Manual
- Project Management Manual
- Program Management Office Change Management Standard Operating Practice

3.1 Authority

The RE must manage all aspects of the construction contract. The RE has the authority to enforce contract provisions and to:

- Stop any work whenever necessary to protect Life Safety and Metrolink property.
- Reject materials and workmanship that do not conform to contract requirements.
- Direct unacceptable work to be removed and replaced with acceptable work.
- Communicate and coordinate with appropriate Metrolink departments such as Maintenance-of-Way (MOW) and Operations.
- Communicate and coordinate with the Project Manager, Program Management Office, and Engineering Consultants.
- Communicate and coordinate Roadway Worker Protection (RWP) training, work windows and Form B protection, and flagging.
- Furnish progress reports at intervals determined by the Program Manager and the PMO to keep Metrolink and others apprised of contract activities.

The RE's approval does not relieve the Contractor of responsibility for errors, improper fabrication, and nonconformance to a contract requirement or for deficiencies within the Contractor's control.

Except in emergency situations, including extreme inconvenience to the public, the RE is not authorized to order work outside the general scope of the contract or to waive any contract

provision except as delegated by the Director of Engineering and Construction.

If a life threatening situation or other emergency occurs, the RE is REQUIRED to stop work, order extra work, or take other appropriate action AT ONCE. The RE should promptly advise the Program Manager and prepare the proper comprehensive documentation. It should be noted that any SCRRA employee or contractor to SCRRA is able to stop work in this type of situation.

3.2 Pre-Construction Meeting

As soon as possible after issuing the Notice of Award to the Contractor, the RE and the Project Manager will:

- Notify the contractor by letter of early actions required of the Contractor.
- Schedule a pre-construction conference with the Contractor, Metrolink representatives, utility company representatives, and any other required attendees, to discuss items of mutual interest concerning the work.
- Prepare an agenda for the pre-construction conference that lists the items for discussion, which will include the following topics:
 - a) Project organization
 - Contractor and Metrolink organization
 - Key contact persons
 - Responsibilities of key people
 - b) Project Safety
 - Working on or adjacent to operational tracks
 - Roadway Worker Training
 - Employee in Charge
 - Emergency procedures
 - Contractor's safety and accident prevention program (including emergency actions)
 - Security concerns associated with accessing operational and newly constructed Metrolink facilities
 - Job site security for lay down yards, storage areas, structures under construction, and prevention of access to the track
 - c) Labor Compliance
 - Compliance with labor provisions as specified by Equal Employment Opportunity and the goals for disadvantaged business enterprise participation.
 - Labor requirements and certification of payrolls
 - d) Mobilization
 - Access to Site
 - Parking availability
 - Field Offices
 - e) Partnering
 - f) Community relations
 - g) Contractor's Approach to the Work (Conduct of the Work)
 - Contractor's preliminary schedule (detailed schedule is usually required within 15 days from issuance of Notice to Proceed)
 - Coordination of contract work with the project as a whole
 - Track Work Windows

- Southern California Regional Rail Authority furnished material and equipment
 - Original and final surveys, surveys performed by Contractor
 - Check surveys performed by Metrolink
 - Maintenance and protection of traffic
 - Environmental concerns and sedimentation control
 - Job site safety and housekeeping
- h) Submittals and Requests for Information
- Processing of submittals and early deliverables
 - Master Submittal Log
 - Submittals requiring 3rd Party Approval
 - Requests for Information
- i) Contract Requirements
- Progress payment procedures
 - Advance payments for materials and equipment
 - Contract modifications
 - Differing site conditions
 - Claims and disputed work procedures
 - Final quantities
 - Inspection and Test
 - Record Drawings and Drawing Control
 - Punch List Procedures
 - Completion of work, final payment and closeout procedures

3.3 Partnering

Metrolink may implement a partnering program to support good communication and a good working relationship between Metrolink and the Contractor. Contractor participation in a partnering program is entirely voluntary.

If a partnering program is agreed upon, the Program Manager will assist the RE in defining and arranging for the partnering program. A partnering program is typically handled as follows:

- An initial facilitated partnering workshop is conducted, ideally within 30 days of awarding the contract. Typically, the session is held at a facility that is not the home office of Metrolink or the Contractor to set a tone of neutrality and to prevent business interruptions.
- The initial session takes one or two days and culminates in a project-specific Partnering Agreement, which is developed and signed by all persons attending the session.
- Follow-up sessions are often scheduled to re-assess the relationship at agreed upon intervals.
- The Program Manager will assist the RE in the selection of a partnering facilitator.

3.4 Construction Phase Responsibilities

The RE's role during construction is explained throughout this manual. Sections on topics such as correspondence, schedules, changes, payments, closeout, etc. are included. The RE must be familiar with all sections of this manual, and with the provisions of the construction contract.

In addition to managing the construction contract and ensuring compliance with procedural requirements, the RE must foster teamwork and communication among those working on the project. The RE may call upon many sources to provide support, guidance, and recommendations about administering the contract. These include Engineering Standards of Design, Train Control and Communications Engineering, Public Projects, Safety and Security, Operations, Track and Structures Rehabilitation, and Communications.

Third Party and SCRRRA Requests for Revisions

In some cases, the RE may receive requests from a third party or Metrolink department to incorporate additional features, or make modifications to accommodate a new feature into the work. The RE is expected to be cooperative and responsive to requests or recommendations received from other interested parties or SCRRRA Departments. However, before implementing recommendations or requests that will result in a change to the Contract, regardless of the source of the recommendation or request, the RE must consider carefully all aspects and impacts of the change including cost, benefits, available budget, effect on other work, effect on time for completion and any other consequences of implementing or not implementing the requested change. It is important that the RE analyze each request for change and make a final recommendation to the Project Manager and the Program Manager before proceeding. The Program Manager will make the final decision.

4.0 Schedule

The RE enforces the contract requirements governing development and maintenance of the project schedule. The Contractor is responsible for developing and maintaining the schedule.

The RE must understand the strategy and logic behind the Contractor's schedule and be constantly aware of the potential impacts of any changes to the overall schedule. The key interfaces affecting work outside the scope of the contract (i.e., follow-on contracts or supply contracts) must be identified as contract milestones within the schedule. The RE should pay particular attention to achieving these dates, and should immediately notify the Project Manager and Program Management Office of any deviations from these dates.

REFERENCES

- The RE must be familiar with all contractual requirements relating to the project schedule. These requirements may be in several different places within the Contract as well as the Plans and Specifications.
- The contractual requirements include but are not limited to: development and maintenance of the project schedule, achievement of milestone deliverables, delays, extensions, acceleration, recovery, allowances due to extreme weather, notifications, review period, substantial completion, liquidated damages, and commitments of owner supplied materials or areas.
- The RE must become familiar with any owner obligations specified in the contract documents that may impact the project's schedule (e.g., owner furnished permits, ROW, or materials). These time-related requirements must be tracked by the RE and communicated to the Contractor for inclusion

in schedule updates. The RE must also communicate the requirements to Metrolink Project Manager for coordination of the work of other Metrolink departments, utility companies, and other third parties.

4.1 Contractor's Responsibilities

The Contractor's schedule responsibilities are defined in the Contract Documents. The Contractor generally selects the sequences and durations for scheduling work under the contract. The schedule must include interim milestone completion dates specified in the Contract Documents and the overall completion date.

For large contracts, the specifications may contain a schedule requirement section that defines specific procedures for developing, presenting, updating, and reporting the construction schedule required. The Contractor will be asked to provide a schedule using a system compatible with that in use by Metrolink. SCRRRA currently uses Primavera P6 (v7.0). In addition to hard copy submittal requirements, the Contractor is required to submit electronic copies of the baseline project schedule and progress updates in a format compatible with Primavera P6 (v7.0).

After the Program Manager in conjunction with the Project Manager and the RE has accepted the baseline project schedule, the Contractor should immediately submit a schedule update indicating progress to date and projecting any variations from the accepted schedule.

The Contractor's monthly schedule report should contain the information listed below. However, the schedule specification may require more or fewer requirements. The RE must follow the schedule specification in the event of a discrepancy. The monthly Schedule Report should include:

- Percentage complete of each activity
- Project Critical Path
- Actual start and finish date of each activity started or completed
- Estimated start of future activities
- Changes in logic or duration of activities since the last update
- Forecast completion of specified interim milestones and overall contract completion
- Discussion on recovering from any delays incurred during the reporting period

4.2 Resident Engineer's Responsibilities

The RE reviews and recommends that the Project Manager accepts or rejects the Contractor's original baseline schedule submittal and subsequent updates. Technical assistance is available from the Program Management Office. The RE must transmit the electronic copies of the schedule and updates to the Project Manager, the Program Manager, and Program Management Office.

Items to be verified during schedule review include:

- Conformance of the overall schedule duration with the contract completion date
- Inclusion and conformance of all scheduled interim milestones
- Organization and clarity of proposed work elements and their sequence
- Reasonableness of activity durations and network logic
- Reasonableness of the amount of float (i.e., not all activities on the critical path)

- Absence of excessive work (e.g., number of track segments, grade crossings, control points etc.) in progress at any one time in conflict with contractor-enforceable restrictions (permit, specifications, ordinance, etc.)
- Inclusion of all significant submittals, review periods, permit applications, procurement, fabrication, delivery and other non-construction activities which could reasonably be expected to impact the schedule if delayed

The RE will review the Contractor's schedule reports with the Contractor as required by the contract. Feedback to the Contractor should include:

- Overall comments on the schedule report about accuracy and completeness
- Verification of interfaces with milestones, adjacent Contractor schedules, and overall project requirements
- Discussion of measures to be taken by the Contractor to comply with overall contract requirements
- Mutual agreement on start and finish dates of completed activities

To ensure that an acceptable schedule is in place at all times during the contract, the RE must take an active role in promoting the schedule's development and dissemination. The following reminders are necessary steps to assure that schedule management will be adequately maintained:

The RE must:

- Enforce the requirement to have a Contractor-prepared schedule submitted within the time specified in the contract. The start of the contract is the best time to develop a work plan - before any field issues arise. The Program Manager may approve sanctions for failing to meet the requirement, up to withholding progress payments, as defined in the contract documents.
- Review the Contractor's progress schedule at regularly scheduled progress meetings. This progress schedule may encompass the entire schedule or an extract of the coming 3 to 4 weeks. Constant reference to the updated schedule will keep it meaningful and reliable.
- Monitor the progress of the activities that define the schedule. If critical path activities slip significantly behind the dates shown on the latest approved schedule, the Contractor must submit a schedule recovery plan. The RE will provide such follow-up information to the Project Manager.

In reviewing and acting on the Contractor's schedule, the RE should keep the following guidelines in mind:

- Review only the Contractor's compliance with contract scheduling requirements. The means and methods for doing the work are the prerogative of the Contractor, so long as the contract requirements are met.
- Enforce the approved baseline schedule. This baseline schedule may be used in subsequent claims analyses or other time-related impact studies.
- Make changes to schedule milestones only by contract change order and after approval by Metrolink Program Management Office and Program Manager.
- Verify that either the Contractor or the inspection staff (as required by the contract) is maintaining accurate as-built information for schedule activities via the Daily Inspection Report.

5.0 Correspondence & Document Control

Correspondence between the Contractor and Metrolink provides a lasting record of contract progression. It can be used as a backup for progress payments and change orders and to resolve disputes and claims. These and other benefits can be derived only if all correspondence is logged and tracked for easy retrieval.

The Document Control (filing) system logs and tracks data, for the Engineering and Construction Division. The Resident Engineer and field office staff must follow the principles of Document Control to maintain the integrity of the system. Original documents are managed by the Resident Engineer and field office staff during the duration of the construction contract and, subsequently, turned over to Metrolink central files after contract close-out.

REFERENCES

Contract *General Conditions*

GC-03 Correspondence

GC-16 Public Records Act

GC-36 Rights in Shop Drawings, Working Drawings, Technical Data, Patents, and Copyrights

GC-17 Audit And Inspection of Records

5.1 Correspondence Guidelines

All correspondence generated by RE staff will follow these guidelines:

- Type all correspondence.
- The RE must not use E-mail as the documentation for Contract notices and communications of similar importance. Use letters. If it is absolutely necessary that something be transmitted by e-mail, scan the letter and attach it to an e-mail with hard copy to follow. The PM must be copied on all letters and e-mails. A copy of all e-mails must be maintained in the project files.
- State the subject clearly. Avoid correspondence containing multiple subjects.
- Place the proper document control codes on the top right corner.
- Date all correspondence.
- Sign all correspondence.
- If correspondence is directed to numerous individuals, address the document to Distribution. Attach a separate sheet as a cover that lists all recipients in alphabetical order by last name.
- If the author or signatory does not want the names of added recipients to appear on the original, show them as blind copies (bcc).
- The originator (or department administrative staff) who prepares the document will make copies; send the original to the addressee, and route copies to appropriate recipients.

The authors and persons signing the correspondence are responsible for ensuring that all codes, distributions (both cc and bcc), names, and titles are correct. The administrative staff is responsible for making sure that the document is distributed and filed promptly.

5.2 Handling and Controlling Project Documentation

The Resident Engineer is responsible for the maintenance and organization of all documentation. The organization of project documents is critical. Efficient and effective filing will make documentation easily accessible and retrievable during the project and after close-out

An electronic project folder must be established using a designated project server. The project server must be backed up in accordance with SCRRA IT policies. Appropriate category folders are set up within the project folder. The following are examples of categories that are commonly used.

- Category 1 Project Personnel (Contacts)
- Category 2 Project Office Equipment and Supplies
- Category 3 Equipment & Personnel Cost Reports
- Category 4 Service Contracts
- Category 5 General Correspondence
- Category 6 Safety
- Category 7 Public Relations
- Category 8 Construction Surveys and Cut Sheets
- Category 9 Welding
- Category 10 Meetings
- Category 11 Info Furnished at Start of Project
- Category 12 Cut Sheets
- Category 14 Photograph Records
- Category 15 Accidents
- Category 18 Agreements with Third Party
- Category 19 Hazardous Waste and Materials
- Category 20 SWPPP
- Category 21 SCRRA Operations
- Category 23 Permits
- Category 24 DBE, DVBE and EED
- Category 25 Labor Compliance
- Category 26 Progress Schedules
- Category 29 Material Information and Test Results
- Category 38 Quality Control and Test Results
- Category 45 Daily Reports and Field Activity Reports
- Category 48 Pay Applications Contract Item Quantity Documents
- Category 49 Changes RFC,CN,WACN
- Category 50 Potential Changes
- Category 51 Extra Work Reports
- Category 56 Submittals
- Category 57 RFI's

Category 62 Claims
Category 63 Project Completion Documents
Category 64 Subcontractors
Forms
Logs

Any correspondence or documents related to these categories should be date stamped, scanned and saved electronically in the appropriate folder and hard copies of those documents should be stored with the identical category filing structure.

5.2.1 Document Processing

There are various types of documents that regularly are submitted by the Contractor.

Submittals – The contract specifications outline items that the contractor is required to submit. There are often a couple hundred per project that get submitted, it is our job to review whether each one is good enough for the job and respond back to the contractor with the following statuses:

- **“Conforms”** – we accept it. Abbreviated **CONF**.
- **“Conforms As Noted”** - we like it + here’s some extra info for you to follow. Abbreviated **CON**.
- **“Submit Specified Item”** - we’ll approve it once you turn something else in. Abbreviated **SSI**.
- **“Revise and Resubmit”** – on the right track, but not complete; try again.
- **“Reject”** – Does not come close to the Specification requirements.
- **“No Action Taken”** – no review necessary. Abbreviated **NAT**.

All submittals get logged as follows:

1. The date they came in from the Contractor,
2. The date they went to the reviewer,
3. The date they came back from the reviewer
4. The date we responded with a status to the Contractor.

The submittal log is updated at the time something changes with items 1 – 4 above for ALL submittals. The log will reflect where each submittal stands if someone should look it up at any time. Logs are reviewed during weekly Progress Meetings.

The original incoming date stamped document is always kept in the files. Should a Contractor need a copy, print from the scanned pdf.

Change Management Documents – Refer to the Program Management Office’s Standard Operating Practice No. PC-7.0 for complete document descriptions and processing procedures.

It is imperative that the Resident Engineer maintain logs to track the processing of change management documents.

The **RFI (Request for Information) log** includes:

1. The date they came in from the Contractor,
 2. The date they went to the reviewer,
 3. The date they came back from the reviewer
 4. The date we responded with a status to the Contractor.
- (Noted if a Change Notice is to be issued)

We update the RFI log at the time something changes with items 1 – 4 above for ALL RFI's. This way the log will reflect where each RFI stands if someone should look it up at any time.

The original incoming date stamped document is always kept in the files. Should a Contractor need a copy, print from the scanned pdf. Logs are reviewed during weekly Progress Meetings.

The **RFC (Request for Change) Log** includes:

1. The date they came in from the Contractor,
2. The date they went to the reviewer,
3. The date they came back from the reviewer
4. The date we responded with a status to the Contractor.

The **CN (Change Notice) Log** includes:

1. The date they went to the Contractor,
2. The dollar amount they are for,
3. CN language is added
4. The date they were closed.

The **CO (Change Order) Log** shall be maintained on SCRRA Form CMM-19.

6.0 Progress Payments

Progress payments enable the Contractor to meet its obligations for wages to workers, and to make timely payments to material suppliers and others furnishing materials, articles, and equipment to the project. Progress payments are made for work done and are to be processed promptly. Prompt payment of our legitimate obligations is one of the best opportunities we have to engender a good working relationship with the Contractor.

Subtopics include Bid Schedule and Schedule of Values, payment, processing a progress payment, payment for materials before installation, pay item overruns and under runs, payments for Change Order work, retention, and final payment.

REFERENCES

Contract General Conditions

- GC-29.A – Measurement and Payment
- GC-29.B – Application for Progress Payment
- GC-29.E – Final Payment Application
- GC-29.H – Retention on Progress Payment

Other References:

- Special Provisions that are applicable may include Liquidated Damages.
- Technical Specifications may include specific sections on Measurement and Payment, Schedule of Values, and Mobilization.

6.1 Bid Schedule and Schedule of Values

The documents that establish the basis for progress payments are defined below:

Schedule of Quantities and Prices

The Schedule of Quantities and Prices (or bid form) is the contract pay item document included in the Invitation for Bids. It is developed by Metrolink and is completed by the bidder. The Bid Schedule commits the bidder to performing the work of the contract for the price entered on the Bid Schedule.

Schedule of Values

After the contract is awarded, the Contractor may be requested to submit a Schedule of Values for large unit price items or to breakdown lump sum items into easily measurable parts. The schedule of values is subject to the approval of Metrolink. The Schedule of Values is a breakdown of complex bid items for work that will be performed over several pay periods. The Schedule of Values establishes a price agreed upon between the Contractor and the Resident Engineer for each element of work within the bid item. The approved Schedule of Values is the basis for making progress payments.

The Contractor develops the Schedule of Values to the level of detail needed to reflect its plan for accomplishing the work. The total amount established in the Schedule of Values for each bid item may not exceed the unit price (or lump sum price) for the bid quantity shown in the Schedule of Quantities and Prices.

Payment for mobilization and preparatory work will be made at the lump sum price stated in the Schedule of Quantities and Prices, if the Schedule of Quantities and Prices contains such a pay item. If the Schedule of Quantities and Prices does not contain a mobilization item, and no provision is otherwise made in the specifications, then mobilization will be assumed to be included in the items of work and no separate payment for mobilization will be made.

6.2 Payment

Section 20104.50 of the California Public Contract Code requires that Contractors will be paid for completed work within 30 days after receipt, by Metrolink, of an acceptable payment request. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the contractor as soon as practicable, but not later than seven days, after receipt. A request returned shall be accompanied by a document indicating why the payment request is not proper.

Acceptance of Work

Approval of payment for the work does not constitute acceptance of any work that does not conform to the contract requirements (see GC-29.E – Final Payment).

Withholding of Payment

The Resident Engineer may withhold all or part of a progress payment for any of the reasons given in Article GC-29.D of the General Conditions, or as required by law. Before withholding payment, the

Resident Engineer should notify the Contractor that payment may be withheld and the reasons for withholding the payment. The Contractor should be given as much advance notice as possible to enable them to make any required corrections before an amount is deducted from the progress payment.

6.3 Processing a Progress Payment

Each month, the Contractor submits a progress payment request for review by the Resident Engineer. The date on which the request is due from the Contractor will be as stated in the Contract or as agreed by the Contractor and the Resident Engineer. The Contractor first submits an application for the progress payment in draft form (pay estimate), and after Resident Engineer confirms the quantities of work completed, the Contractor submits the application in final form.

Every progress payment request must include all submittals required by the contract (e.g., certified payroll and waivers and releases). The pay application is submitted directly to the Resident Engineer for review and comment. The Contractor and Resident Engineer must confer on every invoice and attempt to resolve any disagreements on the amount due for each bid item before submitting the payment request. The Resident Engineer should meet with the Contractor early in the project and set a monthly cut-off date for the draft pay estimate. The Resident Engineer must recognize that Metrolink issues checks only on the 1st and 15th of each month.

When the progress payment application is determined to be acceptable by the Resident Engineer, and is signed by the Contractor and the Resident Engineer, the pay application is forwarded to Accounts Payable. Accounts Payable forwards the pay application to the Project Manager, the Program Manager and the Director of Engineering and Construction for approval and signature respectively. The progress payment request is recorded as received by Metrolink on the day it is received by Accounts Payable.

The specific steps are summarized below:

1. The Contractor submits the draft application for progress payments to the RE for review.
2. The RE verifies the quantities or percentage of the Schedule of Values (if payment is for lump sum work).
3. The Contractor and the RE confer and attempt to resolve any discrepancies between the quantities of work determined by the Contractor and the quantities as determined by the Engineer.
4. The Contractor prepares and submits a final application for progress payment.
5. The RE reviews and either approves the application or returns it to the Contractor with a list of corrections.
6. The approved pay application is signed by the Contractor and the RE. The final application shall include a certification that the Work for which payment is requested has been completed.
7. The pay application is forwarded by the RE to Accounts Payable.
8. Accounts Payable forwards the application for progress payment to the Project Manager, the Program Manager, and the Director of Engineering & Construction for their respective approval and signature.
9. The Project Manager forwards the application to the Program Management Office for coding and to Accounts Payable for payment.

6.4 Payment for Materials Not Incorporated Into the Work

Metrolink may, at its discretion, pay for materials purchased and furnished by the Contractor, but not yet incorporated into the work. The amount to be paid for materials is established from information on the executed bill-of-sale or other document signed by the buyer and seller that established the quantity delivered and amount paid for the materials. The amount paid for materials on hand should not exceed the bid amount less the estimated cost of incorporating the materials into the work. Contract provisions that apply to payment for materials before installation include GC-29.B.6

Unless the Program Manager gives prior approval, the RE will limit materials payments to 80 percent of the invoice value of the material. As a condition of payment, the Contractor must:

- Deliver the materials to suitable storage in secure location(s) on or off site, which must be approved by Metrolink.
- Provide Metrolink access at all reasonable times to storage locations and materials.
- Identify materials as Metrolink property with prominent labels (do not commingle them with non-Metrolink materials), and arrange materials to facilitate inspection.
- Provide certification of compliance with all regulatory requirements, if material is stored on private property, including zoning and land use, if requested by Metrolink.
- Provide written permission from the property owner or lessee for storage (if material is stored on private property) and for Metrolink's guaranteed right of access and removal.
- Provide evidence of ownership, including properly executed bills of sale.
- Warrant that materials are free from liens, security interests and other encumbrances.
- Provide a certificate of insurance indemnifying Metrolink against all loss.

Payments for materials must be credited progressively against earnings for completed work as the materials are used in the relevant work. Include all documents that support materials payments with the progress payment request and keep on file for audit purposes.

Procedure

The process for approving payment for materials before installation follows:

<u>Person / Dept.</u>	<u>Action</u>
Contractor	1) Submit the completed form with the progress payment request.
RE or Inspector	2) Verify that the material meets the specifications, is stored properly at the location indicated by the Contractor, and complies with other provisions for stored materials.
	3) Approve payment for materials for the applicable pay item, as a separate line, on a <i>Schedule of Values</i> before installation.

6.5 Pay Item Overruns and Underruns

This section summarizes policies that affect pay item overruns and under runs. It describes how to document these variables and how to reconcile them in a Final and Balancing Change Order.

Standard Specifications § 01 21 00 Allowances sets the range of applicability for contract unit prices. Any deviation, however, from the estimated quantity will result in a change in the contract amount, which will require a Change Order. Change Orders adjusting the quantity within the above limits do not require the signature of the Contractor.

Overruns and under runs are applicable to unit price work, minor revisions, and provisional sum (force account) work. Final quantities are established via the *Final and Balancing Change Order*.

6.5.1 Unit Price Work

The final amount paid for unit price work is often different from the original contract quantity. The reason is that the final measured quantity usually varies from the estimated quantity specified by Metrolink in the contract bid form due to minor field differences. This variation changes the contract amount, which must be reconciled in a Change Order.

Change Orders that are executed on a unit price basis with a not-to-exceed amount must also be reconciled once the work has been completed if the final amount differs from the executed Change Order amount.

6.5.2 Provisional Sum Work

When Metrolink believes that it would be extremely difficult for the Contractor to estimate accurately the cost of a specific portion of the work, Metrolink will establish a provisional sum item (Allowance). Metrolink and the Contractor then track the cost of that work according to the contract's extra work provisions. The RE must monitor charges against these provisional sums to ensure that the total amount is not exceeded. If the RE believes that a total amount exceeding the provisional sum amount is justified, the RE must prepare a Change Order to cover the overrun before the authorized amount is exhausted. The RE must remain cognizant of the remaining amount of contract authority.

When the provisional sum work is complete, the total amount paid must be less than or equal to the total established in the provisional sum as modified by any subsequent Change Orders. A subsequent (credit) Change Order must be executed to reconcile the actual expenditure with the authorized total amount.

6.5.3 Final and Balancing Change Order

All pay items having overruns or under runs that have not been contractually reconciled by Change Orders must, at the closeout of the contract, be reconciled in a Final and Balancing Change Order. This Final and Balancing Change Order may group together many previous Change Orders that have not been reconciled.

6.6 Payment for Change Order Work

The RE must determine that the Change Order is fully executed before approving any charges against that CO.

6.7 Retention

California law permits agencies to withhold a portion of each progress as retention to ensure proper

completion of the Contract and to ensure that all claims are paid. Metrolink generally withholds 5% from every approved invoice unless the Contractor deposits bonds or other securities equal to or greater than the amount of retention (see GC-29.H Retention).

For each construction contract, the Project Manager must recommend to the Program Manager whether retention should be applied to the progress payments to be made under that particular contract. In general, Metrolink should retain the 5% unless there is justification for having more or less retention on the contract. Examples of when more than 5% retention would be appropriate include material contracts on which there is not a payment or performance bond, or work involving greater than normal risk to Metrolink operations

If retention applies, the amounts retained by Metrolink from the Contractor's progress payments are intended to provide security (in addition to other forms of security, such as performance bonds) for any damages Metrolink would sustain in the event of a Contractor's breach. Retention is also an incentive to the Contractor to finish the final work items.

After 50% of the work (including all executed and anticipated Change Orders) is completed, the Contractor may make written application to Metrolink to reduce or eliminate retention on future contract payments. If retention has been withheld, Metrolink may reduce the amount if progress on the work is satisfactory (See GC-29.H Retention on Progress Payments).

The RE's recommendation will be presented to the Director of Engineering and Construction and the Program Manager for a final decision.

6.8 Final Payment

The RE typically will withhold the Contractor's final payment until all requirements of the contract are satisfied. However, Section 7107 of the California Public Contract Code, et. seq. requires that Metrolink release all retention (excepting that associated with a bona-fide dispute) within 60 days of the completion of the Contract. Completion under Section 7107 means any of the following:

- 1) The occupation, beneficial use, and enjoyment of a work of improvement, excluding any operation only for testing, startup, or commissioning, by the public agency, or its agent, accompanied by cessation of labor on the work of improvement.
- 2) The acceptance by the public agency, or its agent, of the work of improvement.
- 3) After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 100 days or more, due to factors beyond the control of the Contractor.
- 4) After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 30 days or more, if the public agency files for record a notice of cessation or a notice of completion.

The RE must make sure that the Contractor is completing all of its obligations under the Contract during the course of the project, and that any disputes or unresolved issues are clearly and thoroughly documented.

7.0 Submittals

The submittals addressed in this section refer to drawings, product data, samples, and other contract required documents that the Contractor submits for Metrolink approval. The purpose of a submittal is to demonstrate how the Contractor proposes to comply with the contract specifications and to address

areas where details are not fully developed.

Typically, there is a difference between how the civil and system contracts use the contract submittal process for such things as final design drawings. The RE must be familiar with the purpose and use of the submittals within the contract.

REFERENCES

- Contract GC-37 As Built Information
- GC - 36 Rights in Shop Drawings, Working Drawings, Technical Data, Patents, and Copyrights
- Contract *Technical Specifications*
- Section 01 33 00 Submittal Procedures

7.1 Contractor's Responsibility

The Contractor should be required to transmit a master list of submittals within 30 days of the Notice to Proceed, or encouraged to transmit a master list if not required by the Contract.

The Contractor's submittal list should include the dates on which submittals will be delivered to Metrolink. The Contractor must make submittals in a timely manner and in a sequence that facilitates the review and causes no delay in the work.

The Contractor's submittal schedule must take into account the specified Metrolink review period. The list of submittals must be updated as needed.

The Contractor may ask Metrolink to approve a substitution to a product listed by name in the specifications. This request must comply with all contract provisions, Metrolink's design criteria, and Metrolink's standardization policies.

In making a submittal, the Contractor must warrant that the submittal is complete and that it complies with all contract requirements.

7.2 Resident Engineer's Responsibility

The RE coordinates the steps in the submittal review from the time the submittal is received to the time a response is returned to the Contractor. The RE provides the final disposition on all submittals. The RE solicits review comments, as appropriate, but makes the ultimate judgment about the disposition of the submittal.

In most contracts, Contract Specifications specify that Metrolink will respond to submittals that are complete and require only Metrolink review within a fixed number of working or calendar days following the date of receipt by the RE. The specifications may further provide that Metrolink will respond to submittals which require approval by other agencies or third parties within a fixed number of working days or calendar days following receipt of the comments from the agency, or third party as applicable.

As soon as the RE receives a submittal from the Contractor, the RE's administration staff records it in the Submittal Log (developed and maintained by the RE's office) and stamps the document with the disposition/date stamp. The RE initially reviews the submittal for completeness and for compliance with contract requirements.

The RE then determines the appropriate review process. Some submittals may only be reviewed by the RE. Some submittals require an in-depth review by other individuals, such as Metrolink internal specialists or design consultants. If design review is needed, the RE transmits the submittal to the

proper design firm or agency, which performs the primary design review (see below). The RE also identifies when a submittal should be sent to Metrolink departments, such as Communications and Signals, Maintenance of Way, or System Safety, and whether it is for review, information, or coordination.

Below is a summary of the process. The process differs depending upon whether a design review is required:

Design Review Not Required:

1. The RE reviews the submittal, assigns the appropriate disposition, and signs and returns it to the Contractor.
2. Copies of reviewed submittals are distributed to interested Metrolink departments and outside agencies; such as the Project Manager and the design consultant.

Design Review Required:

If a Metrolink general engineering consultant is the primary reviewer, these steps are taken after their receipt of the document for review:

1. The primary reviewer adds appropriate notes to the submittal.
2. The primary reviewer may also collect notes from secondary reviewer(s) and add them to the submittal.
3. The RE and primary reviewer agree on appropriate action.
4. The RE and primary reviewer mark and sign the appropriate disposition block.
5. The RE returns the submittal to the Contractor and forwards copies of the submittal to other interested Metrolink departments and outside agencies; such as Maintenance of Way or Communications and Signals described above.

If an outside agency is the primary reviewer, these steps are taken:

1. The RE transmits to the outside agency unless the Contract provides for the Contractor to submit directly.
2. The agency or its consultant who prepared the design reviews the submittal and recommends the proper response to the RE.
3. The RE collects a response from any secondary reviewer(s), adds those notes to those of the agency reviewer, assigns the appropriate disposition code, signs, and returns the submittal to the Contractor.

The RE may also need to obtain approval or concurrence from regulatory agencies, such as the California Public Utilities Commission, the Department of Toxic Substances Control, or the U.S. Army Corps of Engineers. The RE should check with Metrolink Project Manager or the Program Manager for guidance.

The RE will keep a copy of each reviewed submittal in the project office until the project is completed. Then they are compiled and sent to Document Control to be placed in the archives with the rest of the field office records.

8.0 Surveying

Good survey control is essential for proper functioning of a completed project or facility. Basic survey controls for the project are generally in place as shown on the Contract Drawings when construction begins. The General Engineering Consultant will typically be responsible for establishing the primary control for each project after the conceptual design is complete. The Contractor must perform all necessary staking and measurements to build the project. Metrolink may provide survey control points on larger projects, but in general, all surveying except the primary control is the responsibility of the Contractor.

The policy of Metrolink is to have all projects tied to the California State Plane Coordinate System to enable Metrolink to reestablish the control if necessary and to permit the improvements to be included in master right-of-way and facility maps. If a local coordinate system has been used as the basis for the design, please contact the Project Manager for direction prior to staking out the work. Refer to Section 20.3 - Surveying of the SCRRA Design Criteria Manual for additional information.

The RE is responsible for ascertaining that the basic controls have been checked for accuracy. The basic controls should be located where they will not be disturbed by construction. The Contractor should be informed that the cost of replacing damaged survey controls is billed to the Contractor.

8.1 Contractor's Responsibility

The Contractor is responsible for building the project as staked based on the controls. The RE is in no way responsible for any of the Contractor's staking or measuring; but if an error in surveying is observed, detected, or suspected, the error should be called to the Contractor's attention promptly.

8.2 Resident Engineer's Responsibility

The RE's field staff may check the surveying occasionally to verify that construction conforms to the drawings and specifications. For example, critical slab or structure elevations should be verified before a major concrete placement.

The RE may have an on-call consultant survey team available to check the survey. The RE must report errors immediately to the Contractor.

Contract work to be reimbursed by unit quantities may require surveying to determine the pay quantity. Such a survey can be performed by RE field personnel, by additional survey resources available to the RE, or by the Contractor's survey crew, monitored by RE personnel.

Standard, pre-numbered field books must be used for all surveying performed by Metrolink. If practical, maintain separate field books for the following basic surveying activities:

- Original conditions
- Layout
- Construction
- As-built conditions

The RE shall follow standard methods of notekeeping, with notes recorded neatly, clearly, orderly, and in sufficient detail. Date all entries and list the survey party staff. When original entries are later found in error, do not erase. Simply draw a line through the incorrect entry, and write the correction directly above. Do not remove any pages from the survey books. Electronic field books and records may be used.

The RE will maintain custody of all Metrolink survey books and is responsible for reducing notes, plotting data, and evaluating results, when applicable. When the contract has been completed, these books will be transmitted to the appropriate Metrolink staff.

The RE is required to obtain the data from the various settlement readings, observations well readings, and other measurements that the Contractor is required to take. The RE should evaluate the results and direct necessary corrective measures.

9.0 Execution of Work

The RE oversees the progress of work and safeguards Metrolink's interests throughout construction. It is important for the RE to understand, however, that the Contractor is responsible for directing all construction activity. The Contractor is responsible for the means and methods employed to perform the work. The RE is responsible for ensuring that the work meets the requirements of the contract documents, but the RE generally does not dictate or approve the methods used to achieve them.

9.1 Means and Methods

The RE must respect the Contractor's responsibility and right to employ the means and methods to perform the work because:

- The Contractor has the experience and ingenuity to develop the most efficient techniques for doing the work according to its bid.
- An attempt by the RE to impose means and methods will shift risk to Metrolink unnecessarily.

If the plans and specifications do not specify the means, and if the RE believes a method selected by the Contractor may result in nonconforming work, the RE should advise the Project Manager. If appropriate, the RE should advise the Contractor in writing, being clear that the RE is not dictating the means to be employed by the Contractor.

When the plans and specifications give the RE the authority to select or prohibit a method and such action is desirable, the RE will issue written instructions to the Contractor. The RE will issue these instructions with the prior approval of the Project Manager.

The RE should make no effort to dictate a sequence of operations, except as required by the plans or specifications. However, the RE should become familiar with the Contractor's plan of operations and schedule of progress. If the Contractor is not making satisfactory progress, the RE will immediately discuss the matter with the Contractor, follow up with a confirming letter, and report the status to the Project Manager.

The RE and his or her staff are responsible for verifying that the project is being constructed in accordance with the plans and specifications. The RE has the authority to reject both unsatisfactory workmanship and materials. Upon discovery, the Contractor must be notified immediately, in writing, of such rejections. The notice should reference the appropriate plan or specification requirement.

The Contractor is not allowed to cover unsatisfactory work with new work. If this circumstance appears imminent, the RE is authorized to order the Contractor to stop work until the unsatisfactory work is corrected. Documentation must be complete and should include photographs of the unsatisfactory condition. Once corrected, the RE should immediately release the stop work order.

REs and inspectors must ensure that all authorized instructions concerning contract work performance are provided to the proper personnel in the Contractor's organization. Except in cases where there is a danger to workers, property, or Metrolink operations, instructions or directions should not be given directly to Subcontractors.

IMPORTANT: The RE must prohibit the use of means and methods that adversely affect the safety of

Metrolink operations, the Contractor's personnel, or the public.

9.2 Work Stoppages

Occasionally the work being performed under a contract must be stopped in order to:

- Examine or correct conflicting field conditions or interferences not addressed in the contract drawings or specifications.
- Prevent harm to personnel or damage to property due to unsafe and hazardous work practices or conditions.

If the Contractor cannot proceed with the work because of field conflicts, the RE must inform the Project Manager of the situation. If the conditions involve design change(s), the designer will also be consulted.

If work is stopped because of an unsafe condition that may cause personal injury or property damage; the RE will pursue the action described above. If the unsafe condition is so severe as to preclude any delay before remedial action is taken, the RE may immediately direct the Contractor to perform the operations needed to remedy the condition and will immediately notify the Project Manager of the action taken.

NOTE: In the event of an unsafe condition that may cause personal injury or property damage, any Metrolink employee has the authority to temporarily suspend work until the System Safety Department can assess the issue. Also, in the event of a security issue that may cause personal injury or property damage, any Metrolink employee has the authority to temporarily suspend work until the Security Department can assess the issue. After the assessment is completed by the System Safety or Security Department, as appropriate and the issue is resolved, the project or program manager will approve the resumption of work after consultation with the SCRRA contract administrator.

All verbal instructions or directives issued to the Contractor to stop work must be documented in writing to the Contractor within 24 hours. As soon as the problem is corrected, the work stoppage must be immediately removed via written notification to the Contractor. In general, the RE shall not stop work without consulting the Project Manager except in the case of risk to persons, property, or Metrolink operations. Also, when there is a risk to persons, property, or Metrolink operations, any SCRRA employee or contractor to SCRRA can stop work without consulting with the Project Manager.

Cessation of the work may result in additional costs to SCRRA. Except in the case of danger to life safety, the RE must convene a meeting with the Project Manager and the design engineer to resolve the issue as soon as practicable.

9.3 Archaeological Resources

If the Contractor or any Subcontractor unearths or discovers bones or historical artifacts (e.g., jewelry or pottery) the Contractor must immediately notify the RE. The Contractor must cease any operations that could affect the find until otherwise directed by the RE.

When bones or artifacts are discovered, the RE will immediately call upon the Project Manager for guidance and assistance in discussions with jurisdictional authorities. The RE will direct the Contractor about operational procedures governing the discovery and disposition of the items. Unless provided otherwise by law or the Contract, Metrolink has the sole and exclusive title to any discovered items.

10.0 Contact with the Public

The RE will notify the appropriate Director of Public Affairs representative of all contact with the public. Inquiries from the media should be directed immediately to the Director of Communications.

10.1 Site Visits

Casual visitors to the site are discouraged for safety reasons. Visits by public officials are normally arranged by the Director of the Public Affairs Department. The RE should cooperate in scheduling and coordinating project visitations and should arrange for an escort for visitors throughout the project.

The RE must maintain a visitors' register. All visitors are required to sign the visitors' register, with arrival and departure times noted. When signing the visitor's register, visitors must also sign a *Visitor's Hold Harmless Agreement*. All visitors must be briefed on safety precautions before entering the work zone. All visitors must have on proper safety equipment, and the appropriate personal protective equipment (PPE) to visit the site.

The original copy of the register is kept in the RE's office files.

10.2 Response to Complaints

The importance of conducting construction in a way that promotes cooperation with the public and minimizes the potential for complaints cannot be overstated. Areas of particular concern to the public include noise and vibration control, hours of work, environmental mitigation, traffic access, and site safety.

Whenever a member of the public complains directly to the RE, the RE should endeavor to satisfy the party immediately, notify the public affairs representative, and record all relevant information. The public affairs representative will then work directly with the person making the complaint to discuss and resolve the concern.

Whenever a Metrolink board member, JPA agency representative, or employee complains directly to the RE, the RE should endeavor to satisfy the party immediately in consultation with the Project Manager.

10.3 Coordination with Director of Public Affairs

The RE must work with the public affairs representative to get information to affected parties and the general public in a timely manner. The RE must keep the Director of Public Affairs staff informed and involved in project activities, making sure that they are aware of project milestones. Jointly, the RE and Director of Public Affairs representative decide when and how the public should be informed of project activity.

The RE helps in developing public information pieces and participates in community meetings, as needed, to familiarize the public with construction and to forge a cooperative partnership with the public.

This cooperative partnership is designed to facilitate the flow of information and assist the RE with smooth project construction by minimizing community concern and dissent through advance work by the Director of Public Affairs and timely public information.

11.0 Contract Closeout

The RE is responsible to ensure that the Contractor has satisfied all applicable contract requirements before releasing final payment. The RE is also responsible for verifying that all required inspections by

public agencies and utilities have been successfully performed before Metrolink accepts ownership.

11.1 Beneficial Occupancy

Beneficial occupancy (substantial completion) may occur when Metrolink can occupy the constructed facility and utilize it for its intended use without significant hindrance from remaining Contractor operations.

At any time before final acceptance, Metrolink may take beneficial occupancy of the completed project or any completed part of the project to permit Metrolink, other Metrolink Contractor(s) or third-party agencies to occupy the project or designated area of the project for the use for which it is intended or for work by others. Before taking beneficial occupancy, the RE will conduct a substantial completion (pre-final) inspection of the appropriate portion of the work.

If the inspection discloses that the contract is not ready for beneficial occupancy or is not substantially completed, a second inspection must be scheduled and performed after necessary items have been completed in accordance with the requirements of the Contract to the RE's satisfaction.

The date of beneficial occupancy has a legal significance. Exercise caution to see that the contract work conforms to the contract documents before the *Certificate of Substantial Completion for Beneficial Occupancy* is issued. The date of an inspection that results in issuing the *Certificate of Substantial Completion for Beneficial Occupancy* may establish the date of beneficial occupancy.

11.2 Substantial Completion (Pre-Final) Inspection

Standard Specification Section 01 77 00, Para. 1.4 Substantial Completion states that when the Contractor believes the work or portions thereof, has been substantially completed in accordance with the contract, the Contractor should request, in writing, a determination of substantial completion 14 days before requesting an inspection by the RE. The RE will then arrange and conduct an inspection, accompanied by the Contractor and representatives of Metrolink, utilities, public agencies, and/or railroads, as appropriate, to determine whether substantial completion has occurred. Metrolink will notify the Contractor within twenty-one (21) days of the Contractor's request for a determination of substantial completion whether substantial completion has occurred.

If the RE wants to establish beneficial occupancy of a portion of the work, the RE may schedule the substantial completion inspection without having received the Contractor's notification of substantial completion.

11.3 Certificate of Substantial Completion for Beneficial Occupancy

If the inspection discloses that the project or designated area of the project is ready for beneficial occupancy, the RE will promptly prepare a *Certificate of Substantial Completion for Beneficial Occupancy* for approval and acceptance by Metrolink and the Contractor. When preparing the *Certificate of Substantial Completion for Beneficial Occupancy*, the RE should consider the release of retention and, if necessary, assessment of liquidated damages.

(Note: When a designated area – building, structure or facility - has been turned over to Metrolink for the purposes of Beneficial Occupancy, Contractor personnel needing access to the designated area will be required to obtain appropriate security clearances (i.e. badges or keycards)).

In any case, the RE will notify the Contractor in writing within twenty-one (21) days whether Metrolink

deems the contract substantially complete.

11.4 Punch List

The RE will attach to the *Certificate of Substantial Completion for Beneficial Occupancy* a punch list of items to be completed or corrected. The punch list may include requirements for schedules, warranties, operating instructions, and title pertaining to the completed work. The *Certificate of Substantial Completion for Beneficial Occupancy* establishes the time allowed for correcting the punch list items.

11.5 Milestone Date Inspections

The RE must conduct an inspection on the date(s) set forth in the contract as milestone dates regardless of whether the contract is ready for beneficial occupancy or is substantially completed. This inspection, conducted with representation by the RE, Contractor, Metrolink, utilities, public agencies, or railroads, identifies elements of work remaining to be completed at the milestone date or contract date of completion. The RE will develop a punch list to identify incomplete or deficient work following this inspection.

11.6 Certificate of Final Acceptance

When the Contractor considers that all work required by the contract has been completed, including correction of punch list items from the substantial completion (pre-final) inspection, the Contractor notifies the RE in writing and requests a final inspection in accordance with Standard Specification Section 01 77 19 Project Closeout..

Standard Specification Section 01 77 19 Project Closeout states that the final inspection will be conducted, and the work either finally accepted or the Contractor notified of additional work to be performed, within 30 days after receiving the Contractor's request for a final inspection. In the event the work is accepted, the RE should issue a Certificate of Final Acceptance. Final payment must be made within 30 days of issuance of the Certificate of Final Acceptance. In the event the RE determines that additional work is required, the RE should so advise the Contractor in writing.

When the RE has verified that the work is complete, including clean up of work sites and removal of all trash, rubbish, excess materials, temporary structures, equipment and trailers, the RE will conduct a final inspection with the Contractor and Metrolink representatives. If items remain open from the substantial completion punch list, they will be transferred to the final inspection punch list.

Representatives of local, state, and federal agencies, railroads, and utility companies may be invited to attend if deemed appropriate by Metrolink. The RE will notify the parties one week in advance of the time of the final inspection.

Before completing the final walk-through, at a minimum the Contractor will turn over the following to Metrolink:

- All keys for locks to rooms, cabinets, etc.
- Operations and maintenance manuals
- Record documents
- List of outstanding deliverables with dates for completion/final delivery

- Spare parts and/or receipts for delivery of the spare parts to Metrolink
- Record of training conducted, including date(s), list of attendees and all applicable training manuals

Upon satisfactory conclusion of the final inspection and correction of any remaining work items, the RE prepares a *Certificate of Final Acceptance*, recommending acceptance of the completed work to the Project Manager, the making of the final payment and the release of retention, if applicable.

11.7 Final Payment

Final payment must be made within 60 days of the date the work has been completed and accepted. California law requires retention to be included in and paid to the Contractor as part of the final payment of the contract price. If final payment is not paid within 60 days of completion and acceptance of the work, the Contractor is entitled to interest at the rate of 2 percent per month on the amount due.

If there is any reason to doubt whether certain Subcontractors and suppliers have been paid, the RE must ask the Contractor to obtain a *Conditional Waiver and Release Upon Final Payment Subcontractor/Supplier* from those Subcontractors/suppliers and Final Releases for all but the Final Payment.

Upon issuing the *Certificate of Final Acceptance*, the RE may process final payment if all of the following conditions have been met:

- The contract accounting of both Metrolink and the Contractor are in order. Items that must agree include: original contract amount, additions and deductions from contract modifications, increased or decreased quantities, claims, cash allowances, deductions for uncorrected work, and deductions for liquidated damages.
- All required Certificates of Inspection and Occupancy Permits have been obtained from public authorities and/or utility companies. (See Beneficial Occupancy above.)
- The Contractor has provided a *Conditional Waiver and Release Upon Final Payment Subcontractor/Supplier*
- Consent of surety has been obtained, if applicable.
- The Contractor has provided the necessary labor certificates required by the contract General Provisions.
- The final report of the utilization of Disadvantaged Business Enterprises has been submitted.
- Certified Payroll reports and related documentation have been submitted.
- The completed As-Built Record Documents (drawings and specifications) have been received. (See *Certificate of Final Acceptance*.)
- All spare parts required by the contract have been received.
- All operations and maintenance manuals required by the contract have been received. (See *Certificate of Final Acceptance*.)
- All outstanding submittals have been received and approved. (See *Certificate of Final Acceptance*.)
- All Change Order work has been completed/ accepted.

- All Quality Assurance audit and non-compliance issues have been resolved.
- All required Contractor warranties have been delivered to Metrolink, and the Contractor has submitted a Certificate of Insurance for any work that may be performed during the warranty period.
- Property Reclamation has been completed.

The RE will develop a list of all spare parts that must be turned over to Metrolink before contract closeout. The Spare Parts List will specify the location at which Metrolink will accept those spare parts. The RE will document delivery of spare parts to Metrolink as follows:

- A description of the items delivered to Metrolink.
- The description, quantity, location, date, and time they were delivered.
- The name(s) of persons(s) who delivered them, and
- The name and signature of a Metrolink individual acknowledging receipt
- The Contractor will provide copies of the completed delivery form before requesting payment for the items and will provide a Spare Parts List with all delivery forms to the RE before contract closeout.

Prior to making the final payment, the RE will make a recommendation on this matter to the Project Manager, considering the status of any possible outstanding information and materials due from the Contractor (e.g. record documents, operations and maintenance manuals, spare parts, and various documentation, certificates and reports required by the contract).

After final payment has been made, the RE must obtain the *Unconditional Waiver and Release Upon Final Payment* and the *Final Release of Retainage* forms from the Contractor. Once these documents are fully executed, the RE may release Contractor's bonds, if any, unless the contract requires that the bonds stay in place during the warranty period.

11.8 Final Release of Retainage

Subsequent to final acceptance, Metrolink must make final payment, including retention, within 60 days. If it does not, the Contractor is entitled to legal interest at the rate of 2 percent per month on the amount due commencing 60 days after the work has been completed and accepted.

11.9 Transfer of RE's Records

Upon closeout, the RE will assemble a closeout book containing the originals of the documents referenced in this section. When completed, a duplicate copy of the closeout book shall be made for the field office to eventually be archived with the other field office files. The original closeout book is forwarded by the RE to the Project Manager for review and comment or review and sign-off. Once signed off, a copy of the form signed by the Project Manager should be returned to the RE for the field office copy. The Program Manager shall then forward the original signed closeout book to Metrolink's Procurement and Contracts for closure and filing. Any additional reference copies desired by the RE are at their discretion but should be kept and considered as a personal reference and are not included as records for archiving.

Additionally, all project files should be returned to the main office for archiving according to state regulations. The RE should:

1. Screen all of the hard copy files and eliminate duplication and extraneous material.
2. Transfer the materials to Metrolink representatives designated by the Program Manager.
3. File documents in accordance with the Document Control system. Items to be turned over include:
 - RE's Daily Construction Log (if applicable) indicating RE's actions, progress of work, significant occurrences, weather problems, related adjacent work, field notebooks, etc.
 - Daily Inspection Reports.
 - All records pertaining to the execution of the project, specifically the particulars of any delays or lack of cooperation in performance of the contract work
 - Daily records of force account work or overtime, at other than normal hours, as back-up data for payment for extra charges, if any.
 - All contract documents, plans, specifications, maps, logs, books, calculations, and studies.
 - Records of all correspondence and meetings pertaining to the contract.
 - Progress reports with certified quantities of work in place and activities completed, including records of materials or equipment delivered or stored at the site by the Contractor(s) and eligible for partial payment.
 - Record of all changes properly evaluated, estimated, negotiated, and accepted.
 - Final inspection and acceptance documents.
 - Progress photos required for progress control and claims.
 - All closeout certificates, forms, and letters.

The above reports will form a basic part of the permanent records of the project and will cover all factors affecting job conditions and progress of the work. When necessary, they will also record the hours of workers and equipment used in the work.

11.10 Record Documents (Drawings and Specifications)

Upon completing the contract, the Contractor should submit a marked-up set of full size Record Document drawings and one set of marked-up specifications to the RE, with a Contractor certification that the drawings and specifications are complete and accurately reflect the as-built condition. The RE will review these Record Document drawings for their completeness, stamp "Record Document" on them, and turn them over to the Project Engineer for the development of CAD files.

Standard Specifications Section 01 78 39, Project Records, describes the specific format and content of the record documentation package to be provided by the Contractor at the conclusion of the work.

11.11 Transference of Permanent Utilities

The RE, with assistance from the utilities engineer/coordinator, having previously coordinated permitting activities and established interim responsibility for temporary utilities (such as field offices

and temporary construction power) during construction activities and utilities that will eventually become integral to Metrolink operations, will coordinate with Signal & Communications or Facilities Management for the transference of utility accounts that will become permanent. Prior to turnover of newly constructed permanent system features, to include such items as stations/platforms, substations, park and ride facilities and signal/communication buildings, the RE and the utilities engineer/coordinator will provide account numbers, addresses, dates of transference and any other relevant information pertaining to the new utility service in memo format to the Project Manager. Physical locations of items such as meters will be reviewed with the appropriate parties during training activities for the new facility or system feature.

This transfer must be performed before moving the RE's records to archives.

11.12 ADA Certification

The RE is responsible to coordinate an inspection of the contract features to verify items were constructed in accordance with the appropriate ADA guidelines. If deficiencies exist a punchlist will be generated for resolution. If the Contractor is responsible for the deficiencies, the Contractor will be required to correct the items. If the deficiencies are a result of a design feature, the RE shall evaluate and determine the best option for resolving the item. Records and Reports

The records for the contract kept by the RE are the official contract records. They can be useful to other project team members. The RE should be aware that these records serve many functions and make sure the records are accurate and well maintained. Some of their uses are noted below:

- Weekly reports provide the chronological record to substantiate and update the project schedule. The as-built portion of the schedule (actual start and finish dates of activities) must be recorded as the job progresses.
- At times, progress plans and diagrams are used by public affairs representatives for dissemination to the public.
- The as-built schedule is an important record for analysis of a Contractor's delay claim and other time-related studies. An accurate record of the actual start and finish dates, as well as, dates of Notices and Submittals received and approved may be important in the analysis.
- Information in Inspectors' Field Notes, Daily Inspection Reports, and other firsthand accounts of job site activities may be used as critical evidence in a dispute or lawsuit; therefore they must be complete, professional, and objective.
- Actual activity durations can be used in lessons learned for future project planning.

12.0 Records and Reports

12.1 Daily Inspection Report

The Daily Inspection Report (DIR) is one of the principal forms of documentation on the project. Its purpose is to account for all construction work and practices observed by each inspector or field representative. Each inspector must prepare a written DIR of activities under surveillance for every calendar day. Because of its importance, care should be taken to be thorough and accurate when completing the report.

DIR forms should be numbered sequentially for each calendar day of the project whether work is

performed on the project that day or not; with the day of Notice to Proceed as day zero (0) and the last DIR the day the contract work is completed. The RE is responsible for assuring that these reports are complete and adequately convey the following information:

- Work performed by Contractors and Subcontractors.
- Any nonconforming work.
- Manpower, equipment, and visitors.
- Weather conditions.
- Field directions given.
- Phone conversations appropriate to the contract work.
- Inspections and tests performed.
- Issues and delays encountered.
- Safety infractions or incidents.
- Unscheduled or unanticipated contact with the media and attendance at public meetings, as requested by the RE or Program Manager. (Scheduled media events will always be coordinated by the representative of the Director of Communications.)

The Daily Inspection Report should not only include the activities that actually occurred on that day, but should note activities that were scheduled to occur but did not for some reason. If the inspector is aware of the reason(s), that should be noted as well. Reasons must be factual, not speculative.

When the Contractor performs extra work on a time and material basis, the inspector documents time and material charges to verify progress payments and submits this information at least weekly to the RE.

Photographs should be taken as needed to supplement the Daily Inspection Report in recording daily events. The RE may choose to file photographs with the daily reports, or separately per issue or date.

The RE reviews Daily Inspection Reports and takes appropriate action to deal with recorded events.

12.2 Communications

The RE is required to maintain a daily RE log, with all entries legible and factual.

The RE is responsible for ensuring that all important job site communications and observations are documented. Documentation may include letters, meeting minutes, photographs, E-mail messages, logs, DIRs, memos, and other records. All relevant documentation, including E-mail, must be entered into the Document Control system.

Project documents are subject to disclosure through legal discovery and Freedom of Information Act requests. This includes logs, electronic memos and other internal correspondence. Care must be taken to prepare accurate, factual, and professional documentation.

12.3 Field Notes

Field staff may use bound notebooks (similar to survey books) to accumulate field information and data. This data may be used in preparing the Daily Inspection Report and other reports. The

notebooks will not remain with the project records at the end of the project.

Field notebooks are not a substitute for Daily Inspection Reports. Record all significant matters in the Daily Inspection Reports.

12.4 Telephone Conversations

Important telephone conversations must be documented. Conversation notes should be included in the Document Control system and should be noted on Daily Inspection Reports or in the daily RE log.

12.5 Construction Photographs

In some major contracts, the Contractor is required to take progress photographs and submit them to the RE. If applicable, this requirement is stated in Standard Specification Section 01 32 33 Photographic Documentation.

Generally, a Contractor's photographs are in large print format and record progress from fixed points determined by the RE. Prints will be labeled, packaged, and delivered as specified in the contract. Electronic photographs may also be used as an alternative, but the acceptability of this format shall be agreed upon beforehand. File names of images should be descriptive.

In addition, the RE usually takes progress photographs weekly or more frequently to record significant events or problems. Unlike the Contractor's photographs, which may only create a time-lapse record of progress, the RE's photographs should record unusual or interesting events: changed conditions, safety problems, accidents, non-conforming or damaged work, unusual construction techniques or equipment, weather-related damage, areas or activities where claims or changes are anticipated, etc., in addition to recording the progress of the work.

An auto-date-stamp feature on the RE's camera is required. For each image, record the date and a brief description of the image, including any particular points of interest. Extreme close-ups of a single element are of little value without a description explaining the context. Digital photos shall be transferred to a CD or DVD for archive purposes.

12.6 Meeting Minutes

During the course of a project, the RE and his or her staff initiate and attend various meetings and issue meeting minutes. The RE is responsible for ensuring accurate documentation of meetings.

Meeting minutes should be structured as action items, with items numbered for easy reference. Each item in the meeting minutes should indicate clearly the status, date originally recorded, date due, and individual responsible for action.

Completed minutes should be distributed promptly, ideally within 3 working days. The minutes should include a statement inviting attendees to note corrections to the minutes and provide them during the next regularly scheduled meeting or within 2 days of receipt if the meeting is not a reoccurring activity. Any corrections received but not incorporated should be distributed to all recipients of the original minutes.

12.7 Record Documents

Contract specifications state the requirements for record documentation required of each Contractor. The RE is responsible for maintaining up-to-date record documents that reflect the as-built condition of the contract throughout construction. Changes to the documents may result from RFI responses, approved submittal information, as-constructed conditions noted on the site and described in the DIRs

or RE Logs. Changes shall be posted as follows: Red for additions, green for deletions, blue for notes to the drafter, and black for notes and calculations that are not to be incorporated into the document. Sketches included as part of an RFI, etc, may be taped to the drawing with an appropriate note made on the front of the drawing. The RE ensures that record drawings are complete, legible, and compatible with Metrolink CADD system, or as required by the construction contract.

Contract specifications typically will require the Contractor to maintain as-built records on a regular basis. The RE must review these records often enough to ensure that the Contractor complies with the contract requirements. The RE shall comply with Metrolink policy and the contract for review and payment when as-built records are paid as a separate item.

12.8 Metrolink Furnished Materials

Sometimes Metrolink provides materials to the Contractor to be incorporated in the work. There is no charge to the Contractor for these materials, but the Contractor must comply with Standard Specification Section 01 64 00 Metrolink Furnished Materials and Equipment requirements for loading, unloading, transporting, storing and handling.

12.9 Construction Contract Labor Reporting

Section SC-19 Disadvantaged Business Enterprise Participation and SC-23 Davis Bacon Act, of the Contract *Special Conditions* specify the requirements that the contractor must follow regarding labor and wage laws and regulations.

12.9.1 Wage and Hour Compliance

Metrolink requires the contractor to submit its certified payrolls to Metrolink Labor Compliance on a monthly basis for contract labor compliance verification. Additionally, the contractor is required to submit a copy of the certified payrolls with each monthly payment application to facilitate review of the payment application.

The labor compliance analyst will notify the RE of missing, incomplete, or inaccurate payroll information. The RE and the analyst will work together with the Contractor to correct any deficiencies.

Besides satisfying federal and contract requirements, payroll information is a useful project record, which may be important in analyzing future claims, schedule delays, or productivity.

To verify the accuracy of the certified payrolls, Metrolink is authorized by 29 CFR 5.6(a) (3) to interview the Contractor's employees to determine the correctness of labor classification and pay rates.

The labor compliance analyst may conduct on-site wage interviews. Interviews are scheduled as needed and as agreed upon by the RE and the contract compliance analyst.

12.9.2 Labor Compliance Monitoring and Reporting

In accordance with the requirements of the Diversity and Labor Compliance Section, the RE ensures that all required labor compliance documents are turned in by the Contractor each month. The RE communicates any deficiencies to the Contractor in writing.

12.9.3 DBE Monitoring and Reporting

In accordance with the requirements of the Diversity and Labor Compliance Section, the RE ensures that the DBE participation information from the prime Contractor is provided each month with the progress payment request. The RE communicates any deficiencies to the Contractor in writing.

13.0 Changes

Changes are inevitable on most construction contracts. The RE must become familiar with the Authority's Contract requirements regarding changes contained in GC-30 Changes. The RE is responsible for recognizing issues that could result in changes, expediting resolution of those issues, and processing Change Notices and Change Orders (CO) in a manner that protects Metrolink interests and is consistent with Metrolink procedures and applicable federal, state, and local contracting requirements.

In addition, the RE must document changes clearly, keep a log of Potential Change Orders, Change Notices, and Change Orders, and keep the Project Manager, the Program Manager, and Program Management Office advised of their status. When the RE and inspectors are aware of conditions that could lead to a CO, they create a Potential Change Order (PCO) file to document reports, communications, and actions related to the issue. Efficiency in recognizing potential changes and processing Change Orders can significantly affect the orderly progress and overall cost of the project. The RE will also make an initial percentage apportionment of responsibility (owner, contractor, designer) for each Change Notice.

It is imperative that all changes to a contract be implemented through the Change Order (CO) process and in conformance with the Program Management Office Standard Operating Practice PC-7.0.

14.0 Cost Recovery Due to Design Errors

Metrolink may pursue cost recovery from design consultants for financial damages caused by design errors or omissions if the errors or omissions are determined in excess of the customary standard of professional care. To monitor design errors, the RE should ensure that the change order log has a detailed description of the changes. The procedure follows:

1. To accurately assess the impact to Metrolink, the contract accounting of both Metrolink and the Contractor must be in order. Items that must agree include: original contract amount, additions and deductions from contract modifications, increased or decreased quantities, claims, cash allowances, deductions for uncorrected work, and deductions for liquidated damages.
2. The Project Manager identifies PCOs that have become COs and that originated due to design errors or omissions. The RE should review the list with the Project Manager.
3. The Project Manager provides a copy of the list to the appropriate design consultant(s) and requests a response from that consultant(s) within 2 weeks.

Once the consultant(s) response is submitted back to the Project Manager, the Project Manager attaches his or her personal recommendations for settlement of the issue with the consultant, and submits the package to the Program Manager and Assistant Director of Capital Construction and Rehabilitation.

The Program Manager and the Project Manager will manage the negotiations with the consultant(s) about design error settlements.

A formal review of this Cost Recovery process will be performed at the discretion of the project Program Manager and may be established as a regularly occurring activity based on experience with the contract.

15.0 Conformed Documents

Conformed documents incorporate bid-phase addenda into the IFB plans. Often they are prepared after the contract is awarded (at the start of construction). The RE and the Contractor need to understand the contractual significance of the conformed documents. The conformed set of documents is provided to the Contractor as a convenience only. The conformed document is not binding because it is issued unilaterally, not signed by both parties, and not guaranteed to be without errors. Also, both parties have not verified that all changes have been assimilated correctly and that additional material has not been added or deleted.

Notwithstanding the above, the Contractor and Metrolink often use the conformed documents because of the convenience of using an updated working set that incorporates previous changes. In issuing conformed sets, however, it should be made clear to the Contractor that, in case of conflict between the conformed documents and the base contract documents, the base contract documents plus addenda will govern.

16.0 Construction Claims

A construction claim is a written document in which a Contractor presents its request for additional compensation or time related to a contract issue that is not resolved to the Contractor's satisfaction, either through the CO process or contract clarifications by Metrolink.

The RE must understand and recognize the project circumstances that give rise to claims and, to the extent possible, mitigate those circumstances. The RE must also be mindful of the Notice provisions of GC-68 and understand the time limits for action by the Contractor and Metrolink. The RE shall keep a log of all Claims and individual files for each claim containing pertinent documents, correspondence, DIRs, and any other information associated with the claim.

16.1 Notice Requirements and Time Limits

GC-67 describes the Contractor's obligation to submit a written Notice of Intent to Claim, as a condition of receiving relief under the contract. It requires that such notice be given timely, within 15 days after the event happens. It must contain the information set forth in GC-67 Submission of Claims.

The RE should emphasize this point during the pre-construction meeting. Instruct the Contractor to submit all Notices of Intent to Claim and all Claims to the RE for processing.

GC-67 Submission of Claims further requires the Contractor to file the actual claim within 30 days of the NOI to claim the event or of the occurrence first giving rise to the claim.

GC-67 also provides that Metrolink will decide on the merit of a Contractor's claim within 45 days after receiving the claim, and if the Contractor is not satisfied with Metrolink's findings, it may, within 15 days, give written notice of its demand for a conference to Metrolink. Metrolink must schedule the conference within 30 days. If the Claim is still unresolved, the contractor may continue to pursue the Claim only by strictly following the Claims procedure detailed in the California Government Code.

16.2 Contractor's Responsibilities

After properly submitting a Notice of Intent to Claim, the Contractor must prepare its claim in accordance with GC-67 Submission of Claims. This GC requires the Notice to include a preliminary assessment of the Contractor's reasons for entitlement, nature of the costs, plan for mitigating such costs and, if possible, an estimate of the claim amount.

A comprehensive Contractor's claim package should include the following elements:

- Cover letter listing the major components of the claim, a brief description and total cost or duration of each component, and a grand total cost or duration claimed.
- Narrative of the Contractor's arguments on behalf of its entitlement for added costs or time.
- Detailed analysis of the Contractor's claims for added costs or time, describing fully and accurately how each component was calculated.
- Complete supporting documentation justifying all claim components, which should include:
 - Payroll records for all labor costs
 - Invoices for all materials
 - Invoices or rental agreements for all rented equipment
 - Copies of all reports, log entries, or correspondence verifying the alleged claim
 - Description of any impacts on the critical path of the project schedule

After receiving a Notice of Intent to Claim, the RE will review this list with the Contractor to encourage preparation of a complete claim package.

16.3 Resident Engineer's Responsibilities

The RE usually becomes aware of a difference of opinion before receiving a formal Notice of Intent to Claim. Changing conditions, concerns about delay, intent of a work element, and other issues may prompt a claim. The RE is responsible for tracking internally any issue that may become a CO or a claim. The RE will notify Metrolink's Project Manager or program management staff of the potential issues and say what steps or actions are recommended to eliminate or mitigate them.

Through the course of the weekly construction meetings, the Contractor, RE, and Project Manager discuss, and hopefully resolve, many issues. The RE is responsible for recording these issues in the weekly construction meeting minutes. Items that were closed, but were contrary to the Contractor's interpretation or that remained open for an excessively long time may become Notices of Intent to Claim and should be tracked internally by the RE.

The RE should settle issues with the Contractor before they precipitate a Notice of Intent to Claim (see 14.4 Claims Avoidance below). If that is not possible and the Contractor submits a Notice of Intent to Claim, the RE must immediately take these steps:

1. Notify the Project Manager.
2. Assign a sequential number to the Notice of Intent to Claim, log the Notice in the Claim Log, and establish a separate file folder for all pertinent documentation. Open a PC file, if not done already, to track the history of the claim.
3. Acknowledge to the Contractor, in writing and without commitment, that you have received the Notice of Intent to Claim. Take care not to indicate an opinion (either given or implied) of the Contractor's allegations.
4. If pre-authorized by the Project Manager, the RE may, in the first correspondence with the Contractor, reject the Claim if it is not supported by the documentation submitted with the Claim and send a copy of this correspondence to the Program Manager. However, this is not to be adopted as a standard response in lieu of analysis of the Claim.

Time-related claims are common, especially if the contract is one of many within a large project. Claims for additional compensation due to delays, disruption, and loss of productivity, acceleration, and constructive acceleration fall in this category. This type of claim is typically more complex to analyze than a typical Change Order Request, so the RE should seek the assistance of the Program Management Office and the Assistant Director, Capital Construction and Rehabilitation to evaluate the claim.

The claim evaluation is coordinated by the RE and may involve the Project Manager, Program Management Office staff and the Contractor itself. The purpose of the evaluation is to determine:

- Are the Contractor's reasons for entitlement valid and are the costs justifiable?
- What is the actual time impact on the contract completion date? This evaluation is made after unused float time, concurrent delays, etc., is taken into account.
- Will the request for time extension have an impact on other Contractors or adjoining contracts? What, if any, remedial action can be taken to recover lost time and allow for on-time completion? What will this action cost in time and dollars?
- What would be the impact to the Contractor if the time extension were disallowed and the liquidated damages were assessed?

After determining the answers to these questions, send the time extension request – with the RE's analysis and recommendations – to the Project Manager for approval. If Metrolink recognizes merit in the Contractor's request, the Project Manager will direct the RE to initiate a CO. If Metrolink denies the request for a time extension, the RE notifies the Contractor of the denial. The RE and the Project Manager shall not deny a valid request for an extension of time in the hope that the Contractor will recover the time. This is constructive acceleration.

16.4 Claims Avoidance

A frequently seen basis for claim is the cumulative effect of an unexpectedly large number of changes on a project. The ripple effect argument asserts that the burden of dealing with a large number of changes adversely impacts productivity, project administration costs, and morale. The RE may receive a delay, disruption, or constructive acceleration claim as a result.

Actions the RE can take to avoid claims include:

- Provide the Contractor with a set of contract documents with minimal errors, omissions, and ambiguities.
- Provide clear definition and coordination of the interface points between Contractors, with work boundaries and time windows logically described and communicated.
- Set an example by having a cooperative attitude with the Contractor.
- Grant justifiable COs and time extensions in a timely manner.
- Offer to solve problems and provide information and approvals in a timely manner.
- Monitor quick turnaround on progress payment requests.
- Notify the Contractor immediately of any non-conforming work elements.
- Bring in Metrolink end users early and frequently to view progress so if any changes are needed, they are identified early and not during the punch list or turnover.

The RE is also responsible to provide Metrolink with the strongest defense possible against claims that are received. Once a claim is received, the routine daily project documentation and record keeping by the RE and his or her staff's form the factual basis of the claim defense. Accuracy and attention to detail are crucial to formulating the defense. Elements of this documentation include:

- Inspectors' Daily Inspection Reports
- Daily logs
- Inspectors' field notes
- Submittal logs
- Contractor's original approved baseline CPM schedule
- Current project schedule and look ahead schedules
- Construction meeting minutes
- RE's project file
- PCO files
- Project photos

Accurate categorization and filing, objectivity, easy retrieval, and coherent content of the project documentation will greatly help the team members responsible for preparing the claim's defense.

Most claims avoidance techniques are common sense. Metrolink can avoid many claims by identifying and resolving issues quickly. Quick and clear direction removes some of the guesswork for the Contractor. Less guesswork keeps the Contractor in greater control of contract events.

17.0 Disputes

This section addresses disputes between the Contractor and the RE. It does not address labor disputes. In construction, it is not uncommon for disagreements to occur between the Contractor and the RE. Differences in opinion about scope, specification interpretation, or field instructions sometimes arise. A dispute occurs when the Contractor and the RE are unable to resolve an issue via avenues available to them within the contract, such as COs. The work must proceed regardless. The dispute is documented, discussed, and ultimately resolved by CO, administrative remedy or claim.

The RE and Contractor are encouraged to settle disagreements at the level of the RE and the Contractor's on-site representative. If they reach an impasse—and before escalating the disagreement—the RE and the Contractor should agree on as many issues of fact as possible to delineate clearly the boundaries of a dispute and the impacted contract elements. This helps to avoid subsequent work elements becoming entangled in the dispute.

A disagreement or dispute must not be allowed to adversely affect other work or cause delays. To mitigate a delay to the work, follow these guidelines:

- The RE and the Contractor's project manager must agree on what specific facts or issues are in dispute. Both sides should strive to accept that disputes are a routine part of the business and that there are always multiple viewpoints. Remain dispassionate and professional.
- The RE must provide written direction on how to proceed, and the Contractor is expected to proceed accordingly, dispute notwithstanding.

- Both parties must keep records to establish costs, time, and delays associated with performing the disputed work. This will serve as the basis of damages when the dispute is ultimately concluded.

17.1 Dispute Resolution

GC-68 Public Contract Code Claim Procedure describes that if the contractor has a dispute remaining following the claims process the contractor may continue to pursue the claim through the Claims procedures detailed in the California Government Code.

However, the RE and the Contractor are expected to meet with the Program Manager to discuss the issue and seek resolution before presenting the California Government Code procedure.

It is Metrolink’s intent to avoid litigation, mitigate delay and expense, and help foster good relations and teamwork between Metrolink and the Contractor. The RE will support the resolution and mitigation of disputes in every way possible.

18.0 Quality Assurance and Quality Control

This section is the reference for all projects that do not have a specific Quality Assurance Program Manual. In case of conflict, a project specific Quality Assurance Program Manual supersedes information in this section.

The primary functions of quality assurance and quality control are defined below:

Quality assurance and quality control will be structured in such a manner that:

- Quality Control (QC) – Quality is achieved and maintained by those who have been assigned responsibility for performing the work.
- Quality Assurance (QA) – Quality achievement is verified by persons who are not directly responsible for performing the work.

The structure for any consultant or Contractor organization assigned to perform quality-related work is the responsibility of that organization, subject to Metrolink’s approval, and must meet the following criteria:

- QA/QC personnel will report to a level of management that provides sufficient authority and organizational freedom to assure that appropriate action is taken to resolve conditions adverse to quality.
- QA/QC personnel will have sufficient authority and access to work areas to obtain samples or to identify quality problems, verify implementation of solutions, and assure that further work is controlled until there is proper disposition of an unsatisfactory condition.
- QA/QC personnel will not be assigned duties directly involved with the work being monitored.

Management of the organization implementing the program and Metrolink QA staff will regularly and formally assess the adequacy and effectiveness of quality programs.

18.1 Definitions

Quality assurance and quality control terminology is defined below:

Term	Definition
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<i>Quality Policy</i>	The overall intention and direction of Metrolink project organization regarding quality
<i>Quality Assurance Program</i>	The coordinated execution of applicable quality policies and QA/QC activities for Metrolink projects
<i>Quality Control Plan</i>	A written description of intended actions to assure and control quality of material and workmanship for a specific construction or equipment procurement contract
<i>Quality Assurance</i>	All planned and systematic actions needed to provide adequate confidence that an item conforms to established requirements and will satisfy given needs. QA is a management tool.
<i>Quality Control</i>	<p>The operational techniques and activities used to ensure that a product or service fulfills requirements for quality.</p> <p>Quality control generally refers to:</p> <ul style="list-style-type: none"> • Professionally preparing and checking design documents • Inspecting, measuring and testing a process or product to determine that it meets specifications, and documenting that activity. <p>Products include design documents, manufactured equipment, or constructed items.</p> <p>QC is a production tool.</p>

Quality is achieved when the work is constructed in accordance with the drawings and specifications and within the tolerances stated in Metrolink’s design standards and the Contract documents.

18.2 Quality Assurance Objectives and Responsibilities

The RE is responsible for performing QA activities with support and assistance from other Metrolink staff, including the Metrolink Project Manager, and consultant Design Manager.

18.2.1 Quality Assurance Objectives

QA objectives are to provide:

- Confidence to Metrolink management that the project is developed in accordance with the Contract requirements.
- A planned and systemic approach to attaining project requirements and expected level of quality.

18.2.2 Quality Assurance Responsibilities

The RE ensures that construction materials and workmanship meet contract specifications and are of desired quality. The RE coordinates QA/QC activities with construction staff and provides the following

services that will be listed in the RE's Contract Task Order authorizing the RE's work:

- Implements Metrolink's QA Program.
- Ensures QA oversight and QA audits of the Contractor's QC Plan—once approved by Metrolink—to verify that the Contractor's QC activities conform to the approved *QC Plan* and to the Contract documents.
- Ensures QA oversight and QA audits of both Contractor field QC work and Metrolink RE/Inspector field QC work.
- Ensures QA oversight and QA audits of Metrolink's independent materials testing laboratory.
- Ensures QA oversight and QA audits of project records, such as field inspection reports and laboratory test results, to assure that these records are accurate, properly executed, distributed to the required people and properly maintained.
- Participates in the constructability review of design documents.
- Advises the Project Manager of existing or potential quality problems.

The RE should note that there will be occasions when Metrolink provides independent inspection. The RE will facilitate such independent inspection.

18.3 Quality Control Objectives and Responsibilities

During construction, the Contractor is responsible for quality control of processes and procedures and for verifying the quality of the results. Quality control procedures established in the Contractor's QC Plan, should be reviewed and agreed upon by Metrolink.

The RE, assisted by inspectors and office staff, is responsible for monitoring the Contractor's implementation of and adherence to the approved QC Plan. Tasks include observation, review of records, inspection, and documentation. The RE and inspectors will have access to qualified employees or sub-consultants, including Metrolink's independent testing laboratory, for check sampling and testing and for making survey checks of the Contractor's work.

18.3.1 Quality Control Objectives

Quality control objectives are:

- To establish a systematic approach to inspection, testing and overall monitoring of construction activities to verify adherence to contract requirements.
- To provide early identification of conditions that might adversely affect satisfactory completion of the project and to provide for timely corrective actions.

18.3.2 Quality Control Responsibilities

The Contractor, RE and inspectors have QC responsibilities.

Contractor: The Contractor is responsible for the quality of all work performed by Contractor or Subcontractor forces and has primary responsibility for inspecting and testing all materials. For some contracts, the Contractor is required to develop a QC Plan, which with proper implementation will ensure the quality of the contracted work. The QC Plan at a minimum should include:

- Contractor's inspection and testing plan.
- Procedures for conducting and recording inspections and tests indicated in the plan.

- Record keeping procedures to demonstrate and document compliance with codes, licensing requirements and specifications.
- Procedure for providing certifications and test results for materials and products to be incorporated into the project work.

The Contractor and RE should meet regularly, with specific meetings approximately 2 weeks before new construction trade activities begin. They will review drawings and specifications, status of required submittals, level of training of the work crew, methods to be used, and quality to be achieved. The meeting may conclude with a walk-through of the site to ensure that it is ready for the work.

Resident Engineers and Inspectors: REs and Inspectors have these QC responsibilities:

- Monitor the Contractor’s QC activities.
- Verify the Contractor’s material certifications and samples.
- Inspect materials and equipment delivered to the job site.
- Inspect specialty equipment, fabricated construction materials, and construction and installation work in progress.
- Document the results of inspections and test and note any failed tests.
- Monitor construction operations and field testing of construction materials.
- Hold progress meetings (weekly on major projects) during construction and document quality issues in the weekly minutes.
- Review the Contractor’s QC documentation.
- Notify the Contractor immediately when materials or workmanship do not conform to the contract documents.
- Help to interpret contract drawings and specifications; document and arrange resolution of disputes, if possible.

To the extent possible, the RE and inspectors are to reasonably satisfy themselves that the completed product will perform satisfactorily in terms of reliability, safety, durability, function and appearance—as intended in the contract documents. If there is any question about performance of a product or material—even if the product or material complies with all contract requirements—the RE is to discuss the issue with the Project Manager. Pay particular attention to features that will be incorporated into the work of follow-on Contractors.

18.3.3 Comparison of QC Responsibilities – Contractor and RE

Quality control responsibilities of the Contractor and the RE are distinct. Both are essential to achieving the project’s quality objectives.

Contractor: The construction Contractor has primary responsibility for constructing the work in accordance with the Contract requirements. The Contract often requires that the Contractor provide QC personnel and an independent testing laboratory (both are subject to Metrolink approval) and performs materials testing by an independent laboratory. Metrolink typically requires concrete and soils compaction testing. The Contractor generally provides a quality control manager and other QC personnel, such as a certified concrete technician (CCT) or other professionals, as required by the contract.

RE and Inspectors: Metrolink provides quality assurance through the RE. Inspectors are responsible for daily visual on-site verification of the Contractor's workmanship and materials. They document work activities on Daily Inspection Reports (DIRs) and prepare Non-Conformance Reports (NCRs), as needed, to document identified deficiencies and their disposition. The Contract provides that Metrolink has the authority to inspect and test all or any part of the work at any reasonable time. Metrolink contracts with an independent materials testing laboratory to perform materials confidence testing as-needed by Metrolink. Non-Conformance Reports (NCRs) may be issued by the Contractor's QC staff, and forwarded to the RE for acceptance of proposed remediation and for tracking purposes. (The RE shall determine if approval of the proposed remediation is required from the consultant Design Manager and forward the documentation accordingly).

18.4 Inspection, Materials Testing and Reports

Inspection and testing activities are intended to verify that the quality of work complies with contract requirements and to prevent the incorporation of non-complying materials and workmanship.

The specifications include the Contractor's requirements for inspection and testing. The Contractor's inspection and testing plan, based on contract specifications are to clearly contain all inspection and testing activities that the Contractor will perform. This plan is included in the Contractor's *QC Plan*, which is to be approved by the RE. The RE and inspectors are to monitor the Contractor's QC activities to monitor compliance with the Contractor's *QC Plan* and expected level of project quality.

The RE will work with the Contractor to establish a series of hold points so that both parties understand when the RE and the RE's staff must inspect the work. To avoid delaying progress, the RE will cooperate with the Contractor so that inspectors are present when the Contractor reaches a hold point. Under no circumstances may the RE or the RE staff allow the Contractor to cover up work that has not been inspected. The RE may require materials or workmanship that was covered without inspection or authorization to be uncovered, if the opportunity for inspection was not presented.

18.4.1 Quality Control Testing

QC testing is detailed in the Contractor's approved QC Plan. Materials testing may include nondestructive testing, radiography, ultrasonic, magnetic particle and liquid penetrate examination and is to be accomplished according to approved testing practices and procedures by certified personnel, using calibrated testing equipment.

18.4.2 Quality Assurance Testing

The RE will determine the level of QA testing to be performed by Metrolink's independent testing lab. QA confidence testing needs to be performed only to the degree required by the contract or as needed to satisfy the RE that adequate QC testing has been performed.

The RE may require QA testing of any product or material intended for incorporation into work. Failing a QA confidence test is sufficient reason to reject materials or workmanship. If QC testing and certifications have indicated that workmanship and materials comply, additional testing is in order.

The level of QA confidence testing is anticipated to be approximately 5 percent of the level of QC testing. A higher level of QA testing may be justified at the beginning of work—until there is confidence in the Contractor's QC program. Similarly, if the Contractor's QC program were not producing the required quality, a higher level of QA testing would be required.

18.4.3 Quality Control and Test Results

The Contractor is to submit QC reports to the RE as specified in the contract. Similarly, inspectors are to submit daily reports including QC activities.

Results of all tests—both Contractor QC tests and Metrolink QA tests—are to be submitted to the RE. The RE office maintains the test reports.

Test reports must indicate whether the item tested conforms or does not conform to specification requirements.

18.5 Non-Conforming Work and Items

The RE has authority to reject and order the removal of materials for which tests or certifications indicate non-conformance with contract requirements and any material for which the required certification and testing has not been provided.

The Contractor may elect to perform testing on materials for which test results and certifications are lacking and perform retesting on materials indicated to be non-conforming. Any retest is expected to be more extensive than the original test.

If, after reviewing inspection and testing reports that indicate a material does not conform, it is determined the material is suitable for intended use, appropriate documentation covering acceptance of the material must be prepared. If the approved item is not per specification, a CO is required. If appropriate, approval of a non-conforming item may result in a reduction in pay (credit CO). A credit CO for nonconforming material is to be based on the estimated loss of value to Metrolink, and not as a penalty.

Except as provided for in the contract or authorized by the Program Manager, the RE is not authorized to revoke, alter, substitute, enlarge, or relax any contract requirement.

Non-conforming work for which proper resolution is uncertain, (i.e., correction cannot be made within a reasonable time) will result in a Non-Conformance Report (NCR). It will be documented, controlled, and disposed through the NCR procedure. Refer also to Standard Specification Section 01 40 00 Quality Requirements. The Metrolink construction staff, primarily the RE and inspectors, will initiate NCRs as needed. The Contractor, Metrolink consultant Design Manager, or specialty engineering consultant may also initiate NCRs. Contractor guidelines for generation of NCRs will be established in the approved version of their Quality Control Program, if this document is required per their contract. Upon the receipt or initiation of an NCR, the RE shall forward a copy of the document to Metrolink quality assurance manager for review and trending purposes.

All NCRs are controlled by a sequential numbering system for each individual contract and are monitored by an NCR log maintained and controlled by the RE.

The Contractor to whom the NCR is issued, or who issues the NCR, is responsible for investigating and describing the root cause of the non-conforming condition and for providing a disposition and disposition instructions.

Disposition terminology is defined below:

<u>Term</u>	<u>Definition</u>
<i>Use as is</i>	The non-conformance does not violate the design specification's intent or requirements. It has been determined that no corrective action is warranted or necessary. This

disposition requires approval/concurrence of the design engineer.

Repair

Process a non-conforming item so that it can function reliably and safely, even though the item still does not conform to the originally specified requirement. This disposition requires approval/concurrence of the design engineer.

Rework

Reprocess an item to conform to the originally specified requirement.

Reject

The non-conforming item cannot be rendered acceptable and is to be removed from the project site.

The assigned Metrolink inspector(s) are responsible for monitoring the corrective action and, upon satisfactory completion, recording it on the closeout section of the NCR form. After closeout by the assigned QA inspector(s), the original NCR remains in the RE's files and a copy of the completed document is forwarded to Metrolink quality assurance manager.

19.0 Safety

This section provides an overview of Metrolink safety policy, safety program and system safety certification process. It outlines safety responsibilities of Metrolink and its Contractor, summarizes project safety requirements, gives procedure for non-compliance, states emergency notification and reporting requirements, and provides an overview of safety certifying a project for placement into revenue service or for use by Metrolink personnel.

19.1 Safety Policy

Safety is the top priority on all Metrolink construction projects. Metrolink's safety policy is to maintain a safe work environment at all times during construction for all project workers and the public.

Metrolink's goal is incident-free construction. The project team will make every reasonable effort to prevent incidents, protect property from damage, protect the public from injury, and maintain safe rail, pedestrian and vehicular traffic.

Metrolink requires all project personnel, including employees, consultants, Contractors, Subcontractors and workers under any contract, to fully support, cooperate, and participate in the project safety program.

19.2 Safety Program

See Contract Specification 01 35 23 for required safety submittals required from the Contractor.

19.3 Contractor's Responsibilities

The construction Contractor has direct responsibility for the safety and health of all construction workers and for protecting the public within the area of the project's construction impact. The construction Contractor is responsible to:

- Provide safe working conditions for all project workers

- Protect the public and others who may come into contact with the project
- Ensure that all activities and workers have successfully completed the Roadway Worker Protection class and comply with Metrolink's track access requirements when working near the tracks.
- Develop specific written hazard analyses of planned activities that present significant risks to workers or the public, review with Metrolink, and discuss with workers before beginning construction activities.

Before beginning construction activities that present significant risks to workers or the public, the Contractor will develop, review with Metrolink, and discuss with workers specific written hazard analyses of planned activities. Where applicable, hazard analyses consider risks in relation to rail, pedestrian and/or vehicular traffic.

Metrolink requires the Contractor to develop a safety culture and awareness on each project that involves and stimulates proactive safety measures by all workers. Safety culture can be defined as the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.

The Contractor's project manager or superintendent ensures that the Contractor's responsibilities, as set forth in the Contractor's *Safety Plan*, are met. The Contractor's project manager must designate a safety representative who is responsible for the day-to-day implementation of the Contractor's *Safety Plan*.

19.4 Metrolink Responsibilities

Safety responsibilities are shared among project management and staff, consultants, the construction team and departments. All members of the construction team are responsible for familiarizing themselves with all safety requirements. All Metrolink construction team members will encourage and support the Contractor's efforts to develop an effective safety program and to establish a safety culture on the project that involves all workers. Each member of the team and all Metrolink employees are responsible for assuring Contractor compliance with safety.

It is particularly important that notice of and information related to serious incidents and emergencies be promptly communicated from the construction site to agency officials. Follow lines of communication, as outlined in this section. All on-site Metrolink representatives will cooperate and assist as appropriate in the timely notification of agency officials.

Specific safety responsibilities are outlined below:

19.4.1 Project Manager

The assigned Metrolink Project Manager has overall responsibility for monitoring safety compliance during construction. The Project Manager monitors Contractor performance through Metrolink safety representatives and the assigned RE and field construction staff.

19.4.2 Metrolink System Safety and Security Department

The RE will work with Metrolink's System Safety and Security Department to ensure that project safety is consistent with the agency's overall policies and needs. Safety representatives coordinate activities with Metrolink construction team through the assigned Project Manager and RE.

On certain projects, Metrolink may employ added safety representatives or form a construction safety committee to help implement Metrolink's safety program during construction. These persons supplement the efforts of the construction team and communicate with all parties involved in Metrolink's safety and loss control efforts.

Representatives of Metrolink's safety department may direct the RE to issue stop work orders to any Contractor or Subcontractor who fails or refuses to take prompt, corrective action when notified of non-compliance with an applicable safety requirement. In cases of imminent danger, safety department representatives are authorized to direct the Contractor to immediately suspend work until the imminent danger is removed.

19.4.3 Resident Engineer

The RE is responsible for overall administration of the construction contract, including safety management. The RE has these duties, responsibilities, and authority:

- Is Metrolink's "eyes and ears" on the construction site.
- Facilitates the Contractor's understanding of project safety.
- Delegates authority to staff to ensure project safety.
- Monitors the Contractor's performance under the terms of the contract and takes all reasonable measures to ensure compliance with it.
- Leads Metrolink construction team and develops an effective relationship with the Contractor to provide project safety.
- Has the authority to a) stop work when danger exists, and b) remove from the work site any person who continually or deliberately violates Metrolink's Operating Rules, safe work practices, or the Contractor's *Safety Plan*.
- Holds progress meetings (weekly on major projects) during construction and documents safety performance in the weekly minutes.
- Checks with the Contractor routinely to ensure that hazard analyses are conducted and are reviewed with workers.
- Informs the Contractor of Metrolink's required track access procedures and facilitates timely advance application for track access.
- Ensures that appropriate Contractor personnel have adequate security clearances to access Metrolink property and facilities.
- Works with rail operations and maintenance to coordinate track access requests and takes reasonable steps to minimize impact on rail operations.
- Discusses safety at Metrolink/Contractor progress meetings and documents significant matters.
- Notifies the Contractor about non-compliance with safety requirements and requires corrective action.
- Identifies persons who will be notified of construction emergencies and distributes an up-to-date emergency contact list.
- Responds to incidents by ensuring that an investigation is promptly conducted and documented.

19.4.4 RE Weekly Progress Meeting Minutes

During construction, the RE is responsible for properly documenting performance under the contract. On major projects, weekly progress meetings are required.

To keep agency management informed, the RE should include the following safety related information as part of the weekly minutes:

- Most recent data on recorded incident rate and lost time accident rate
- Recap of incidents for the past week, with action taken
- Recap of planning for and hazard analyses of upcoming activities
- Safety notices of non-compliant activities issued and closed out
- Other significant safety issues

19.4.5 Job Hazard Analysis

The Contractor shall perform a job hazard analysis (JHA) in advance of any construction activity that poses significant risk to workers or the public. The RE should routinely check with the Contractor to ensure that these analyses are being performed and reviewed with the workers.

19.4.6 Metrolink's Track Access Procedures

Special precaution is needed when work is performed in or near Metrolink's operating track and right of way. Metrolink controls access to the rail right of way to avoid conflict or delays with rail operations and to maintain safe movement of trains through work areas. Of particular concern for worker safety is exposure to train movements.

19.4.7 Safety Meetings

On all projects, the RE is to discuss safety at Metrolink/Contractor progress meetings and document significant matters. The RE may establish other safety committees as the project warrants.

19.4.8 Non-Compliance with Safety Requirements

The RE, Metrolink System Safety and Security Department or any Metrolink representative has the authority to stop work at any time if a serious safety hazard is noted. In the event of non-compliance with safety requirements, the RE shall take these steps:

1. Notify the Contractor of the non-compliance and of the corrective action required.
2. If the Contractor fails to take corrective action to eliminate a non-compliant item in a timely manner, issue follow-up notice, retain monies to correct the non-compliance through an alternative means, and/or consult with the Program Manager for further direction.
3. If the Contractor fails to take corrective action to eliminate an imminent danger to the workers or public in a timely manner, issue a stop work order regarding the work in question until the danger is corrected.
4. Require the removal from the project of any Contractor worker, personnel, or equipment that is deemed unsafe.

19.4.9 Emergency Notification Process

At the beginning of each construction project, the RE identifies persons who are to be notified of a

construction emergency. The notification process includes the requirements of this section.

FIRST: Call Metrolink Operations Center!

A construction emergency includes all incidents for which emergency services are summoned via 911—fire, police or ambulance. Call MOC FIRST because MOC may be able to summon help faster than 911! Also, MOC must be informed to prevent putting passengers at risk and to prevent rail traffic from exacerbating the emergency.

Additionally, the RE may handle other serious incidents that do not involve a 911 call in accordance with the emergency notification procedures of this section. Any incident that is likely to create a threat to the public or generate news media attention should immediately be brought to the attention of the RE, the Program Manager, the Director of Communications, the Assistant Director, Capital Construction and Rehabilitation and the Director of Engineering and Construction.

IMMEDIATE NOTICE OF EMERGENCIES IS REQUIRED

Notification of emergency incidents must be made as soon as possible after occurrence and within 30 minutes maximum. This is essential in order to:

- Inform the Chief Dispatcher (MOC)
- Inform agency managers including the Program Manager, Director of Engineering and Construction, the Director of Public Affairs, and the Assistant Director of Capital Construction and Rehabilitation.
- Respond to news media inquiries
- Respond to inquiries from public

19.4.9.1 Emergency Notification Tree

When the project begins, the RE must identify the emergency contact persons and their respective telephone and pager numbers and prepare an emergency notice plan. The list is to include the construction Contractor as well as Metrolink personnel. The RE distributes the up-to-date emergency contact list to the RE's field construction staff, Project Manager, Program Manager, the Assistant Director, Capital Construction and Rehabilitation, and the Director of Public Affairs.

Each member of the construction team must understand and implement the emergency notification procedures in this section. Mandated notification follows:

- 1) On-site inspectors and field engineers notify the Chief Dispatcher (MOC), the RE and the on-site Metrolink and Contractor safety representatives.
- 2) If service is disrupted, the RE notifies the Chief Dispatcher (MOC), Program Manager, Project Manager, and Metrolink System Safety and Security.
- 3) The Program Manager notifies the Directors of Engineering and Construction and Public Affairs and the Assistant Director, Capital Construction and Rehabilitation.
- 4) The Assistant Director, Capital Construction and Rehabilitation notifies the Chief Operating

Officer and the Chief Executive Officer as warranted and as instructed by the Director of Engineering and Construction.

5) The Director of Public Affairs notifies the internal and external stakeholders.

DUTY TO BE REACHABLE

The success of the notification tree requires each designated emergency contact person to be reachable at all times. If someone cannot reach an individual as mandated in the tree he should notify all persons whom that individual would notify.

19.4.9.2 Incident Reports

The RE is responsible for completing an incident report within 24 hours of an incident. The RE sends the report to the Project Manager and Metrolink System Safety Department.

Note on the report information to be withheld from the public, such as the name of a seriously injured person until family members are notified.

19.4.9.3 Media Relations During an Incident

Generally during a major incident, the Director of Public Affairs, is responsible for media relations. The Director of Public Affairs coordinates media communications, determines who should be the chief spokesperson, obtains information, schedules updates, and arranges logistics. In general, the RE is not responsible for media contacts or relations.

- The RE should refer all media contacts to Metrolink’s Director of Public Affairs and immediately notify the Project Manager of the contact and scope of the inquiry.

Occasionally, the media may arrive on-site before the Program Manager or Director of Public Affairs is involved. In such instances, the RE should inform the media who the proper contact person is at Metrolink. The RE should be helpful and communicate with the media as is appropriate.

PRINCIPLES FOR DEALING WITH THE MEDIA

The RE should follow these principles:

- Be positive and professional, and mindful that you are representing SCRRRA.
- If requested, state your name and title.
- Be forthright, sincere, and report only facts known by you, in direct response to questions.
- Keep your answers short.
- Do not speculate or guess about the events that occurred or about fault for the incident.
- Do not dodge questions for which you have a factual answer.
- It is okay to say *I don’t know* or *I do not have the answer to that question and I will investigate and get back to you.*
- Do not say *No comment.* This appears evasive.
- Do not say anything “off the record.” Say it for the record or not at all.
- Do not admit or implicate error, blame, or assign responsibility for the incident

19.5 Safety Certification

Safety Certification is the formal process for verifying that a newly constructed or modified segment of the system alignment, or an associated upgraded facility, complies with all federal, state and agency guidelines prior to placement into revenue service or turned over to Metrolink personnel for use. Safety certification requires that civil / structural, traction electrification, signal and communication system components of the system are operational and acceptable for use in revenue service or by Metrolink personnel. The following are some general responsibilities for REs, Metrolink staff, and Contractor personnel.

The RE's responsibilities in the safety certification process include the following:

- Overseeing the completion of the final version of the checklists by the Contractor and designer (if a Design Build contract is utilized) and verification of their acceptability by Metrolink staff.
- Conducting follow-up meetings as needed to evaluate changes to the approved versions of the checklists (additions and deletions require a committee decision).
- Ensuring that supporting documentation is on-hand or archived correctly.
- Ensuring that valid exceptions or exclusions to the list are properly documented.
- The Program Manager's responsibilities in the safety certification process include the following:
- Assist in the assessment of elements described on the checklists.
- Review of the checklists prior to submission to the safety and security committee.

The System Safety Department's responsibilities in the safety certification process include the following:

- Providing general or preliminary safety certification checklists to the RE (see note below).
- Assist in the assessment of elements described on the checklists.
- Review of the checklists prior to submission to the safety and security committee.

System Safety's responsibilities in the certification process include the following:

- Approval of the safety certification checklists prior to formal issuance to the Contractor/designer for action.

The design group and Contractor are respectively responsible for:

- Verifying that the design meets guidelines established by Metrolink Design Criteria Manual, standard specifications and documents of a similar nature.
- Initial verification that constructed items meets design and construction requirements and are supported with documentation (inspection reports, test reports, etc.)

Note: If the contract is Design Build, Metrolink will create the preliminary safety certification checklist, which will be provided to the DB Contractor, through the RE, for further development as the project advances. When the 'final version' of the checklist has been completed it will be reviewed by the RE and CM and returned to the safety and security committee for approval. All items proposed for inclusion onto the list shall be reviewed at this time to verify that the essential items have been incorporated.

Any changes (additions, edits, or deletions) to the original approved version of the safety certification checklist will require review and approval by the safety and security committee with a preliminary

review performed by each Metrolink entity described above.