Construction Manual (CMAN)

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1. INTRODUCTION

1.1 PURPOSE

The Construction Manual (CMAN) provides guidance for the Metra Construction Manager's (CM) administration, management, and observation of Metra construction projects. The CMAN defines the required uniform construction project management practices across all projects managed within Metra's Capital Program. Providing for the operation and maintenance of a safe, reliable, and convenient commuter railroad system, Metra's Capital Programs include projects that involve design, construction, and procurement and installation of materials.

The role of the CM is to coordinate, manage, monitor, and report on the Contractor's activities associated with their construction contract, and interface with Metra operations as required. The CM must verify the construction activities are performed in accordance with the contractual requirements, open issues and/or activities are promptly resolved, and contract required construction documentation is adequately prepared and maintained. To ensure the successful delivery of completed project(s) the CMAN outlines the roles, processes, tasks, and documents required to effectively manage a Contractor's scope of work under contract with Metra. The CM will provide the Contractor with the applicable Metra construction documentation, forms, logs, reports, etc., identified as part of the Contractor's contractual requirements in executing their work.

1.2 USE

The CMAN is beneficial for providing guidelines for first time Metra Project Managers, Metra Construction Managers, Owner's Representatives (OR) and firms new to Metra's project delivery methods, as they relate to Project/Construction Management. The manual describes procedures for efficient processing of project information to ensure a quality completed project. This manual is not intended to be all inclusive nor does it represent instruction in all areas where instruction may ultimately be deemed necessary. It may be supplemented and/or revised by Metra during the life of the CM contract or task order and issued to the CM for implementation. This manual contains the procedural guidelines and processes that Metra expects the CM to perform while managing construction contracts, from award through contract closeout, under Metra's Capital Program.

Throughout the CMAN there are various components available through Metra's Third-Party Contracts Quality Management Plan (TPCQMP). The TPCQMP provides various quality procedures to support the project management functions of contract modifications, correspondence logging, daily reporting, meetings, nonconformances, project deliverables, project file naming, project organization chart, request for materials inspection, record of Contractor contact, project submittals, logs of training, testing, and equipment calibration, and transmittal of information.

1.3 RESOURCES

In preparation of this manual, construction manuals from other agencies were reviewed to obtain the best practices and relevant information along with guidance from the Federal Transit Administration (FTA) to develop the CMAN. Below is a list of resources for input and guidance to the CMAN:

- Construction Management Handbook, Federal Transit Administration (FTA)
- Construction Inspection Manual, 8th Edition, Builders News, BNI Publications, Inc.
- Illinois Construction Manual, Illinois Department of Transportation (IDOT)
- Construction Manager's Manual, Illinois State Toll Highway Authority (ISTHA)
- Construction Manager Manual, Chicago Transit Authority (CTA)
- Construction Management Plan Manual Northern Indiana Commuter Transportation District (NICTD)

2. PROJECT LIFE CYCLE - IMPLEMENTATION

This section to be developed and integrated with the project lifecycle sections of the Project Manager (PM) and Design Manuals.

3. RESPONSIBILITY AND AUTHORITY – CONSTRUCTION

3.1 PURPOSE & SCOPE

All responsibility and authority relationships are governed by the specific project Contract Documents and contracts between Metra, Designer of Record (DoR), CM and Contractor. The Requirements Section will provide guidance for the responsibility and authority of each respective party noted above.

3.2 REQUIREMENTS

3.2.1 METRA AUTHORITY

Metra awards contracts that include system management, studies, testing, project design, improvement construction, and construction management services. Metra has the authority to define the qualification, cost, and diversity requirements for each type of contract, solicit bids and proposals for work, and make the final decision on the award of all contracts. Metra maintains overall authority over all work and administrative activities by Contractors who are party to a Metra contract.

In keeping with its overall responsibility to provide system users with a safe, dependable, and economical transportation alternative, Metra has the authority to select and implement system improvements, including capital improvements, that best utilize available funding. Metra also has the authority to evaluate all requests for payment for services rendered based on all contract requirements, including those that reference Metra and federal/local quality requirements, and to authorize or disapprove such payment.

Metra maintains the authority to mandate training requirements for all Metra and Third-Party Contract personnel, as applicable, for each contract and require specific software and digital record-keeping requirements, including the use of the Project Management Information System (PMIS).

Metra Quality maintains the authority to oversee all aspects of quality assurance as part of Metra project management responsibilities. All policies and procedures specified in the TPCQMP are subject to audit to verify compliance. Audits may or may not be regularly scheduled and can address all aspects of quality control including training, project documentation, and quality of work. Metra requires that all audit activities be properly documented. All deficiencies noted as part of any audit must be addressed.

3.2.2 DESIGNER OF RECORD RESPONSIBILITY

Details describing the responsibilities of the Metra DoR can be found in the Metra Design Manual. The Designer may, under the terms of their Metra agreement, have

the responsibility to respond to requests routed through the Metra PM from the CM, including Requests for Information (RFI) seeking clarification of design intent or details, change requests, substitution requests, shop drawing review and value engineering (VE) proposals.

3.2.3 DESIGNER OF RECORD AUTHORITY

Details describing the authority of the Metra DoR can be found in the Metra Design Manual. The DoR does not have any oversight of construction activities, with their involvement normally limited to design related construction support such as responses to RFIs or Contractor reviews as described above.

3.2.4 CONSTRUCTION MANAGER RESPONSIBILITY

The CM is responsible for the proactive day-to-day management of the Metra project. The CM acts directly as the Metra representative on the project. Depending on the scope of a particular project, the oversight of various aspects of work may fall to different individuals, including subconsultants, all of whom are considered as part of the CM. The CM is required to provide an up-to-date organizational chart detailing the responsibilities and authorities for everyone listed on the chart.

The responsibilities of the CM are detailed throughout this manual and will include:

- Communications with the PM, construction Contractor and all project stakeholders as it affects the progress of work
- A thorough understanding of the project charter, scope, as-bid Contract Documents, schedule and all executed contracts and agreements
- All applicable Metra quality guidelines including the TPCQMP documentation and record-keeping requirements
- Knowledge of local rail operations, utilities, adjacent land use, and concurrent contracts
- Understanding of environmental safety requirements, rail safety, regulations governing construction operations and the safety of Metra riders, workplace safety, and the safety of other facility users and drivers present in and around the construction site

The Metra CM has responsibility for coordinating all project communications from the Metra PM and, as circumstances may require, other Metra offices, departments, and stakeholders. The CM must be in communication with the Contractor, both formally and informally, throughout the duration of the project. The CM must document all communications per the applicable guidelines. As circumstances

warrant, the CM will function as the Metra on-site representative when dealing with other project stakeholders, property owners, utilities, state, county, local agencies, regulatory agencies, and the general public.

The Metra CM must have a thorough understanding of the nature of the construction project for which they have responsibility. This includes project development, the published Metra charter, the scope of the project as defined by the bid documents and executed construction contracts, all agreements and commitments associated with the improvement, work restrictions, permits, adjacent land use, the project schedule, its constraints and milestones, and rail and traffic operations in the vicinity of the improvement.

As part of project oversight, the CM must also be familiar with, and apply, all referenced Metra and industry standards, manuals, details, codes, and regulatory requirements.

The CM will be responsible for all aspects of quality control related to construction operations. This requires knowledge and application of all Metra quality requirements as given in the TPCQMP and other formal quality directives. The CM has the authority to provide to the Contractor any information required to be used as a basis for directing work or notification of a possible quality deficiency.

The Metra CM is responsible for maintaining project records included in the TPCQMP, and all others that may be contractually required, and ensuring that they are accurately completed, updated, and archived throughout the duration of the project. Records include, but are not limited to, meeting minutes, forms, logs, quantity calculations, RFIs, pay applications, shop drawings, change requests, schedules, organizational charts, delivery tickets, training and equipment certifications and audits. The CM must continually monitor recordkeeping using the PMIS, including proper file structure and naming conventions. The CM must ensure that all digital drawing files created during the work meet Metra computer-aided design and drafting (CADD) standards. The CM must ensure the proper storage of all physical records including models, paper documents, test reports, and product samples.

As part of project oversight, the CM must establish a thorough understanding of rail, commuter, passenger, and freight operations on lines that traverse or border the work area. Communication with rail operators is essential. Knowledge concerning the availability of flaggers, per contract or agreement, proposed rail crossings, work within the railroad right-of-way (ROW) and work restrictions associated with rail operations are all part of the CM responsibility.

The CM must also be aware of, and take the necessary measures to determine, all utilities within the work zone that may be affected by or come into conflict with

construction activities. The CM will coordinate all work impacting adjacent properties, including the use of easements or rights-of-entry. Also, the CM must maintain coordination with outside Contractors and site managers who may be working adjacent to or within the project limits. These could include Metra contracted and non-Metra entities. It is the responsibility of the CM to determine, document, and resolve any issues related to property access, damage to adjacent properties, utility conflicts, and work zone conflicts between contracts. The primary goal of these efforts is to minimize impacts to project costs and schedule.

Safety for the public, Contractors, Metra personnel, and rail personnel continues to be the priority of Metra and it is the responsibility of the CM to understand every jobsite safety risk and take the necessary measures to mitigate or eliminate them. These risks fall into several broad categories; environmental, rail operations, workplace safety as defined by the Occupational Safety and Health Administration (OSHA) and the safety of riders, bicyclists, and motorists in and around the project site.

The following sections describe the possible CM positions, roles, and responsibilities. The size, scope, and features of the contract will dictate which roles will be required. Due to the various project types that may involve work on facilities, systems, civil, structural, mechanical, electrical, environmental and rail mechanical, the roles noted below may need to be supplemented by Subject Matter Experts (SMEs) to address responsibilities for construction.

The Construction Manager Project Manager (CM PM) is responsible for daily management of the Construction Management Task Order Engineering Services Contract, and Metra's primary point of contact. The CM PM will be responsible for reporting status of the project to Metra. The CM PM must be available to provide solutions to engineering and administrative problems that occur on the construction project. In addition, the CM PM must be fully knowledgeable in construction engineering and construction management, client-oriented, assertive, well-rounded in technical training and experience, a strong personnel manager who is able to delegate effectively, and a good communicator. The CM PM must have experience in rail, commuter rail, rapid transit, and/or public infrastructure, construction projects including construction of power & way renewal on a transit system, experience including construction and rehabilitation of bridges, stations, retaining walls, rail maintenance facilities, and large-scale phased construction projects.

The Resident Engineer (RE) is responsible for monitoring the construction contract work to ensure the project is completed in accordance with Metra's safety, quality, cost, and schedule objectives. The RE serves as the Metra direct contact with the Contractor and all field personnel. The RE will utilize substantial administrative ability to coordinate CM Field Engineers for daily assignments and manage project technical staff. Resident Engineers will provide final approval of the Contractor pay

requests, oversee inspection, and project documentation. The RE must have experience in construction project management as an on-site RE and the ability to represent Metra professionally in the field to determine Contractor compliance with the requirements of the Contract Documents. The RE must possess construction inspection experience and technical competence in the construction of projects of similar type and magnitude of the work. REs must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects including construction of power & way renewal on an existing, operating transit system and construction projects that include railroad structures and transportation facilities.

The Assistant Resident Engineer (ARE) is responsible to assist the RE in implementing and managing all project technical staff and monitoring construction activities. The ARE attends all meetings as required to assist in all technical aspects of the work and assists the RE in performing final approval of all Contractor Payment Application requests. The ARE assists the RE in evaluating, implementing, and maintaining the CM Training Log and Responsibility Matrix for CM staff. The ARE assists the RE with preparing monthly reporting and providing information requested by the Metra PM for funding and stakeholder reporting information. Due to varying degrees of project sizes and types, the ARE may function as the RE to fulfill the duties and responsibilities as the RE on a project. Such a designation for the ARE to function as the RE would be addressed in the CM scope of work for services on the project.

The Lead Field Engineer / Field Engineer (LFE/FE) is responsible to perform, manage, and coordinate field engineering duties to ensure the project is completed in accordance with Metra safety, quality, cost, and schedule objectives. The LFE/FE must be able to read and interpret plans and specifications to determine whether the work meets the requirements of the construction contract. The LFE/FE will perform the duties of site safety when no Safety Manager is on the CM team. The LFE/FE will possess familiarity with Contract Documents, provide material delivery inspection and inventory, photograph documentation of construction progress, site inspection, ensure Contractor material testing for quality assurance, monitor Contractor work including punch list, prepare an inspector daily report for RE review and signature, and immediately report any of the Contractor's work that is not in conformance with the Contract Documents. The LFE/FE must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects including construction of power & way renewal on an existing operating transit system and construction projects that include railroad, railroad structures, transportation facilities, facility renewal, and public rail transit.

The Office Engineer (OE) is responsible for providing document control, monitoring project submittals and RFIs and maintaining the record set of construction drawings and specifications. The OE will process RFIs, maintain version updates of the

Contract Documents, review the Contractor's Submittal Schedule to verify all submittals have been listed, review construction submittals for contract specification conformance, and verify submittals are being submitted so work is not delayed. The OE will provide and assist with project documentation, including logs, correspondence, meeting agendas, meeting minutes, reports, and assist with reviewing change orders and potential change orders and provide cost justification for the work. The OE must have substantial administrative ability including computer and organizational skills and a working knowledge of applicable terminology associated with the construction industry to manage the many facets of construction documentation.

The Project Controls Engineer (PCE) is responsible for performing project control duties to ensure the projects are completed in accordance with Metra cost and schedule objectives as defined in the Contract Documents. The PCE supervises the OEs, all documentation, and filing for the Project. The PCE coordinates usage of force account labor, oversees the preparation of the CM's invoices, oversees the master project schedule, supervises the change order and scheduling efforts of the project, prepares ICEs for contract modifications and change orders, prepares schedule trend reports for Contractor delays, prepares and issues reports for RE review, prepares all documentation to support contract modifications and change order packages, attends all meetings relating to contract modifications, change orders, cost and schedule.

The Quality Manager (QM) is responsible for enforcing the CM and Contractor's Quality Management System, in addition to the requirements in the TPCQMP, to ensure the project is completed in accordance with Metra's quality objectives. The QM representative for the CM and the QM representative for the Contractor must be independent of the pressures of production, cost and schedule considerations in quality decisions and shall have direct access to responsible management at a level where appropriate action may be taken to implement the contracted Quality Assurance and Quality Control processes and procedures.

The Contractor QM has the primary responsibility to ensure Quality Control personnel maintain quality control for their products and/or services provided to Metra on the project, from initiation through completion of the project. The Contractor must assign quality control personnel to perform quality control activities which ensure that the quality of their work complies with the requirements of their contract.

To ensure Contractor conformance, the QM for the CM will review and provide recommendations to Metra for the various Contractor plans and the Testing and Inspection Plan. The QM for the CM will manage the Contractor quality audit process, scheduling, and reporting along with conducting the Contractor Quality Audit. The QM for the CM will provide oversight and management for the

Nonconformance Report (NCR) Process including review of the root cause, corrective action, and preventive action provided by the Contractor with recommendations to Metra for approval, rejection, or closure. The CM will monitor the Contractor's use of the Metra project file naming, NCR corrective and preventive actions for effectiveness, and Contractor maintenance and updating of quality records. The QM for the CM must have substantial knowledge of quality control, quality assurance, and audit procedures necessary for contract compliance. The CM is directed to refer to their Contract or Task Order for additional Quality Assurance and Quality Control personnel requirements, quality task requirements, and quality procedures.

The Safety Manager (SM) is responsible for reviewing, monitoring, and implementation of the Contractor Safety Plan to ensure all work is completed in accordance with Metra's safety rules and objectives. Dependent on the project, the SM may attend Safety and Security Certification Committee (SSCC) meetings and Fire Life Safety and Security Committee (FLSSC) meetings for Metra capital improvement projects. The SM will communicate directly with the Metra Safety Department to report if the Contractor is proceeding in an unsafe manner and to report all serious acts, conditions, accidents, and unusual occurrences on the project. The SM must have completed a 30-hour Occupational Safety and Health Training Course approved by OSHA. The SM must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects including construction of power & way renewal on an existing, operating rapid transit system and construction projects that include railroad, railroad structures, transportation facilities, facility renewal, commuter rail, and public rail transit.

The CM Scheduler will review the Contractor Baseline Schedule submission to evaluate and offer recommendations for acceptance of the proposed construction schedule. If the CM Scheduler finds the proposed Baseline Schedule unacceptable, the CM Scheduler will coordinate with the Contractor to resolve schedule submission deficiencies to expedite the resubmission and acceptance of the Baseline Schedule. The CM Scheduler will be responsible for the review and recommendation of Contractor Monthly Schedule Update submissions which compare construction progress to the Baseline Schedule. The CM Scheduler must have familiarity with delay claim analysis and schedule recovery. The CM Scheduler must have experience reviewing and interpreting Critical Path Method (CPM) schedules. If a project is not of the size or does not support the position of a CM Scheduler, the RE shall function as the CM Scheduler and will perform all the necessary requirements previously referenced.

Administrative / Clerical Assistants may be required due to the size and/or complexity of projects. The Administrative / Clerical Assistant will assist the OE and

RE with project documentation tasks. The assistant shall have substantial administrative ability including computer and organizational skills.

SMEs may include staff with particular skill sets that demonstrate experience and expertise in facilities, systems, civil, structural, mechanical, electrical, environmental and rail mechanical roles. The SME role will be identified in the CM Contract / Task Order to address the specific needs for the project.

3.2.5 CONSTRUCTION MANAGER AUTHORITY

The CM has the authority to monitor all project work activities and requests for review and approval, all reports, logs, material delivery tickets, test results, checklists, drawings, training records and data related to those activities and provide Contractor requirements related to meetings, organizational charts, issue resolution, requests for information, payment requests, inspections, testing, delivery, and scheduling, as applicable to the project.

The CM will request from the Contractor, review, approve, monitor, and require updates for various project plans consistent with the contract and Metra quality requirements. These include:

- Project Schedule
- Contractor's Safety Plan
- Contractor Organizational Chart
- Inspection and Testing Plan
- Calibration Log

The CM has the authority to establish meeting schedules and agendas to monitor the progress of work. All Contractor submittals are subject to CM review. The CM can dictate the format of all correspondence consistent with Metra quality guidelines.

The CM may direct Contractors and their subcontractors to limit or revise work activities consistent with worksite constraints imposed by Metra, the railroads, regulatory agencies, municipal agencies, and adjacent property owners or in coordination with other construction around the project location. All workplace activities performed by the Contractor are subject to CM oversight. These can include, but are not limited to, installation, demolition, material delivery and stockpiling, testing, traffic control, access to railroad or adjacent right-of-way, surveying, tree removal, erosion control, site security and progress cleaning.

The CM can direct the Contractor to furnish records or submittals as required to satisfy quality and contractual obligations. Examples of these would be training records, cost estimates, inspection reports, equipment calibration data and delivery tickets.

All Contractor requests will be subject to CM review and approval including, but not necessarily limited to, the following:

- Change requests
- Quantity calculations/pay applications
- Shop drawings
- Value Engineering proposals
- Substitutions
- Requests for Information
- Product verification
- Punch List
- Drawings
- Daily reports

The CM has the authority to review, approve, and submit all Contractor requests involving compensation and disposition of audits. The CM has an obligation to respond to all requests in a timely manner and must recognize those issues which are project schedule-critical or impact the cost of the project. See the applicable sections of this manual for more details.

3.2.6 CONTRACTOR RESPONSIBILITY

The Metra Contractor is responsible for the satisfactory completion of work as described in the Contract Documents. Completion of work consists of meeting all Metra requirements governing scope of work, quality of work, schedule, safety, and cost. Required work will consist of physical construction and demolition, provision of materials, provision and installation of equipment, providing for site security and safety, environmental control and coordination with Metra and other project stakeholders.

The Contractor is required to meet all Metra quality guidelines as outlined in the Metra TPCQMP.

To achieve a successful outcome as described above, the Contractor has a responsibility to meet the following general requirements.

- Developing a thorough knowledge of existing site conditions, the contract plans and specifications, all published work restrictions, and the agency and industry standards and details governing the work, project schedule and project milestones
- Developing construction, inspection, training, material procurement and subcontractor schedules that meet the overall project schedule and stated contract milestones
- Understanding and implementing Metra quality standards required for all project correspondence including forms, archiving, file naming conventions, and audit dispositions
- Developing an official organizational chart which defines key personnel and chains of authority. The chart should correlate with required staff training and communication protocols between Contractor staff, the CM and other project stakeholders.
- Providing all resources required to complete the work described in the Contract Documents, working in good faith to maintain the cost controls reflected in the contract bid award
- Making payment to subcontractors and subconsultants in a timely fashion for all services rendered under the terms of the contract
- Communicating to the CM, all issues regarding the scope of work required, schedule, vendor submittals, material delivery, deficiencies, ambiguities in the Contract Documents, subcontractor issues, permitting or stakeholder issues in a timely manner to minimize disruption to the project-critical schedule
- Meeting Metra's diversity requirements as stated in the contract
- Making safety a priority in all worksite decisions including railroad safety, workplace safety, safety working around existing utilities and safety of the public

- Developing and following, with the CM, all required planning tools and communication protocols in keeping with Metra quality standards and project requirements

- Adhering to all environmental controls as required under the contract, by permit and by agency regulation

3.2.7 CONTRACTOR AUTHORITY

The Contractor has overall authority over the suppliers, vendors, subcontractors and subconsultants that are party to their agreement with Metra. This includes the following:

- Procurement and evaluation of materials and equipment

- Procurement of testing services and subconsultant services

- Scheduling of all work

- Setting requirements for safety and workplace training as may be applicable to the work

- Setting fabrication and delivery requirements

- Determining material storage and stockpile locations

- Laying out access control, traffic control and other worksite restrictions in keeping with applicable standards, safety regulations and other contractual obligations

- Rejecting any substandard or nonconforming materials or equipment delivered to the site

Per their Contract with Metra, the Contractor has the right to receive a prompt response to all actionable submittals and requests for payment. Actionable submittals will include RFIs, proposed changes or substitutions, shop drawings and VE proposals. Items affecting the project-critical schedule and project cost must be submitted to the CM as a priority.

3.3 OTHER ROLES AND RESPONSIBILITIES

3.3.1 COMMUNITY AND PUBLIC RELATIONS

The Metra System encompasses a diverse geographic area and diverse project types as part of the regional transportation network throughout Northeast Illinois. Project

types are diverse and can encompass construction of power & way renewal on an existing, operating commuter rail system including construction and rehabilitation of bridges, stations, retaining walls, rail maintenance facilities, and large scale multiple phased construction projects. Projects and work on the Metra System can involve work on or adjacent to private and public property. Private properties can include individual homeowners, commercial properties, and any non-governmental property, land, or another railroad. In contrast, public property may be owned and under the authority of a district, city, village, state, federal or local government, county, state, or federal transportation department. To coordinate the work and construction projects adjacent to private and public property, Metra Community Relations is the communications interface between Metra and the private and public entity. The CM and Contractor's field personnel are often those in daily contact with, and under the critical eyes of, the public.

All initial contacts, communications, correspondence, and meetings taking place with the private and public individuals, groups or entities must begin with Metra Community Relations and Metra Communication Department. When requested by Metra, the CM is responsible for assisting Metra Community Relations with coordination of public relations activities.

As the manager for the work, the CM is responsible for assisting Metra with public relations activities only by request. All public questions or concerns must be referred to the Metra PM and Metra Community Relations to properly address. The CM will observe and strive to ensure the same conduct is demonstrated by all personnel on the project site.

Often, the CM and Contractor are those in daily contact with, and under the critical eyes of, the public when a project is under construction. The CM is often the prominent representative of Metra for the project. All CM and Contractor field personnel must strive to always conduct themselves in an appropriate and professional manner.

The CM must ensure that the Contractor and field personnel refer any public relations questions to the CM. The CM must then refer any public relations questions directly to the Metra PM or Metra Community Relations representative for answer or further referral. The CM will observe and make every effort to ensure that the Contractor and subcontractor personnel follow the same public relations communication process as it relates to the questions or inquiries that may be raised.

The basic role and responsibility of each CM member is to ensure that all CM personnel always conduct themselves in a professional manner in private and public areas.

As a daily requirement, the CM must monitor all impacts to private and public properties adjacent to the locations where work is being performed for the Metra project.

When approached by the media and per the Metra Media Policy, avoid saying that you are not permitted to speak to the media. Be courteous, friendly, professional, respectful and advise the contact that it is Metra policy to refer all media inquiries to the Metra Communication Department and Metra Community Relations. Provide the contact with the information necessary to contact the Metra Community Relations representative for the project.

Coordinate with the Contractor and Metra Community Relations Representative and local government authorities to mitigate impacts to the residential and commercial communities.

Invite the Metra Community Relations Representative to project meetings inclusive of the project preconstruction kick-off and project progress meetings.

3.3.2 EXTERNAL STAKEHOLDERS

The Metra System encompasses a diverse geographic area and diverse project types as part of the regional transportation network throughout Northeast Illinois. Project types are diverse and can encompass construction of power & way renewal on an existing, operating commuter rail system including construction and rehabilitation of bridges, stations, retaining walls, rail maintenance facilities and large scale multiple phased construction projects. Projects and work on the Metra System can involve work on or adjacent to private and public property. Private properties can include individual homeowners, commercial properties, and any non-governmental property, land, or another railroad. In contrast, public property may be owned and under the authority of a district, city, village, state, federal government or a local, county, state, or federal transportation department. All the entities, private or public, are external stakeholders that as individuals, groups or organizations may be impacted by the activity or project. The CM, as the daily point of contact on the project, is the prime interface with the external stakeholders.

Typical external stakeholders to Metra projects include: Burlington Northern Santa Fe Railway (BNSF), Union Pacific Railroad (UP), Amtrak (National Railroad Passenger Corporation), NICTD (“South Shore Line”), Norfolk Southern Corporation (NS), Canadian Pacific Railway (CP), Canadian National Railroad (CN) including subsidiaries, IC Illinois Central Railroad and WCL Wisconsin Central Ltd., municipalities, counties, utility companies, CTA, PACE bus service, Regional Transportation Authority, (RTA), IDOT, Chicago Department of Transportation (CDOT), City of Chicago (CoC), county or municipal transportation departments and major employment centers.

As noted in the Community and Public Relations Section, all initial contacts, communications, correspondence, and meetings taking place with the private and public individuals, groups, or entities must begin with Metra Community Relations and Metra Communication Department. When requested by Metra, the CM is responsible for assisting Metra Community Relations with coordination of public relations activities.

3.3.3 ADJACENT PROPERTY OWNERS

Metra operates near both private and public property owners. Private property owners can be owners of private residences and/or commercial properties. Commercial property owners may have financial and operational impacts from the work being performed on the project. The adjacent property owners may require permission and authorization in the form an agreement to permit work on their property or work that impacts their property.

3.3.4 OTHER RAIL PROPERTIES

Metra operates near and on other rail properties and rail transportation entities. While operating near or on other rail properties Metra has operational agreements, requirements, or guidelines for operations. Often separate permission and authorization in the form of an agreement is required to permit work on their property or work that impacts their property. In addition, the other rail properties may require their rail property's specific training for personnel beyond the Metra Contractor Orientation.

3.3.5 GOVERNMENT ENTITIES

With reference to the Purpose and Scope for this section, various government entities including IDOT, CDOT, CoC, county and municipalities governing the surrounding areas Metra needs to access Metra property. The entities that govern the access often require permission to perform modifications to their property or ROW. In addition, the government entities may require coordination, permits, or agreements to be in place by Metra or the Contractor for the Metra project.

3.3.6 RIGHT OF ENTRY (ROE) AND MEMORANDUMS OF UNDERSTANDING (MOU)

Often adjacent property owners, other rail properties, and government entities require agreements and permits for permission for Metra to access the project worksite. Those agreements or permissions may be in the form of a ROE or MOU. The adjacent property owners, other rail properties, and government entities may require the Contractor to enter into a ROE or MOU agreement as the entity that is actually performing the physical work. The CM will coordinate with the Metra PM for review by Metra Legal and Risk review of the Contractor ROE or MOU agreement

and depending on circumstances, Metra may have already entered into a ROE or MOU agreement.

The CM will assist the Contractor and must take the lead role where interfaces exist with adjacent property owners, other rail properties, government entities and the necessary ROE and or MOU agreements are necessary to facilitate the project or activity that impacts the external stakeholder

Where external stakeholders are other rail properties or government entities, invite representatives from the external stakeholders to the project preconstruction kick-off and project progress meetings.

REFERENCES
Project Manager Manual
Third Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Metra Media Policy AC-03.1
Metra Legislative Affairs
Metra Media Relations

4. CONSTRUCTION DOCUMENTATION AND DELIVERABLES

4.1 MEETINGS

4.1.1 PURPOSE & SCOPE

To establish effective project communications with the project stakeholders, various project meetings provide for the initiation of construction, progress status monitoring, coordination with individual stakeholder, task specific detailed reviews and project turnover to the stakeholder end user. The meetings provide a means to communicate and coordinate among all stakeholders the various issues encountered during the project delivery and a forum by which discussions may be held and resolutions reached or identified requiring further discussion/information. For the construction project lifecycle, meetings provide opportunities for internal and external organizations, groups, or entities to establish effective two-way communication. The CM undertakes the lead role to chair, document and distribute the meeting agenda, minutes, and attendance to the stakeholders. In the absence of a CM, the Metra Project Manager fulfills the duties and responsibilities that would have normally been provided by the CM. The sections below will describe the typical meetings that can occur through the lifecycle of a construction project.

4.1.2 REQUIREMENTS

Each construction project must have a pre-construction / kick-off meeting that involves participation by all project stakeholders which are then typically followed by weekly progress meetings and task specific meetings as may be required. Where external stakeholders are other rail properties or government entities, invite representatives from the external stakeholders to the project preconstruction kick-off and project progress meetings. Project scope, size, and type are key factors that influence the required project meetings while the Contract Documents may indicate the types, frequency, and technical meetings required throughout the duration of the project. For meetings, the CM facilitates and chairs all project meetings, which includes meeting coordination and preparation of meeting invitations, agendas, and meeting minutes. In the event the Contractor or Metra is responsible for chairing the meeting, the CM will participate as deemed necessary by the Metra PM. Understanding that meetings may vary based on the project requirements, the following are examples of standard meeting types for all projects:

- Pre-Construction / Kick Off
- Permit
- Progress

- Construction Process / Pre-activity
- Pay Application
- Change Management
- Schedule
- Closeout
- Safety
- Quality
- Jobsite briefings for Track Access or Outages
- RFI and Submittal reviews
- Contractor designed reviews
- Safety and Security Certification coordination

All meetings will be documented in the meeting minutes folder. The document will include agendas, meeting minutes, attendance sheets, project logs and copies of information reviewed at the meetings.

4.1.2.1 PRE-CONSTRUCTION / KICK-OFF MEETING

The purpose of this meeting is to discuss the execution of the project as well as the start and completion dates for construction. Prior to the meeting, the CM must visit the project site, review, and become familiar with the construction Contract Documents and identify critical pre-construction discussion items prior to the pre-construction meeting. After award and Notice to Proceed (NTP) to the Contractor and prior to commencement of the work, Metra will schedule a pre-construction meeting. The following items will be reviewed and discussed:

- Introduction of Metra and Contractor key personnel assigned to the project
- Scheduling time/date for weekly field progress meetings
- Construction procedures
- Construction schedules

- Pay application procedures
- Shop drawing procedures

In addition, the pre-construction meeting outlines project control, Disadvantaged Business Enterprise (DBE) / Equal Employment Opportunity (EEO) requirements, sustainability expectations, and coordination, communications, reporting and documentation requirements, and other procedures necessary for compliance with Contract Documents, standards, and user requirements. A pre-construction meeting typically occurs within 15 calendar days after issuance of the NTP.

4.1.2.2 PROGRESS MEETINGS

The CM is responsible for conducting weekly or bi-weekly progress meetings that will be on the same day/time as mutually agreed upon by all parties attending. At a minimum, the Contractor, RE, and OE are required to lead these meetings. The CM will invite the Contractor, Metra representatives, and any other affected agencies or stakeholders. A meeting attendance sheet will be provided and managed by the CM to document those in attendance. The progress meeting will facilitate review of the current project status, open items from the previous progress meeting, and new discussion items. In preparation for the progress meeting, the CM will prepare a meeting agenda with the current project logs and distribute for review in advance of the meeting. In addition, the Contractor will prepare and provide to the CM for inclusion into the meeting agenda, a minimum two week look ahead schedule for upcoming project activities and provide a list of activities completed or progressed since the previous meeting. As a progress meeting may include a diverse group of stakeholders, additional detailed and focused meetings may be required to review, coordinate, resolve, and move forward items from the progress meeting.

4.1.2.3 TASK SPECIFIC MEETINGS

During the implementation of a construction project, additional meetings outside of the progress meetings may be required. A source or requirement for additional meetings may be found in the construction Contract Documents. Often the requirements for technical specific meeting content will be defined in the construction contract specifications. In addition, technical meetings may be required to review, coordinate, and resolve action or open items from the progress meetings. Examples of task specific meetings may include task or work item pre-activity, pay

application, change order, schedule, submittal, safety, quality, turnover, or contract closeout meetings.

REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Meeting Forms (Pre-Construction / Kick Off, Progress Meeting Agenda and Meeting Minutes, Attendance Sheet)
Meeting Instructions
Meeting Samples

4.2 SCHEDULE REVIEWS

4.2.1 PURPOSE & SCOPE

A project schedule captures all aspects of the project work scope and the logic, sequence, and time it will take to execute the work scope. There are detailed requirements for the content provided in the Contract Documents. As a communication tool, the project schedule transforms the project from the information contained in the Contract Documents to a time-based plan that illustrates the timeline from the beginning to the end of the project. The schedule must be developed using the CPM scheduling technique. In addition, the project schedule, as a time-based plan, determines how to best allocate the appropriate resources with defined roles and responsibilities to meet the contract required milestones and completion dates. There are several types of scheduling software used to develop schedules, the typical standard for projects is Primavera P6 of the latest version. The CM, in accordance with the Contract Documents, is required to develop and maintain a construction schedule in a CPM format identifying the activities and critical events involved in the performance of the project prior to the start of construction. The CM must ensure Contractor schedule submissions are both accurate and timely. Guidance for criteria pertaining to accurate content and time requirements for submission can be found in the Contract Documents. The CM will review, analyze, and provide comments and recommendations to the Contractor regarding the proposed Baseline Schedule submittal and Monthly Progress Update submittals. During the CM review, the CM will be responsible for determining whether the Baseline Schedule and Monthly Progress Update

submittals are accurate, optimize critical paths, properly assign, and make the most efficient use of the resources available for the work.

Schedule review is the process of analyzing activity sequences, durations, resources requirements, and constraints to create the project's schedule model. The Project Schedule communicates the planned dates, and the logic and sequence of activities is to be presented in graphical form usually a Bar or Gantt Chart view. As the schedule is not static and reflects the planned vs. actual work performed, ongoing schedule reviews are required as the project schedule evolves. In addition to the progress meeting, the project size may require a scheduling meeting to provide further discussion and coordination with stakeholders, resolve impacts to the schedule activities, and discuss adjustments to the time base plan to achieve the milestones or completion date.

Schedule reviews follow the project submittal and review process provided in the Contract Documents. Various schedule submissions have specific requirements, contents, and purposes to document and communicate the time-based plan. The CM, with the resources of the CM staff, provides the necessary submission reviews, tracking and coordination with the Metra PM for reporting requirements to the Capital Program. The CM, at the request of the Metra PM, may be required to provide schedule information to meet the requirements from the various funding groups or agencies associated with the Capital Program. To document the record of reviews and review dispositions, all schedule submissions and review dispositions are documented in the PMIS.

REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management Plan

4.3 PROGRESS PAYMENTS

4.3.1 PURPOSE & SCOPE

The CM is responsible for reviewing and certifying the Contractor Application for Payment. The Progress Payment period covered under each application for payment is a minimum one-month duration. The application for payment review will involve verification of the work completed for the month, based on the earned value percentage of the completed activities as shown on the approved schedule of values. The CM's review will provide certification the application for payment includes verification that current schedule, daily reports, and progress photos are up

to date, Contractor confirmation labor compliance tracker is current, all waivers have been provided, and proof of payments have been provided.

PROCEDURES
Application for Payment Procedure Metra's Third-Party Consultant Applications for Payment and Summary of DBE Participation are available on the following File Transfer Protocol (FTP) site: https://ftp.metrarr.com/ User Name: metragrants Password: M3tr@u9r3
REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Application for Payment Form (see above)
Application for Payment Instructions (see above)
Application for Payment Samples (see above)

4.4 CHANGE MANAGEMENT

4.4.1 PURPOSE & SCOPE

The process of Change Management for a Metra project utilizes the CM to function as an early warning system to identify conditions that could lead to a potential contract change or claim. The source for conditions may arise from:

- RFI clarifications of the Contract Documents
- Submittal modifications
- Design deficiencies or modifications
- Material specification change
- Unanticipated circumstances or events outside the Contract Documents

- Major unforeseen or concealed field conditions
- Change in codes from Contract Document design
- Metra requests
- Other agency requirements
- Major schedule changes
- Contractor requested change

Metra utilizes the terms Contract Modification and Change Order as components of the change management process. To document and record the correspondence, supporting information, contract modifications and change orders, all documents are to be input into the PMIS.

The Contract Documents provide the parameters for the change management process inclusive of notifications, modifications, change orders, delays, price adjustment, time impacts, disputes, and contract modification documentation. Specifically, the Contractor and CM are to utilize the forms, instructions, and samples for contract modifications and change orders. The CM must follow the contract requirements to develop and evaluate the components of a Contract Modification and Change Order.

The Contract provides the definitions, requirements, and process for notification of delay, unavoidable delays, modifications to the contract, written change orders, change order procedure, price adjustment, and disputes. For an adjustment in the Contract time, the time extension must be based upon and supported by a time impact analysis derived from the Contractor's construction schedule justifying the time delay as part of the Contractor's time extension request submittal. Extensions of Contract time are granted only through an executed Change Order.

4.4.2 REQUIREMENTS

4.4.2.1 CONTRACT MODIFICATION

A request for a Contract Modification can be initiated by Metra, CM, or the Contractor. Regardless of the initiator, the Contractor must submit a written request to Metra for a Contract Modification with a detailed price, time impact, and schedule breakdown for changes that involve a time impact. The Contractor’s written request for the change work must be submitted providing a breakdown of labor, material, equipment, and subcontractors. Each subcontractor is required to provide labor, material, and equipment costs to support the summary information provided by the

Contractor. This request will either be accepted, rejected, or require modification by the Contractor to comply with the Contract and Metra requirements. Upon agreement, detailed modifications will be executed in writing by authorized persons of both parties. Disagreements that cannot be resolved will be resolved in accordance with the Contract Dispute Clause.

4.4.2.2 CHANGE ORDER

Only an executed Contract Modification or Change Order provides the written authorization for the Contractor to proceed with the changed work and only a Change Order provides the authorization to modify the Contract time. A Contract Modification provides authorization for a change in the scope of work or time while payment for the fully executed Contract Modification can only occur after the Contract Modification is incorporated into an executed Change Order. The Change Order is the Contract mechanism that formally incorporates the change in scope or time into the Contract. The Contractor will be liable for all costs resulting from any change not authorized by written modification to the Contract.

4.4.2.3 EXTRA WORK DOCUMENTATION

Only an executed Contract Modification or Change Order provides the written authorization for the Contractor to proceed with the changed work and only a change order provides the authorization to modify the Contract time. In the instance where conditions and corresponding remedies are not known without a portion of work being performed by the Contractor, the CM or Metra Project Manager will issue a written notification to perform the work on a Time and Material basis. Metra Procurement must provide prior review of the change conditions and scope to permit work on a Time and Material basis. For work performed on a Time and Material basis, the CM and Contractor are to follow the Metra process for a Contract Modification. Oral direction, oral construction modifications, or oral change orders are not permitted and are not acknowledged as the means to modify the Contract price, time, and terms. The Contractor will be liable for all costs resulting from a change not authorized by written modification to the Contract.

4.4.2.4 CM SUMMARY ANALYSIS

The CM Summary is an intricate part of the Contract Modification and Change order documentation. The CM Summary Analysis Memo provides a summary explanation addressing the components of the change so that a person not familiar with the project and change would be able to

understand the merit and necessity for the change. The explanation is to address the following components:

- Description and background of problem and justification for the contract modification
- Authorization
- ICE
- Contractor Cost Estimate
- Documentation on how it was determined that the price was fair and reasonable
- Recommendation
- Attachments

There is further information provided in the description and background of issue/change and justification for the contract modification section. In these sections key questions are answered to provide background information to those responsible for authorizing the work that are not intimately familiar with the details and circumstances of the change. The key questions are as follows:

- Description as originally existed
- Description of item changed
- Why was the work required
- Who requested the change
- What is the effect of this change
- Opinion for error or omission
- Cost Impact
- Impact on Flagger shifts, Power or System outages, Track or Facility access

4.4.2.5 ALLOWANCES

An allowance, or allowances, may be specified in the Construction Contract Documents. If so, the CM will monitor and report current and potential allowances throughout the project. Approval from Metra is required prior to expending costs against an allowance item. Typical allowances on a project could be one or a combination of the following: Utility or Third-Party Allowances, Repair replacement allowance, or items defined in the Contract Documents. The CM must track the allowance authorizations and expenditures.

4.4.2.6 CLAIMS

The Contractor is required to provide immediate notification to Metra upon discovering any conditions or circumstances that may require an adjustment to the contract price and/or contract time. The Contractor must then follow up and provide written notice of claim to Metra within the timeframe specified in the Contract Documents. The CM should review and become familiar with the Construction Contract Documents for greater detail on requirements for a claim. The CM must notify Metra PM immediately when a notice of claim is submitted. The CM will confer with the Metra PM on the appropriate action for each claim, but at a minimum, the CM must gather relevant documentation and provide an initial summary review of the claim and a recommendation to Metra on the merits of the claim. A written response should be provided to the Contractor within 30 days of the written request from the Contractor. The CM will assign a number to each claim submitted and all correspondence and related issues or documents will reference that number. The claim correspondence will be documented and recorded in the PMIS.

4.4.2.7 REJECTION LETTER

Rejection letters to the Contractor requests for changes and claims must be prepared by the CM unless directed otherwise by the Metra PM. The preparation of the rejection letter serves as a recommendation relative to the subject claim. The rejection letter must specifically identify the contract drawings or specifications that serve as the basis for rejecting the Contractor's proposed change request or claim. The Metra PM will need to obtain the review and approval of the Rejection Letter from the Metra Director. Rejection letters will be documented and input into the PMIS.

REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management Plan
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION
Contract Modification Cost Modification Worksheet
Contract Modification Cost Modification Instructions
Contract Modification Cost Modification Samples
Contract Modification Log Form
Contract Modification Log Instructions
Contract Modification Log Samples
CM Summary Analysis Form
CM Summary Analysis Instructions
CM Summary Analysis Samples

4.5 REQUEST FOR INFORMATION

4.5.1 PURPOSE & SCOPE

The RFI is the contractual documentation process used to provide additional knowledge or clarification as related to questions about the project. For example, the RFI may be seeking clarification on information not identified within the Contract Documents, interpretation of the Contract Documents, discrepancy within the Contract Documents, or issues discovered in the field where the Contractor is seeking direction from Metra. Under no circumstances does an RFI modify Contract time or cost. Any time or cost impacts, negative or positive, will be processed via the appropriate Change Management process. The CM administers the RFI process for the project. To document and record the RFI requests, correspondence, supporting information, and response, all RFI documents will be input into the PMIS.

4.5.2 REQUIREMENTS

The Contractor must submit an RFI in writing to the CM when requesting a clarification or interpretation of the Contract Documents.

The CM must first review the RFI to determine whether it meets the requirements of a standard RFI. The CM may return the RFI if the following occurs:

- Additional information or clarification is required prior to reviewing content
- There is not a detailed statement of the clarification requested
- Contractor is requesting a change in the scope of work
- Contractor is requesting additional payment
- Contractor is requesting additional contract time
- RFI includes multiple unrelated issues
- RFI is for an item that is clearly not part of the scope of work

The CM may inform the Contractor in writing if additional review time is necessary.

The CM must enforce and administer the RFI process and maintain an RFI Log for the project. For the RFI process, the CM must be diligent in the review of each RFI and endeavor to ensure the review process time does not extend beyond the review time as set forth in the Contract Documents.

Prior to closing each RFI, the CM must review RFI responses and add language that is applicable to schedule or cost impacts, as necessary.

Where a RFI requires clarification from Metra internal stakeholders, the Metra PM is required to coordinate RFI issues and gather information from the Metra internal stakeholders for the RFI resolution. The CM will gather all responses, prepare final disposition of the RFI, and transmit to the Contractor

In the absence of a CM the Metra PM will perform the duties and responsibilities of the CM. When the Metra PM is acting as the CM on the project, the RFI is to be prepared by the Metra PM, processed, and maintained by the Metra PM.

Any RFI reply that the Contractor believes does not answer the question must be the subject of a new RFI which must reference the previous RFI number.

REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management Plan
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION
RFI Form
RFI Instructions
RFI Sample
RFI Log Form
RFI Log Instructions
RFI Log Sample

4.6 SUBMITTALS

4.6.1 PURPOSE & SCOPE

The CM is responsible for administering the submittal review process between the Contractor, Metra, and DoR. This includes the process of monitoring, coordinating, and reviewing deliverables, schedules, plans, shop drawings, catalog cuts, product data, and samples submitted by the Contractor. The requirements for submittals will vary based on the Contract Documents, therefore, the CM must develop a submittal log of anticipated contract deliverables prior to receipt of the Contractor's Submittal Schedule. The CM is responsible for monitoring and coordinating the process.

Other CM team members will assist in the technical review and daily administration requirements to process, monitor, control, and coordinate the Contractor submittals. To document and record the submittal requests, correspondence, supporting information, and responses, all submittal documents are to be input into the PMIS.

4.6.2 REQUIREMENTS

4.6.2.1 SUBMITTAL SCHEDULE AND SUBMITTAL LOG

The Contractor is required to develop, submit, and maintain a Submittal Schedule with the dates for when submittals will be submitted and reviewed in relationship to activities in the Project Schedule. The Contractor Submittal Schedule submission will be provided immediately after the pre-construction kick-off meeting or as defined in the Construction Contract and prior to starting the project work. The Contractor and CM are to utilize the forms, instructions, and samples for submittals. The CM will review Contract Document requirements for submittals and utilize the submittal log required per specifications, scope of work, or other contractual requirements. The CM will review the Contractor Submittal Schedule for conformance with the Contract Documents and list any deficiencies for Contractor correction.

As a minimum, the CM must review the Contract Documents and compile a list of required submittals for the project inclusive of closeout submittals. The list of required submittals compiled by the CM will be used to confirm Contractor compliance with submittal requirements.

4.6.2.2 SUBMITTAL ADMINISTRATION

Throughout the Project, the CM will review and monitor the scheduled dates for submittal packages and inform the Contractor of the items that have not yet been submitted and require the Contractor to provide expected dates. The CM must review the Submittal Schedule and subsequent monthly Submittal Schedule updates to confirm that sufficient time is permitted for review and processing of submittals in advance of construction needs or work activities and provide review comments to Metra.

In the absence of a CM, the Metra PM will perform the duties and responsibilities of the CM. When the Metra PM is acting as the CM on the project, the submittals are to be submitted to the Metra PM, processed, and maintained by the Metra PM.

4.6.2.3 SUBMITTAL VERIFICATION

The CM must be diligent in the review of each submittal and endeavor to ensure that the turnaround time is within the stipulated review cycle timeframes identified in the Contract documents, to not affect critical path activities. The CM will review the Contractor submittal for conformance

with the Contract Documents. In the absence of a CM on the Project, the submittal is to be submitted to the Metra PM and processed by the Metra PM to closure. Upon Contractor submission, the CM will review the submittal, if the submittal is missing any required information, the CM must return it to the Contractor as Revise and Resubmit. Examples where the CM must return the submittal are as follows:

- The product data submission does not identify the product for the submission
- There are multiple variations or model(s) without identifying the model(s) for the project
- The submission is not a specified product or manufacturer
- The product in the submission does not meet the Contract Document requirements
- The submittal is a substitution without following the contract substitution requirements
- There are multiple items from other contract specification sections
- Project information is incorrect
- Contract required identification information has not been provided or is incomplete
- Submittal does not utilize the forms, instructions, and procedures of Metra
- There is no relevance to the project scope of work

4.6.2.4 SUBMITTAL REVIEW

Once the submittal has been validated by the CM, the CM must identify which parties will be reviewing the submittal and coordinate the review process for consolidated review comments. The CM will work with the Metra PM to confirm the appropriate parties have completed the technical review of a submittal or submittal packages. The CM will route to the DoR for review when applicable. There may be projects where Metra acts as the DoR for the project. For projects where Metra acts as the DoR, the CM will route the submittal to Metra for review. In addition to the DoR submittal review, Metra may require a Metra internal review or employ the assistance of other parties for technical review of specific submittals.

Unless otherwise specified, the reviewing parties will need to review and return all submittals within the contractual timeframe. When an outside DoR is being utilized, the CM must be familiar with the contractual timeframe the DoR has to review submittals. The CM may obtain this information from the Metra PM. The CM will need to be diligent in reviews, as well as coordinating with Metra, DoR, and third parties, so as not to exceed the contractual review period and potentially cause a delay to the Contractor.

4.6.2.5 SUBMITTAL COMMENTS

The CM will consolidate the submittal review information and review the comments or disposition with the Metra PM. The CM will prepare the final disposition and consolidation of submittal comments and return to the Contractor either for implementation or correction. The submittal can be returned with one of the following review dispositions found in the Contract Documents. Once the required submittal has received a submittal disposition of No Exceptions Taken or Comments as Noted by Metra, work activities associated with the submittal are permitted to proceed. A submittal with a disposition of Comments as Noted, must be corrected, and resubmitted by the Contractor for review. The submittal comments are not a contractual document for changed work that modifies the Contract time or cost.

REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management
ADDITIONAL DOCUMENTATION
Submittal Form
Submittal Instructions
Submittal Sample
Submittal Log Form
Submittal Log Instructions
Submittal Log Samples

4.7 QUALITY DOCUMENTATION

The CM shall implement Quality Assurance and Quality Control procedures as part of their contracted scope of work, in accordance with the TPCQMP and as described below.

4.7.1 QUALITY REQUIREMENTS

4.7.1.1 QUALITY CONTROL

The Contractor and CM shall assign Quality Control (QC) personnel to oversee the contracted work. QC personnel shall monitor and verify the Contractor's work is completed per the Contract Documents, in accordance with the Contractor's Quality Plan.

4.7.1.2 QUALITY ASSURANCE

The CM and Contractor shall also assign Quality Assurance (QA) personnel, who shall verify that the contracted work is being executed per the procedures required in the Contract, Capital Delivery Construction Manual, TPCQMP, and all other applicable documents. QA personnel shall be independent of the pressures of production, cost and schedule considerations and shall have direct access to responsible management at a level where appropriate action may be taken.

4.7.1.3 TPCQMP

Refer to the Third-Party Contracts Quality Management Plan (TPCQMP) for additional information regarding QC and QA personnel, requirements, and procedures.

4.7.1.4 QUALITY AUDITS

The CM and Contractor shall cooperate with Metra Corporate QA personnel during all Quality Assurance Audits of the CM and/or the Contractor as may be required. The QA Audits will verify the adherence to Metra's TPCQMP procedures and documentation as well as the execution of work as required in the Contract by the CM and their Subcontractors at a minimum performed annually. For additional information about Quality Audit procedures and requirements, refer to the TPCQMP.

4.7.2 METRA FORMS AND INSTRUCTIONS

The Contractor, CM, and Metra team shall use Metra's current Forms, Instructions, and Samples when executing their contracted work. (Metra FORMS / INSTRUCTIONS / SAMPLES) Any deviations or additions to Metra Forms shall be

reviewed and approved by the Metra PM or designee prior to the start of the CM's work.

4.7.3 NONCONFORMANCE

The CM, Metra, and/or the Contractor shall identify and document all construction nonconformances using Metra Forms, Instructions and Procedures, including the Nonconformance Report and Nonconformance Log, and as described in the TPCQMP. Remediation of nonconformances may include the following:

- Nonconforming Remediation Disposition
  - Use-As-Is
  - Use-As-Is for Alternate Applications
  - Repair
  - Rework to Meet Requirements
  - Scrap
- Corrective and Preventive Action
  - Continuous Improvement Procedures
  - Root Causes
  - Reporting and Tracking
  - Revised Procedures

Information and documentation associated with Nonconformance Reports, Log, and supporting documentation is input into the PMIS.

REFERENCES
Project Manager Manual
TPCQMP
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION

Nonconformance Report Form
Nonconformance Report Instructions
Nonconformance Report Sample
Nonconformance Log Form
Nonconformance Log Instructions
Nonconformance Log Sample

4.8 ENVIRONMENTAL

4.8.1 PURPOSE & SCOPE

Metra projects support a diverse group of stations, facilities, track, bridges and supporting infrastructure over 11 commuter rail lines and 110 communities with varying construction types and ages. Through the process to bring the stations, facilities, track, bridges, and supporting infrastructure into a good state of repair, renovations, updates, and even reconstructions are required. Since the stations, facilities, track, bridges, and supporting infrastructure were constructed over decades of time, the materials often used in the original construction were subsequently found decades later to be hazardous.

During the planning and design phases, an environmental and hazardous materials survey is performed to identify potential materials impacted by the planned renovations or construction that contain hazardous materials. The most common hazards are asbestos and materials containing lead. Other hazards can be found in fluorescent light bulbs and gas equipment regulators. Once the hazardous materials survey is completed, the design phase incorporates remediation criteria in the Contract Documents for the project.

Projects with hazardous materials provide provisions in the Contract Documents for hazardous and universal waste management. The hazardous and universal waste management provides requirements for a plan that describes the segregation, packaging, labeling, transport, and disposal and/or recycling of the waste materials typically generated by demolition/renovation activities. All hazardous materials resulting from demolition/renovation activities, once properly packaged and labeled, will be disposed of at open, permitted, and state-approved disposal sites.

Metra monitors the action of the Contractor and CM to confirm the hazardous and universal waste is being remediated and disposed of in accordance with Metra,

state, and federal requirements. Each entity may require specific information regarding the hazardous and universal waste being disposed which identifies the type, quantity, source, and chain of custody tracking from the source to the disposal location. Through the Contract, the Contractor provides the plan, means, and methods which is reviewed for compliance by Metra Safety and Environmental and the CM. The CM monitors the approved plan during implementation.

4.8.2 REQUIREMENTS

4.8.2.1 HAZARDOUS AND UNIVERSAL WASTE MANAGEMENT PLAN

On specific projects, the Contract Documents may require the Contractor to develop, submit, and maintain a Hazardous and Universal Waste Management Plan. This plan would be identified as a required submittal which would outline the procedures the Contractor would be responsible for removing all hazardous waste material(s) from the project site as defined in the Contract Documents. The CM is responsible for developing and implementing a system of monitoring and tracking the Contractor's compliance with the approved Hazardous Waste Plan. To document and record the Hazardous and Universal Waste Management Plan, submittals, correspondence, supporting information, response, and all safety documentation are to be input into in the PMIS.

4.8.2.2 HAZARDOUS WASTE TRACKING

As each station, facility, track, bridge, and supporting infrastructure project is unique, the project Contract Documents provide requirements for the Hazardous and Universal Waste tracking. A Hazardous Waste Tracking Log is created and maintained by the Contractor. The CM provides review, verification, and oversight to ensure the chain of custody requirements and tracking of hazardous material removals are documented from source to disposal. The Hazardous Waste Tracking Log must include information pertaining to the type of waste, manifest document number, date, truck number, truck weight/volume, and disposal facility. Information and documentation associated with Hazardous Waste Tracking Log is documented in the PMIS.

REFERENCES
Project Manager Manual
TPCQMP

4.9 CONSTRUCTION WORK PRODUCT DOCUMENTATION

4.9.1 PURPOSE & SCOPE

Construction Work Product Documentation is a process to provide verification that the work and work activities completed on capital projects are completed in accordance with the Contract Documents, TPCQMP, and funding source requirements. The Construction Document processes capture documents inclusive of project forms, checklists, logs, inspections, communications, work activities and quality records, generated or received by the CM, Contractor, Metra PM and other project stakeholders through the implementation, construction, and closeout of the project.

Construction Work Product Documentation requirements are not limited to solely this section of the CMAN. Previous and successive sections of the CMAN provide Work Product Documentation requirements as they pertain to specific processes or project requirements. All project communications generated by the CM, Contractor, Metra, other project stakeholders, other agencies, and other entities engaged by the Contractors must be documented using the processes and adhering to the requirements as outlined in this manual. It is an essential requirement of the work that Metra QC processes, as documented in the TPCQMP, be followed in every respect. This will apply to the PM, the CM, and the Contractor. It is the intent of Metra that all communications relevant to the project design, construction, schedule, and payments as well as the management of human resources and stakeholder impacts is systematically recorded and archived. A consistent adherence to QC of documentation will result in a reduction of errors which benefits Metra and all its Contractors.

4.9.2 PROJECT DOCUMENTATION

Project documentation is produced, controlled, and maintained to verify conformance to the requirements of the FTA QMS guidelines. Written procedures are implemented and maintained for the control of project documents and data during all phases of project completion.

All project personnel inclusive of CM, Metra PM, Contractor, and subcontractors are required to implement the Project File Naming and Directory Structure nomenclature included in the CMAN to comply with Metra TPCQMP requirements as the method for filing, indexing, distribution, storage, maintenance, and retrieval of project records.

Designated project personnel, including CM, Metra PM, Contractor, and subcontractor personnel are required to complete and maintain all required forms, records and other project reference materials required as part of the contractual,

regulatory, or Metra procedural requirements, and as objective evidence for the implementation of the project. The Contractor must require its subcontractors to complete, submit and maintain all documentation in compliance with the Metra requirements.

All project records submitted, inclusive of:

- Meeting agenda
- Meeting minutes
- Schedules
- Pencil draft application for payment
- Change documents
- RFI
- Submittals
- Quality plan supplements
- Nonconformance reports
- Project logs
- Safety documents
- Unusual occurrence reports
- Environmental documentation
- Daily reports
- Record of Contractor contact
- Requests for inspections of materials
- Request for materials received
- Commissioning documentation
- Closeout documentation
- Lessons learned

Information provided during the course of the project is to include the transmittal cover sheet. Each transmittal cover sheet and/or documents that are not already being logged on other formal log(s) (RFI, Submittal, etc.) must be included on the Correspondence Log in numerical sequence. For Project Documentation all documents, plans, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.9.3 RAILROAD COORDINATION

Documentation of railroad coordination is essential to the successful delivery of Capital Projects to ensure delays and impacts are minimized to the Project, Metra, and non-Metra operations. The Contractor must thoroughly understand Metra and non-Metra rail operations, use of the site by Metra customers, surrounding land use, traffic control, Metra occupancy requirements, and adjacent non-Metra railroad operations. Railroad coordination documentation may involve meetings, schedules, and submittals to ensure the coordination is documented and communicated to the appropriate stakeholders. The safety of Metra customers, employees, personnel of other railroads, and the public must be the highest priority for any Contractor activity on or near an operational rail system.

Railroad coordination refers to the scheduling and coordination activities that take place between the Contractor and Metra Transportation Supervision (including the supervision of non-Metra railroads where appropriate) to ensure that the Contractor activities do not interfere with the safe and timely operation of rail traffic. Delays refer to any Project work delayed by Metra or non-Metra railroad agencies' inability to furnish previously agreed-upon resources such as flaggers or on-track occupancy as opposed to delays to rail operations that occur due to failure of the Contractor to allow for the timely passage of rail traffic. Transportation Supervision refers to the Metra railroad transportation supervisors for the Metra Operating District on which the project is located, in addition to the similar roles of Railroad Transportation Supervision for the Metra districts that operate on BNSF, Canadian National, Union Pacific, or other host railroads.

In conjunction with the documentation requirements for coordination, the initial meeting between the Contractor and Metra's Rail Operations Group to discuss the specific rail operations coordination requirements for the project will be scheduled by the CM and minutes of the meeting will be recorded by the CM. After the initial coordination meeting, the Contractor must participate in the weekly Railroad Transportation Supervision coordination meeting to confirm whether the Contractor requires resources such as flaggers or traction power support personnel to facilitate the safe execution of the project without impact to rail operations. More frequent meetings may be necessary where the work requires train schedule modifications or requires tracks to be removed from service, especially in the case of an extended outage period or when work is scheduled on weekends or holidays. Operating

Districts within Metra and other railroads have varying methods for the scheduling resources in addition to the meetings. The Contractor must be familiar with these requirements and must follow these methods for coordination (Metra maintains an online resource containing such requirements and contact information.

Any unusual occurrences, such as delays to rail traffic, public impacts, or safety violations, must be fully documented as to cause, length of delays, and plan to prevent further such occurrences. This documentation must be immediately forwarded to Transportation Supervision and the Metra Safety Department for review and acceptance.

4.9.3.1 REQUIREMENTS

The Contractor must thoroughly understand Metra and non-Metra rail operations, use of the site by Metra customers, surrounding land use, traffic control, and Metra occupancy requirements. The safety of Metra customers, employees, personnel of other railroads or entities and the general public must be the highest priority in any Contractor activity.

The Contractor shall devise a project schedule which details week-by-week activities. The Contractor will meet weekly with Transportation Supervision concerning those activities scheduled for the following week which require railroad resources such as flagging (generally any work within 25 feet of a rail) to arrange for such resources and to assure that the work will not interfere with train operations. When work requires special assistance from Transportation Supervision such as tracks out of service or traction power deenergizing the lead time for arranging such assistance is generally three weeks or more in advance of the planned work.

The Contractor shall meet weekly, at a minimum, with Transportation Supervision to coordinate the following week's project work plan schedule and arrange for resources such as flaggers or traction power support personnel as necessary to facilitate the safe execution of the project without impact to train operations. More frequent meetings may be necessary in the case of work which may impact train schedules or requires tracks to be removed from service for an extended period or when work is scheduled on weekends or holidays. Operating Districts within Metra and other railroads have varying methods for the scheduling of resources. The Contractor must be familiar with these requirements and must follow these methods whenever required in addition to the Contractor Transportation Supervision meetings. Any unusual occurrences, such as delays to rail traffic or safety violations, must be fully documented as to cause, length of delays, and plan to prevent further such occurrences. This

documentation must be immediately forwarded to Transportation Supervision and the Metra Safety Department.

For Transportation Coordination Documentation, all documents, plans, schedules, submittals, correspondence, supporting information, and response are to be input into the PMIS.

4.9.4 OTHER PROJECT DOCUMENTATION

The CMAN includes the checklists, logs, templates, instructions, and samples for the documentation of required work activities. Due to the uniqueness of specific projects, the CM, Metra PM, or Contractor may be required to develop additional written procedures, special forms, or other documentation. The Contractor must submit proposed documents to the CM or Metra PM, as applicable, for signature approval prior to initial use. Proposed changes to existing forms must also be approved in advance. The use of unauthorized forms is considered as noncompliance of contractual requirements.

Information and documentation associated with Other Project Documentation is to be input into the PMIS.

4.9.5 PROJECT CLOSEOUT DOCUMENTATION

The CMAN will include the checklists, logs, templates, instructions, and samples for the documentation of required work activities for project closeout documentation.

Content is under development for subsequent versions of the manual.

REFERENCES
Project Manager Manual
TPCQMP
ADDITIONAL DOCUMENTATION
Transmittal Cover Sheet Form
Transmittal Cover Sheet Instructions
Transmittal Cover Sheet Sample
Daily Report Form

Daily Report Instructions
Daily Report Sample
Record of Contractor Contact (ROCC) Form
Record of Contractor Contact (ROCC) Instructions
Record of Contractor Contact (ROCC) Sample
ROCC Log Form
ROCC Log Instructions
ROCC Log Sample
Drawing Log Form
Drawing Log Instructions
Drawing Log Sample
Training Log Form
Training Log Instructions
Training Log Sample
Disposition of Review Comments Log
Disposition of Review Comments Log Instructions
Disposition of Review Comments Log Sample

4.10 CONSTRUCTION INSPECTION

This section establishes requirements and assigns responsibilities for planning and performing inspection and testing of all items and activities during all phases of work on a project. In addition, the inspection and testing also provides assurance that all final accepted parts, materials, service, installation, construction, or any other work activity conforms to the specified requirements.

The responsibilities for various inspection and testing processes are defined in the Contract Documents and require the CM and Contractor to take a proactive approach to complying

with the inspection, testing, and subsequent documentation of the results. All parties involved in testing and inspection activities must perform these duties in conformance with the Metra TPCQMP and all standards as defined in the Contract Documents.

4.10.1 GENERAL

The Contractor has the responsibility to ensure that all testing and inspection requirements are clearly communicated, understood, and implemented by its project personnel, which includes all subconsultants and subcontractors. In addition, the CM will ensure that all tools, equipment, and processes used for inspection, measuring and testing adhere to these requirements.

The Contractor has the responsibility to develop a complete list of all inspections and tests contractually required for each project (See the Inspection and Testing Plan). This list must include the personnel and equipment required for each inspection/test along with training/certification requirements and testing schedules, as can be determined. The list should be updated as specific material delivery, construction, and installation schedules become available.

The parties contractually responsible for inspection or testing services are required to ensure that any personnel performing the inspections and tests are qualified for the task. Qualifications must be documented, kept current and verifiable. Training, certification, and licensing for qualification must be included on the training log provided in the TPCQMP.

The Contractor is responsible to ensure that all items, parts, equipment, materials, batches, and deliveries received are in conformance with the Contract Documents. Inspection or testing of any materials performed off-site such as at a fabrication location must have all inspection and testing documented and the documentation should contain or reference the requirements and acceptance/rejection limits per the contractual requirements, codes, standards, or regulatory requirements along with the testing frequency, location, and test data. These testing and inspection reports must be made available to CM by the Contractor and properly documented and approved prior to shipment.

For Project Documentation related to inspection and testing, all documents, plans, reports, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.10.2 INSPECTION AND TESTING PLAN (ITP)

Prior to the start of work, Contractors are required to prepare and submit an Inspection and Testing Plan (ITP) in accordance with TPCQMP Section 8.2 that lists all of the inspections and tests required per the specifications, drawings and

Contract Documents for the distinct items, parts, equipment, materials, batches, services and other work activities included as part of the improvement. To avoid delays and negative impacts to the project schedule, it is imperative that the ITP be coordinated with the CM and Metra PM and the detailed project schedule.

The ITP is to list and address the testing required at the receipt, installation, location, frequency, factory, and criteria for acceptance. The Contractor may provide one consolidated ITP or two separate ITPs, breaking out the off-site testing.

The Contractor must submit the ITP to the CM. The CM will distribute to the appropriate stakeholders for review and consolidate the review comments and return to the Contractor noting the submittal disposition. The CM will review the ITP submittal to ensure that it includes all the contractually required inspection and testing activities for the project. The ITP must be approved prior to the performance of any testing.

The ITP, at a minimum, must reference the item to be inspected or tested with the applicable specification section, drawing number, or other applicable documentation, the testing schedule or required testing frequency for the item and the proposed location of the inspection/test (site, laboratory, fabrication site, storage site). If CM or Metra personnel are responsible for the specific testing, for example, material testing or accessibility compliance, the ITP must reference this requirement and the personnel or agency specifically responsible for the inspection or testing and the date and time, if available. The CM will coordinate the testing with Metra when required. If witnessing of the testing by the CM or Metra stakeholder is required, that must also be noted on the ITP.

All changes or updates to the ITP must be submitted to the CM. Copies of both the original and revised ITP must be placed in the same location. All file naming conventions must be followed. Each document must be identified by a revision level and date.

For Project Documentation related to the ITP, all documents, plans, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.10.3 INSPECTION AND TESTING – ON SITE

The Contractor is contractually responsible for scheduling and coordinating the testing required by the Contract Documents as it pertains specifically to their scope of work.

The Contractor must ensure that all items pass the applicable acceptance criteria. Upon completion of the testing or inspection. Transmittals must be directed to all applicable parties.

Inspections and tests failing to meet the required acceptance criteria are to be documented on the NCR as provided in the TPCQMP and distributed to all applicable parties, including the party responsible for corrective action. The party responsible for the testing will also be responsible for the disposition of nonconforming items including the corrective action taken.

The Contractor must inspect all items, including materials and equipment brought on site for incorporation into the work. The Request for Inspection of Material Form (RFIM) provided in the TPCQMP, are to be used to ensure that the items delivered are following Contract requirements, and to verify that the items, parts, materials, batches, and deliveries are accompanied by a delivery ticket noting the project information and or purchase order associated with the delivery of such items.

The Contractor must manage inspection and testing and coordination with the CM and Metra PM. The CM and Metra PM must review all testing and inspection documents submitted by the Contractor to ensure that testing has been performed per the ITP, the results are acceptable, and the documentation has a complete traceability to each item, part, material, equipment, as received.

For Project Documentation related to inspection/testing, all documents, plans, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.10.4 INSPECTION AND TESTING AT FABRICATION FACILITY PRIOR TO SHIPPING

For inspection and testing that is conducted at a factory or off-site location, the Contractor must ensure that the acceptance/rejection criteria for that item are clearly identified in the applicable Contract Documents prior to shipping, and that the required inspection and test results are obtained from the supplier and provided to all applicable parties for review and approval prior to shipping.

The CM must review the inspection and testing submittals and coordinate with the Metra PM and other stakeholders regarding inspection and testing as identified in the ITP for any testing being performed at the fabrication or source facility. This includes CM, Metra PM, and other stakeholders review and acceptance of the submitted inspection and testing reports to verify that the results are acceptable or that a nonconformance is being mitigated and to ensure the documentation is complete and traceability to each item, part, material, equipment received.

4.10.5 EQUIPMENT CALIBRATION

The Contractor and CM are responsible to ensure the accuracy of the tools and equipment used for the inspection and testing of their equipment respectively. All equipment must meet all specified requirements throughout their period of use on the project. The quality procedures for establishing and documenting the maintenance and calibration status of all equipment is found in the TPCQMP. The testing/inspection party must maintain an Equipment Calibration Log for each piece of equipment used to obtain quality-critical results.

The Contractor and CM must provide an Equipment Calibration Log as a deliverable for review and approval which includes a list of all required inspection, measuring and testing equipment requiring calibration, including its up-to-date status, test dates, results, calibration history, who performed calibrations and other pertinent comments. The log must also contain information including equipment description, model, and serial number.

Daily Use or “Prior to Use” calibration may be required for certain equipment. Only trained, qualified project personnel may perform these calibration checks and it should be done at the point-of-use. The Contractor must develop an approved log sheet to document these calibration checks for submission with the test results.

Acceptance criteria for the tools and equipment to be calibrated must be performed according to manufacturer’s requirements and/or national standards. If no manufacturer requirement exists, the national standard shall take precedence. If a contradiction exists between the manufacturer’s requirements and national standard, the strictest of the two shall apply.

The status of calibration should be listed, where practicable, on the equipment itself or on the item’s case or container. If the equipment is stationary, the calibration status can be posted in the immediate area.

Equipment found to be out of calibration must be taken out of service immediately. If it is determined that an item was tested with improperly or non-calibrated equipment, the test and inspection must be repeated with equipment meeting the calibration and accuracy standards. If it is determined that items were tested with nonconforming equipment, those items may also be nonconforming and are subject to recall and/or re-testing.

An NCR must be generated for any testing/inspection equipment determined to be out of compliance. The NCR must be submitted to the CM to determine whether item tested was compromised and needs to have the testing redone per the test and inspection requirements. An NCR issued to the CM shall have the proposed resolution submitted to the Metra PM.

In the case of a conflict between the Metra TPCQMP and a written submittal describing procedures for control of inspection, measuring and testing equipment, the Contractor must identify the conflict prior to testing to all adequate time to utilize the RFI process to clarify the necessary requirements for conformance with the Contract Documents.

Information and documentation associated with equipment calibration and testing must be documented and input into the PMIS.

4.10.6 NONCONFORMANCE

All instances of nonconformance to the Contract Requirements due to test, inspection, results, deficiencies, calibration, or equipment, must be completely documented by the Contractor (or as applicable, the CM) as an NCR in accordance with the CMAN, TPCQMP, and the Contract requirements. An NCR must be submitted to CM or Metra PM to provide disposition of the action required to correct the nonconformance.

Complete documentation of all instances of nonconformance is required as part of the NCR. This can include photographic evidence, logs, test reports, calibration reports, written descriptions, a documented deficiency in the training of personnel performing the testing and inspection, equipment output or any other pertinent information.

The Contractor must document the status of any item which is documented as nonconforming. A nonconforming item must be set aside and work to incorporate the nonconforming item must not take place, installed, or utilized pending a disposition of the nonconforming item. Materials or items should be appropriately labeled and segregated to avoid the use of the item in error.

As part of the resolution process, the Contractor is responsible to supply testing of the nonconforming item and must have CM inspection and oversight of the testing. The Contractor must determine the root cause of the deficiency and, subsequently, determine the proper resolution for bringing the item in compliance with the documented standards. This Contractor requested resolution disposition may request a “Use as Is”, use of an alternate application, repair, rework to meet construction or calibration standards, or scrap for the proposed NCR resolution disposition. The CM must review the proposed resolution disposition. For any proposed resolution disposition other than rework, the CM will review with the Metra PM and when applicable the DoR for Metra’s acceptance of the proposed resolution disposition.

Refer to TPCQMP Elements 11 and 12 for specific nonconformance and corrective actions process and procedures.

REFERENCES
Project Manager Manual
Third-Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Request for Inspection of Materials (RFIM) Form
RFIM Instructions
RFIM Sample
Equipment Calibration Log Form
Equipment Calibration Log Instructions
Equipment Calibration Log Sample
Nonconformance Report Form - See TPCQMP
Nonconformance Report Instructions - See TPCQMP
Nonconformance Report Sample - See TPCQMP

5. LESSONS LEARNED

This section to be developed and integrated with the PM and Design Manuals.

6. PROJECT CLOSEOUT

This section to be developed and integrated with the PM and Design Manuals.

APPENDIX A – ACRONYMS AND ABBREVIATIONS

ACRONYM	DEFINITION
ARE	Assistant Resident Engineer
BNSF	Burlington Northern Santa Fe Railway
CADD	Computer-Aided Design and Drafting
CDOT	Chicago Department of Transportation
CM	Construction Manager
CM PM	Construction Manager Project Manager
CMAN	Construction Manual for Capital Delivery
CN	Canadian National Railroad
CoC	City of Chicago
CP	Canadian Pacific Railway
CPM	Critical Path Method
CTA	Chicago Transit Authority
DBE/EEO	Disadvantaged Business Enterprise / Equal Employment Opportunity
DoR	Designer of Record
FE	Field Engineer
FLSSC	Fire Life Safety and Security Committee
FTA	Federal Transit Administration
ICE	Inspector Daily Report
IDOT	Illinois Department of Transportation
ISTHA	Illinois State Toll Highway Authority
ITP	Inspection and Testing Plan
LFE	Lead Field Engineer
MOU	Memorandums of Understanding
NCR	Nonconformance Report
NICTD	Northern Indiana Commuter Transportation District
NS	Norfolk Southern Corporation
NTP	Notice to Proceed
OE	Office Engineer
OR	Owner's Representatives
OSHA	Occupational Safety and Health Administration
PCE	Project Controls Engineer
PM	Project Manager
PMIS	Project Management Information System
QA	Quality Assurance
QC	Quality Control
QM	Quality Manager
QMS	Quality Management System
RE	Resident Engineer
RFI	Requests for Information
RFIM	Request for Inspection of Material Form
RFMR	Request for Material Received Form

ACRONYM	DEFINITION
ROCC	Record of Contractor Contact
ROE	Right of Entry
ROW	Right-of-Way
RTA	Regional Transportation Authority
SM	Safety Manager
SME	Subject Matter Experts
SSCC	Safety and Security Certification Committee
TPCQMP	Third-Party Contracts Quality Management Plan
UP	Union Pacific Railroad
VE	Value Engineering