



PUBLIC PROJECT INFORMATION

For Construction and Improvement
Projects That May Involve the Railroad



Prepared by the Public Projects Group
CSX Transportation Inc. Jacksonville, FL

Last revised March 2025

INTRODUCTION

To the Communities,
Businesses and Government
Agencies We Serve:

CSX Corporation and its business units provide rail and intermodal service in 26 states, the District of Columbia and two Canadian provinces. CSX operates over 20,000 miles of track, helping North America maintain the strongest and most productive transportation system in the world.

In addition to CSX's vitally important customer service responsibilities, the company wants to be a good neighbor in the communities where we operate. That is why we have prepared this information. We want to make it easier for communities and other project sponsors to work with us when they have construction and improvement projects that may involve CSX rail property.

CSX's Public Projects team is involved in a wide variety of projects initiated by government agencies, local businesses and others. Accurate and timely communication of information between CSX and these parties improves planning, relationships and successful completion of projects. The tools in this manual explain important steps project sponsors must follow, including information required in connection with any public project proposal.

CSX places the highest priority on safety – for its employees and for the public. Because CSX is a business and its shareholders ultimately own its rail system, the company must also give careful consideration to anything that could adversely affect customer service, compensation for use of railroad property, and risk to railroad operation.

The Project Managers –

Public Projects Managers are the initial contact for CSX and are assigned territories by state. Please contact them directly about public projects using the information provided. General Engineering Consultants (GEC) provide additional engineering services to assist CSX in managing public projects.

CSX hopes the information and procedures provided here will make it easier for us to work together.



Will Roseborough

Director Project Development and
Public Projects



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Improvement Projects That
May Involve the Railroad

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Additional information can be obtained by contacting the following:

American Railway Engineering and Maintenance of Way Association,
(301) 459-3200, or www.arema.org

U.S. Department of Transportation, Manual of Uniform Traffic Control Devices,
<http://mutcd.fhwa.dot.gov/>

INFORMATION COVERED IN THIS MANUAL

This information is intended to assist communities and other project sponsors to plan and implement construction and improvement projects that may involve the CSX rail property.

Examples of such projects include:

Highway-Rail Grade Crossings:

Closure, removal, installation and alterations of public highway-rail grade crossings. CSX Real Estate department manages private crossings.

Bridges Over CSX:

Construction, reconstruction, rehabilitation, repair, removal, and maintenance of bridges over the railroad by outside parties.

Bridges Carrying CSX:

Construction, reconstruction, rehabilitation, repair, removal, and maintenance of bridges carrying CSX over highways and other public properties initiated by outside parties.

Parallel Roads/Facilities:

Construction, reconstruction, modification, removal, and maintenance of parallel roads or other public facilities affecting CSX property or operations.

U.S. Army Corps of Engineers Projects:

Any project undertaken by the Corps of Engineers that involves CSX property or operations.

Entry Onto CSX Property:

Temporary rights of entry onto CSX property, easements, utility installation and bridge inspections.

Other Projects Involving CSX Rail Corridors:

Publicly sponsored projects involving or altering CSX facilities or its property. These projects may be on, above, adjacent to, or otherwise have the potential to impact CSX property.

Important notes:

The information herein is intended to be a tool only and all statements in this manual are intended to be for broad use. This manual cannot be taken as authority to construct. Specific projects will be subject to analysis of all factors leading to formal agreements between all parties. The purpose of review by CSX is solely to ensure compliance with the minimum standards of CSX, and not for any other purpose.

The guidelines and requirements herein are provided for reference only and are subject to revision without notice. All new projects shall be designed in accordance with the most current policies, requirements, and standards of CSX.

Any items affecting railroad property not covered in this manual shall be subject to CSX's prior review and approval.

The safety of CSX employees and the general public is of paramount importance to CSX.

CSX PUBLIC PROJECTS STAFF AND TERRITORY MAP



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ADDITIONAL CSX RESOURCES AND CONTACTS

Many areas of community interest are outside the scope of this manual. The following is a list of contacts within CSX that may be helpful on other community matters:

- **Emergencies:** Emergencies and suspicious situations should be reported immediately to the CSX Public Safety Coordination Center (800) 232-0144.
- **Corporate Communications and Public Affairs:** News media information, public affairs, state and community relations. Contact: (904) 366-2949.
- **Industrial Development:** New industry site locations, track proposals. Contact: Director Technical Programs, Regional Development (904) 359-1617.
- **CSX Real Estate:** Non-Construction and Environmental right-of-entry, wire line and pipeline crossings, private crossings, compliance with codes relating to right-of-way conditions. Contact: <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/permitting-utility-wireless-infrastructure-installations-and-rights-of-entry/>
- **Quiet Zones:**
Contact: crossingrequests@csx.com
- **Railroad Track and Signal Maintenance:**
Non-emergency track maintenance, drainage maintenance, maintenance of highway-rail grade crossings surfaces and warning systems. Contact: TellCSX@csx.com
- **Real Estate Lease or Purchase:** Contact: <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/>
- **CSX Real Estate Easements for Public Improvement Projects:** If no property rights are in place for the affected CSX property, those rights will need to be established thru CSX Real Estate prior to letting of the public project into construction.
Contact: Public_ProjectsRPI@csx.com
- **Structures and Bridges:** Maintenance of bridges that are CSXT's responsibility.
Contact: Assistant Chief Engineer - Structures (904) 359-1104.
- **Passenger Operations:** Amtrak, passenger train proposals, commuter train proposals, light rail corridors. Contact: Director Passenger Services Strategy (904) 359-1099.
- **Rails to Trails:** Conversion of unused rail lines to trails. Contact: <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/>
- **Non Emergency Issues:**
Contact: tellcsx@csx.com

I. Definitions

1. Agency – The project sponsor (i.e., State DOT, Local Agencies, Private Developer, etc.)
2. AREMA – American Railway Engineering and Maintenance-of-Way Association – the North American railroad industry standards group. The use of this term shall be in specific reference to the AREMA Manual for Railway Engineering.
3. Construction Submission – The Agency or its representative shall submit 1 hard copy set and 1 electronic set of plans, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All plans, specifications, and supporting calculations shall be signed/sealed by a Professional Engineer as defined below.
4. Controlled Demolition – Removal of an existing structure or subcomponents in a manner that positively prevents any debris or material from falling, impacting, or otherwise affecting CSX employees, equipment or property. Provisions shall be made to ensure that there is no impairment of railroad operations or CSX's ability to access its property at all times.
5. Contractor – The Agency's representative retained to perform the project work.
6. Engineer – CSX Engineering Representative or a GEC authorized to act on the behalf of CSX.
7. Field Construction Inspector (FCI): CSX may elect to use a contracted construction inspector in lieu of, or in addition to, a CSX employee flagman.
8. Flagman – A qualified CSX employee with the sole responsibility to direct or restrict movement of trains, at or through a specific location, to provide protection for workers.
9. GEC – General Engineering Consultant who has been authorized to act on the behalf of CSX. GECs perform preliminary engineering, construction inspection, and monitoring under the direction of the CSX Engineering personnel. GEC personnel also perform day-to-day administration of certain types of projects.
10. Horizontal Clearance – Distance measured perpendicularly from centerline of any track to the nearest obstruction at any elevation between TOR and the maximum vertical clearance of the track.
11. Professional Engineer – An engineer who is licensed in State or Commonwealth in which the project is to occur. All plans, specifications, and supporting calculations shall be prepared by the Professional Engineer and shall bear their seal and signature.
12. Potential to Encroach – Work having the possibility of impacting CSX property or operations; defined as one or more of the following:
 - a. Any activity where access onto CSX property is required.
 - b. Any activity where work is being performed on CSX ROW.
 - c. Any excavation work adjacent to CSX tracks or facilities, within the Theoretical Railroad Live Load Influence Zone, or where the active earth pressure zone extends within the CSX property limits.
 - d. The use of any equipment where, if tipped and laid flat in any direction (360 degrees) about its center pin, can encroach within twenty five feet (25'-0") of the nearest track centerline. This is based upon the proposed location of the equipment during use, and may be a function of the equipment boom length. Note that hoisting equipment with the potential to foul must satisfy the 150% factor of safety requirement for lifting capacities.
 - e. Any work where the scatter of debris or other materials has the potential to encroach within twenty five feet (25'-0") of the nearest track centerline.
 - f. Any work where significant vibration forces may be induced upon the track structure or existing structures located under, over, or adjacent to the track structure.
 - g. Any other work which poses the potential to disrupt rail operations, threaten the safety of railroad employees, or otherwise negatively impact railroad property, as determined by CSX.
13. ROW – Right of Way; Refers to CSX Right-of-Way as well as all CSX property and facilities. This includes all aerial space within the property limits, and any underground facilities.
14. Submission Review Period – A minimum of 30 days will be required for the initial review response. Up to an additional 30 days may be required to review any/all subsequent submissions or resubmission.
15. Theoretical Railroad Live Load Influence Zone – A 1 horizontal to 1 vertical theoretical slope line starting at bottom corner of tie.
16. TOR – Top of Rail. This is the base point for clearance measurements. It refers to the crown (top) of the steel rail; the point where train wheels bear on the steel rails. Use the higher of the two rails when track is superelevated.
17. Track Structure – All load bearing elements which support the train. This includes, but is not limited to, the rail, ties, appurtenances, ballast, sub-ballast, embankment, retaining walls, and bridge structures.
18. Vertical Clearance – Distance measured from TOR to the lowest obstruction, within six feet (6'-0") of the track centerline, in either direction.

REQUIREMENTS FOR PRELIMINARY ENGINEERING REVIEW

Overview

Any project proposals that may affect or be near the CSX right-of-way must be evaluated by CSX. To initiate a construction or improvement project, a PE agreement is required to identify the project sponsor, the scope, define the tasks to be accomplished, and specify the payment required. Once the plans for the project are approved by CSX, a construction agreement will be developed.

Purpose

The purpose of PE is to identify issues related to safety, engineering, customer service, operations, legal and regulatory matters, expense, risk and other considerations specific to any proposed project. CSX review of plans is only to determine that the plans, and improvements constructed in accordance with the plans, satisfy CSX's requirements and do not adversely impact or damage CSXT property interests. Plans should be submitted early in project development to ensure that CSX requirements can be incorporated.

Key Points

- Starting CSX Preliminary Engineering (PE) early by providing conceptual plans lowers project costs and shortens the time required for CSX review and approval.
- Using standard agreements lowers costs and saves time.
- If the proposal requires an encroachment within CSXT Right-of-Way, the project sponsor should contact the CSX Real Estate Department when beginning PE.
- If the proposal requires a utility encroachment, the project sponsor should contact CSX Real Estate Department when beginning PE.
- CSX PE Review will not begin until the PE Agreement is fully executed and PE funds are received.

Process Steps To Be Taken

- Notify CSX Public Projects Group of the project by providing location information and conceptual plans.
- Complete and Submit New Project Initiation Form.
- Provide CSX authorization to incur preliminary engineering costs.
- Review and complete a standard PE agreement and provide payment for expenses as specified in the agreement.
- Provide project information; attend meetings (as needed), review site with CSX or GEC personnel.
- Submit initial plans to CSX or designated GEC for review.
- Respond to CSX or designated GEC comments and adjust design if necessary.
- Coordinate with CSX Real Estate as required
- Submit final design for CSX or designated GEC review.
- CSX will perform final review to ensure compliance with railroad requirements.
- CSX will estimate the cost of the work to be done by CSX, including flagging.
- If CSX takes no exceptions to the design plans (or once all CSX concerns have been addressed), CSX will prepare a standard construction agreement for execution.

Costs and Expenses

These matters are covered in more detail in the section that follows (“Payment of CSX’s Costs and Expenses”). For the reasons described in that section, CSX requires advance payment for its costs and expenses of reviewing and handling the PE. All expenses of the party seeking the review will be borne by that party, including expenses for CSX employees or GEC personnel attending meetings, reviewing plans, preparing correspondence and other activities to support the review of the project.

Timing

It is in the interest of all parties to complete the PE review before commitments are made or construction steps begin. CSX will work to be responsive, with timing depending upon the complexity of the project. CSX and its GEC will work with the project sponsor to schedule PE and construction to meet project schedule objectives whenever possible, considering available resources.

Property Rights

Construction and improvement projects involving CSX property will require a conveyance of property rights,

FOR EXAMPLE:

- Highway-Rail Grade Crossings
- Bridges Over CSX
- Parallel Roads/Facilities
- Road/Bridge Widening Projects

Before CSXT will issue a Notice to Proceed for construction within their property, formal property rights will need to be verified through the CSXT Real Estate Department. CSXT Real Estate will confirm the real estate requirements for each project.

If an easement is necessary, the below listed information* will be required for review and processing:

- Cover letter – identifies the type(s) of easement(s) and why each easement area is needed. This information will assist in ensuring the correct easement(s) is/are referenced in the deed. The Construction Easement request, if temporary, includes the length of time this type of easement will be needed. The letter also includes contact information for the project contact. An email address for the project contact is to be included.
- Offer (Good Faith Offer or Fair Market Value (FMV)
- Metes and bounds description for each easement area is required to identify the easement boundaries to be included within the deed. CSXT will not be able to commence review without the metes and bounds description.
- Right-of-Way Detail Sheet calling out the easement area(s)

**Any missing information will result in a delay in processing*

Standard Documents and Estimates

CSX executes hundreds of agreements each year for preliminary engineering and construction of projects. CSX has developed standard agreements which can be executed by CSX without additional legal review. Non-standard agreements or modifications to the CSX standard agreement terms will require additional legal review and may increase project duration and/or cost. Sample standard agreement documents are available in the Appendix. CSX will begin each project with a PE estimate and PE agreement. After execution of the PE agreement and receipt of the PE deposit, CSX will complete the PE phase of the project. At the end of the PE phase, CSX will provide the project sponsor a construction estimate for all required CSX costs during the construction phase of the project. CSX provided estimates are valid for one year from date of approval noted on the estimate form.

PAYMENT OF CSX'S COSTS AND EXPENSES

Overview

The types of projects being addressed in this manual usually do not directly benefit and, in some cases, create risk to, and hurdles for, CSX's core business of providing transportation service vital to its customers and the North American economy. For these reasons, CSX seeks payment for its costs and expenses incurred in connection with project review or construction.

Examples of Costs and Expenses

Agency shall reimburse CSX for all costs and expenses incurred by CSX in connection with the Project, including, without limitation:

- All out of pocket expenses
- Travel and lodging expenses
- Telephone, facsimile, and mailing expenses
- Costs for equipment, tools, materials and supplies
- Sums paid to CSX's consultants and subcontractors
- CSX labor in connection with the Project (included but not limited to flagging), together with CSX labor overhead percentages established by CSX pursuant to applicable law
- For estimating purposes only, typical flagging costs are \$1,300 per day

Key Points

- Preliminary Engineering (PE) costs are paid in advance.
- CSX construction expenses will be estimated during PE and the estimate will be incorporated into the construction agreement. Advance payment is required to cover these expenses prior to the start of project construction.
- If CSX anticipates that actual expenses will exceed the advance payment, additional payment will be required. Project work may be stopped until additional payment is received.
- If CSX's actual expenses are less than the sum of any deposits the difference will be refunded after final cost accounting.
- All funding sources must be identified up front, and any time funding sources change, CSX must be immediately informed. CSX requires the completion of a "New Project Initiation Form" at the beginning of each project. By completion of this form, the project sponsor agrees to reimburse CSX for project related costs. Each time project funding changes, a new "New Project Initiation Form" must be completed.
- All costs associated with any real estate or utility transaction will be handled separately with the CSX Real Estate Department.

INSURANCE REQUIREMENTS FOR PUBLIC PROJECTS

I. Insurance Policies:

Agency and Contractor, if and to the extent that either is performing work on or about CSX's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than \$5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured. The policy shall include endorsement ISO CG 24 17 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.
2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than \$1,000,000, which insurance must contain a waiver of subrogation against CSX and its affiliates (if permitted by state law).
3. Commercial automobile liability insurance with limits of not less than \$1,000,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured. The policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.
4. Railroad protective liability insurance with limits of not less than \$5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of \$10,000,000, which insurance shall satisfy the following additional requirements:
 - a. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.
 - b. CSX Transportation must be the named insured on the Railroad Protective Insurance Policy.
 - c. Name and Address of Contractor and Agency must appear on the Declarations page.
 - d. Description of operations must appear on the Declarations page and must match the Project description.
 - e. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.
 - f. Authorized endorsements may include:
 - (i). Broad Form Nuclear Exclusion - IL 00 21
 - (ii). 30-day Advance Notice of Non-renewal or cancellation
 - (iii). Required State Cancellation Endorsement
 - (iv). Quick Reference or Index - CL/IL 240

- g. Authorized endorsements may not include:
 - (i). A Pollution Exclusion Endorsement except CG 28 31
 - (ii). A Punitive or Exemplary Damages Exclusion
 - (iii). A “Common Policy Conditions” Endorsement
 - (iv). Any endorsement that is not named in Section 4 (e) or (f) above.
 - (v). Policies that contain any type of deductible

5. All insurance companies must be A. M. Best rated A- and Class VII or better.

6. The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or certificates of insurance.

7. Such additional or different insurance as CSX may require.

II. Additional Terms:

1. Contractor must submit the original Railroad Protective Liability policy, Certificates of Insurance and all notices and correspondence regarding the insurance policies to:

Insurance Department
CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202

insurancedocuments@csx.com

2. Neither Agency nor Contractor may begin work on the Project until it has received CSX's written approval of the required insurance.

ENTRY ONTO CSX PROPERTY

Overview

To maintain efficient customer service and to ensure the safety of CSX employees and of those parties requesting access to CSX property, CSX requires all parties accessing its right-of-way for investigative activities or for the performance of construction work to have a written agreement with CSX fully detailing each party's responsibilities. Activities by others with the potential to affect CSX's property, operations, and or personnel without actually entering CSX property must also be reviewed with CSX and appropriate arrangements and agreements completed.

The process by which an appropriate agreement covering entry and/or the other necessary conditions or requirements can be developed and implemented is typically dependent upon the scope of the activities proposed by an outside party or agency. Although the type of agreement may vary, most agreements include insurance and liability provisions, work procedures and conditions and reimbursement provisions relating to payment to CSX for costs it may incur in relation to the entry or work. The following summarizes the various types of CSX agreements and contracts most frequently utilized to accommodate the requested entry and the proposed work activities.

Key Points

Written permission is required for all parties entering CSX property.

- Construction Agreements authorize entry onto CSX property.
- Temporary right-of-entry agreements can also be used for limited purposes.
- CSX Real Estate handles temporary rights of entry for non-construction activities.
- CSX Public Projects handles temporary rights of entry for construction activities.
- All parties must adhere to CSX Safety procedures.
- Appropriate insurance is required.

Entry for Construction Work

Entry for construction work (not exclusively associated with utility work) will require a Construction Agreement or a Temporary Right-of-Entry Agreement, as determined by the magnitude of potential impacts to CSX.

A Construction Agreement will be required for construction work that could impact CSX facilities or operation, such as construction or rehabilitation of a bridge over CSX, roadway construction or other highway improvements, or grading and/or drainage work. Additional agreements may be required for any permanent improvements/encroachments within CSX corridors or property.

Construction work that will not impact CSX facilities or operation may be handled by a Temporary Right-of-Entry Agreement, as determined by CSX Public Projects.

Entry for Non-Construction Work

A Temporary Right-of-Entry agreement is utilized by CSX primarily in situations where outside parties or agencies desire to undertake investigative work such as performing survey work, taking borings, performing bridge inspections or undertaking other activities requiring only access to CSX property and not construction work activities. Different agreements are used for temporary private crossings.

Applications for Temporary Right-of-Entry agreements for investigative and non-construction work activities (including movement of off-highway or oversized loads at grade crossings) within CSX's right-of-way can be obtained by contacting CSX Real Estate at <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/permitting-utility-wireless-infrastructure-installations-and-rights-of-entry/>

Entry For Other Purposes

CSX may use other forms of agreements covering entry by outside parties or agencies depending on work scope or other factors. The process to obtain right of entry for these purposes as listed below may also be initiated through CSX Real Estate at <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/>

- Environmental Right-of-Entry
- Utility Permit/License Agreement for pipeline and wire line construction – both for specifications and applications
- Land Lease applications
- Movement of oversized loads across CSX tracks at private or public highway-rail grade crossings
- Movement of off highway construction equipment across CSX tracks at private or public highway-rail grade crossings.

CONSTRUCTION MONITORING REQUIREMENTS

Overview

To ensure the safety of the public and CSX employees, maintain quality rail service to CSX customers and to protect CSX assets, CSX may require construction monitoring (in addition to flagging protection) of the project. The construction monitoring will be conducted by CSX and its consultants at project expense.

Key Points

- Construction work affecting CSX will be monitored by CSX and its consultants at the project sponsor's expense.
- Construction monitoring is in addition to flagging and other protective services.

General Guidelines

Construction monitoring includes intermittent or continuous on-site presence of CSX or its consultants during construction activities.

- The construction project sponsor, owner, or agency in charge will pay for the cost of construction monitoring. Construction monitoring will be specified, and the estimated cost will be included in the construction agreement for the project.
- Construction monitoring is in addition to railroad-approved flagging.
- Construction monitoring includes CSX review and approval of all plan changes and required contractor submissions during the construction phase of the project.
- The project sponsor is responsible for its safety and the safety of its property, contractors, and employees. CSX, as part of its construction monitoring, will review the work site for activities that could interfere with safe operation of the railroad.
- CSX and its consultants are not responsible for monitoring the general work activities under the direction of the project sponsor for compliance with safety regulation. Any observed unsafe acts or conditions will be reported immediately to the project sponsor or contractor representative.

RAILROAD FLAGGING FOR ACTIVITIES ON OR NEAR CSX PROPERTY AND TRACKS

Overview

In the interest of public safety and the safety of employees and property, CSX will work cooperatively with agencies, consultants, contractors and others who need to access railroad property when work brings them in close proximity to active railroad tracks to determine the appropriate flagging services needed and to make arrangements for those services.

Conditions When CSX Flagging Services Are Required:

- When any entity is working on, near or adjacent to active railroad tracks.
- When an outside party is using railroad property or performing operations that may affect railroad property or facilities. This includes occasions when a party has been given express permission from CSX to enter railroad property or perform such operations under the terms of a Construction agreement, Temporary Right-of-Entry agreement or other appropriate documentation.
- When work off of railroad property has the potential to impact CSX property or operations.
- When off-highway construction equipment is crossing the railroad at a private or public crossing.
- When oversized equipment or highway vehicles are to cross the railroad at a private or public crossing.
- In other instances as determined by CSX.

Key Points

Flagging services are required when projects are within close proximity to active rail lines, as required by federal law.

- Flagging services can only be performed by personnel qualified by CSX.
- Arrangements for flagging services may take up to 90 days to schedule.
- It should be understood that occasions may arise during the life of the project when CSX must temporarily reassign the project Flagman to meet the changing demands of operating its railroad. This can occur without advance warning. CSX will make every effort to coordinate events to minimize scheduling conflicts, but there may be circumstances that will cause temporary inconvenience to the project.

Construction activities shall be planned in such a manner as to minimize the amount of time flagging services are needed.

Qualified Flagging Personnel

CSX flagging services may only be performed by personnel qualified by CSX who are trained in the proper procedures related to rail operations and safety requirements, familiar with rail operations and procedures in a project area and able to communicate directly with CSX dispatching personnel and train crews.

Arrangements for CSX Flagging Services

- CSX will make arrangements for flagging services related to planned work by an outside party under the terms of a temporary right-of-entry agreement, construction agreement, environmental license agreement or other mutually acceptable arrangements.
- Advance notice must be provided to secure CSX flagging services. The level of advance notice may vary from site to site or project to project or if CSX determines, under the provisions of its labor agreements with its union forces, that flagging services can only be provided as a result of the flagging position being bid and awarded to qualified CSX personnel.
- Advance notice must be provided to cancel CSX flagging services. If advance notice to cancel is not provided, the project sponsor will be responsible for paying for the flagging until CSX is notified. Requests to cancel or end flagging should be given at least 3 days in advance.

Responsibility for Costs and Expenses

- All costs and expenses associated with CSX flagging services are the sole responsibility of the agency, consultant or contractor.
- CSX will provide its estimated costs prior to the start of the project work or its assignment of flagging personnel.
- Once flagging personnel are formally assigned by CSX to a specific work location, the period of assignment can only be changed with appropriate advanced arrangements.
- Charges for providing flagging services beyond a normal eight-hour weekday are calculated and billed at an overtime rate.
- For initial planning purposes, typical flagging cost is \$1,300 per day.

Examples of Flagging Costs and Expenses

Charges billed by CSX to the agency, consultant or contractor may include, but are not limited to:

- Employee Salary
 - Hourly employee charges are based on the time an employee departs and returns to his or her headquarters location. As such, the charges can be expected to exceed the level actually incurred during the assigned coverage period or while the flagman is present at the specific work location.
 - This period also includes the time required for flagging personnel to perform the required preparations and termination procedures associated with flagging services at a location.
- Overhead Costs
 - These charges are assessed against the hourly employee charges and determined in accordance with standard accounting procedures or as mandated by governmental regulations.
- Employee Expenses or Per Diem Rate
 - This amount is calculated based on an employee's actual expenses or on a per diem rate according to the terms of applicable collective bargaining agreements between CSX and its assigned union flagging employees.
 - The amount includes travel and lodging expenses and the cost for a leased, rented, CSX, or personal vehicle to be used for transportation.
- Administrative, Accounting, and Billing Services
 - This amount is related to the time associated with setting up the agreement, arranging for and supervising the employee, billing and collection of costs, and other expenses associated with CSX providing flagging services.
- Field Construction Inspector (FCI)
 - CSX may elect to use a contracted construction inspector in lieu of, or in addition to, a CSX employee flagman.

HIGHWAY-RAIL GRADE CROSSING SURFACE MAINTENANCE AND REPLACEMENT

Overview

The crossing surface provides a path for highway vehicles to cross railroad tracks. The objective is to provide a safe, smooth, and cost effective crossing for highway and railroad traffic. Highway and railroad maintenance work in the vicinity of highway-rail grade crossings must consider safety concerns for both highway and railroad traffic before, during, and after the time the work is implemented.

Identification of the crossing and location

Each crossing has a unique DOT inventory identification number posted at the crossing. There is often more than one crossing on the same road. The crossing number (such as 123456A) must be used to identify the specific crossing in all communications with the railroad to reduce possible confusion about the specific location.

Key Points

- Report issues with crossing surfaces to TellCSX (TellCSX@csx.com)
- Coordination is required for work near crossings.
- Highways must be closed to vehicular traffic for crossing replacement or maintenance work.
- Agreements with CSX are required for crossing work and work near crossings.
- Crossing surface maintenance and replacement must be performed by CSX.
- Crossing surfaces must meet criteria set by CSX's Engineering Standards.
- For identification purposes, each crossing has a distinct DOT inventory number (such as 123456A) posted at the crossing and the railroad milepost.

When track maintenance necessitates the repair of the crossing, the cost of said repair will be the responsibility of the Agency, per applicable agreements.

Crossing Construction

Railroad track is continuous through the crossing and includes railroad ties, rail and fasteners below the surface of the crossing. The crossing surface for highway traffic can be made of several different materials. Drainage is required for all four quadrants at a crossing.

Crossing Surface Types and Selection

Crossing surface material and construction methods are selected for each crossing based on the type of highway and railroad traffic, past experience and funding available from highway agencies for individual projects.

Standard types of CSX approved crossing surfaces are Concrete or Timber/Asphalt. Projects funded by outside parties may be constructed with other materials if specified by the outside party and approved by CSX. Modular Platform “Tub” type crossings may be considered for use at locations with slow rail operations of 15 MPH or less and high road vehicle count and/or heavy vehicles.

Crossing Maintenance and Replacement

Crossing maintenance and replacement of the track and crossing surface are performed by CSX and may be billable to an outside party or highway authority as specified in an agreement. The responsibility for the maintenance of public crossing approach pavement varies by state and is specified in some individual crossing agreements or orders.

Crossing work requires closing the entire highway-rail grade crossing. Replacement of track components through a crossing requires removal of the crossing surface, replacement of track ballast, and surfacing the track through the crossing prior to replacement of the crossing surface. If the subgrade needs to be improved, the application of a hot mixed asphalt underlayment should be considered. Drainage will be reestablished for all four quadrants. After the crossing surface is replaced, the highway approach paving is completed and then the road is opened to highway traffic. Replacement of the track and crossing surface usually requires that the highway be closed for several days.

Crossing surfaces are also removed and replaced when track maintenance work is performed through a crossing such as rail replacement, tie replacement, and track surfacing (smoothing). Each crossing has the surface removed and replaced after the work has been completed. Crossings are usually closed for several days during this maintenance work.

Requesting Crossing Surface Replacement or Upgrades

Highway agencies seeking replacement of crossing surfaces should contact CSX Public Projects. The request for the work and the recommended surface must be reviewed and approved by CSX. If approved, Public Projects will prepare a standard agreement and include the cost estimate for the project.

ALTERATIONS TO HIGHWAY-RAIL GRADE CROSSING WARNING DEVICES

Overview

The Public Projects Group will process all projects proposing alterations to public highway-rail grade crossing warning systems. Included will be projects for opening new crossings, closing existing crossings, modifying or widening of existing crossings, installing new warning systems, removing and/or relocating existing warning systems and modifying/upgrading existing warning systems.

Identification of the crossing and location

Each crossing has a unique DOT inventory identification number posted at the crossing. There is often more than one crossing on the same road. The number (such as 123456A) must be used to identify the specific crossing in all communications with the railroad to reduce possible confusion about the specific location.

Key Points

- Any alterations to highway-rail grade crossing warning systems must adhere to all applicable laws, regulations and national standards.
- Requests to CSX for new or modified public at-grade crossing warning devices must be initiated by the highway agency.
- Preliminary Engineering agreements are used to define the project scope and prepare design and estimate information for each project.
- The requesting project sponsor will be responsible for advance payment for engineering, design and installation of warning devices.
- The coordination of traffic intersection signals with warning devices will be determined by the highway agency or regulatory agency.
- Construction agreements are used to implement the projects.
- Advanced Preemption timing will be limited to 50 seconds.

Design Considerations

Highway-rail grade crossing warning systems must adhere to all applicable Federal and State standards and regulations, and local policies, laws and ordinances, as well as CSX standards. The highway agency, not CSX, is responsible for determining the level and configuration of warning devices for a public highway-rail grade crossing. In addition, the highway agency or other governmental agency responsible for making warning system and equipment determinations is responsible for selecting appropriate vehicular traffic control signs and/or devices for a specific public highway. Loop Detection Circuitry will not be designed, installed, owned, or maintained by CSX.

Recommended practices and additional information are available in American Railway Engineering and Maintenance of Way Association (AREMA) manuals and the Manual on Uniform Traffic Control Devices (MUTCD)

Engineering, Cost Estimation, Installation

CSX will provide engineering, design, and cost estimates for the installation of highway-rail grade crossing warning devices at the expense of the project sponsor as part of the Preliminary Engineering for a project. Changes to highway-rail grade crossing surfaces may also require engineering and estimating by CSX. Because of labor agreements with CSX's union forces, CSX will install the highway-rail grade crossing warning devices.

Operation of Highway-Rail Grade Crossing Warning Devices

Highway-rail grade crossing warning systems are designed to activate in advance of a train entering the crossing. Train speed changes while approaching the crossing may cause the warning system to activate longer than expected. Trains stopping or making forward and reverse movements near the crossing may cause the warning system to activate and then clear after an appropriate time without a train entering the crossing.

Traffic Light Preemption Interconnection

The highway agency will determine if preemption is required. Preemption of the cycle of traffic signals at highway intersections near highway-rail grade crossings requires careful review by highway traffic engineers to determine the appropriate timing and sequence for both the traffic signal and the highway-rail grade crossing warning system. Preemption for the traffic signal may be simultaneous with, or in advance of, the warning system activation. The appropriate sequence and timing shall be provided by the highway agency and distributed to CSX to facilitate CSX's signal design. CSX will furnish one preemption interconnection circuit of a normally closed contact that is designed to open upon the approach or presence of a train and will terminate the closed preemption interconnection circuit in a common cable junction box to be used for the interconnection of the traffic signals and the grade crossing warning devices.

Advanced Preemption Timing

For grade crossing warning systems interconnected with highway traffic signals, the 2018 AREMA C&S Manual limits advanced preemption timing to 50 seconds (plus equipment response time), and CSX will abide by this standard. For more information refer to 2018 AREMA C&S Manual Part 3.1.10, section C.1

OVERHEAD AND UNDERGRADE BRIDGE PROJECTS

Overview

Given the efficiencies and environmental benefits of moving goods by rail, CSX continues to see strong demand for rail services across its network. It is critical that CSX maintain the ability to expand its network in the future.

CSX requires that new overhead bridges (including existing bridge replacements) span CSX's right-of-way and have a minimum 23' vertical clearance above top of rail. CSX requires that new undergrade bridges provide accommodations for future operating needs, as determined by CSX.

During project construction, rail operations must not be impeded. Temporary run-around track(s) and/or phased construction may be necessary as determined by CSX.

Key Points

- Overhead and undergrade bridge projects must comply with CSX's policies and standards, which are available in the appendices of this manual.
- All work on overhead and undergrade bridges must be reviewed and approved by CSX.
- CSX should be involved early in the project development phases to allow required bridge standards to be incorporated into the design of the project.
- A preliminary engineering agreement and construction agreement will be required.
- CSX property and operations (including train speeds) shall not be negatively impacted by the project.
- No temporary reduced clearances will be permitted.
- CSX requires that new overhead bridges (including existing bridge replacements) clear span CSX's right-of-way and have a minimum 23' vertical clearance above top of rail.
- All new undergrade bridges must have a ballast deck.
- MSE walls are prohibited on or adjacent to CSX property.
- Vehicular Clearance signage for clearance under CSX bridges is the responsibility of the road authority, not CSX.

General Guidelines

- All bridge projects over or under CSX shall be governed by the appropriate criteria found in the appendices. This includes but is not limited to replacements, new construction, substructure modifications and/or repairs, superstructure replacement or repair, and deck replacement or overlay.
- Temporary and final drainage plans must be approved by CSX.
- No drainage will be directed to CSX right of way.
- CSX's access to its property must be maintained.
- Plans must show all tracks and horizontal and vertical track clearances for both the existing conditions and the proposed project property or right-of-way lines.
- Bridge demolition criteria are found in the Overhead Bridge Criteria in the appendices of this manual.
- Upon completion of construction, a full set of electronic as-built drawings, showing actual measured vertical and horizontal clearances, shall be furnished to CSX.

PARALLEL ROAD CONSTRUCTION

Overview

In the interest of public safety, parallel public roads shall be located off CSX property. Parallel roads involving intersections with existing or proposed highways where public or private crossings are present should be aligned to provide sufficient distance from the crossing for the largest vehicle (design vehicle) permitted to use the road to stop between the railroad and the parallel road traffic control signs, markings, and warning devices without interfering with railroad operations, obstructing or preventing the operation of traffic control devices or obstructing the crossing in any manner.

Key Points

- Proposed parallel public roads shall be located off CSX property.
- Safety at existing highway-rail grade crossings must be considered and not adversely impacted.
- No additional drainage may be directed onto railroad property.
- CSX's access to its property must not be impeded.
- Construction may result in the need for alterations to crossing warning systems or facilities.

General Guidelines

The design of highways, highway intersection, and configuration of highway-rail grade crossings is the responsibility of the highway agency. Drainage for highway runoff, the railroad corridor, and adjacent property must be designed to reduce or maintain existing railroad drainage and to prevent standing water and potential erosion. Access for CSX equipment to the railroad property, structures, and track cannot be restricted or prevented.

Federal and State design manuals, the Manual of Uniform Traffic Control Devices (MUTCD) and additional recommended practices available in American Railway Engineering and Maintenance of Way Association manuals (AREMA) provide design information to be considered by the highway agency responsible for the project engineering. The table of contents of this document has additional information on the MUTCD and AREMA manuals and information

- Plans should include a typical section to show the relationship of the proposed work with respect to CSX property.
- Adjacent roadway projects shall comply with all aspects of the CSX Transportation Drainage Criteria.
- A railroad flagman or contracted construction inspector may be required at the project expense.

PAINTING AND CLEANING CSX BRIDGES TO IMPROVE APPEARANCE

Overview

Requests are occasionally made by outside parties for various beautification projects, including painting of overhead and undergrade bridges. These requests are considered on a case-by-case basis by CSX. The cost of painting and future aesthetic maintenance will be the responsibility of the project sponsor proposing to paint the CSX bridge. CSX will make every effort to cooperate, consistent with maintaining the safety of the public and the safe operation of the railroad.

Key Points

- CSX understands the desire of communities to improve the appearance of bridges and other structures. Safety of CSX employees, the general public and neighbors restrict some alternatives for bridge appearance improvement.
- CSX may permit others to paint CSX bridges if labor agreement, technical and responsibility requirements are resolved.
- Any surface preparation methods must follow all applicable environmental guidelines and must be approved in advance by CSX.
- CSX will not accept proposals to attach signage to CSX bridges.
- A written request should be submitted to CSX's Public Projects Group to initiate consideration of such projects.
- CSX must approve all proposed paint schemes and messaging.

Consideration of Bridge Painting Projects

Bridge painting proposals must be reviewed and approved by CSX to ensure compliance with safety and environmental regulations, CSX specifications, and to ensure that the proposal will not impact CSX's property or operations.

- CSX will require an agreement for all bridge painting proposals.
- A public agency must be a party to the agreement.
- CSX will incur no costs or liabilities as a result of the project.
- The public agency or its designee will be responsible for maintenance of the painted surfaces, including aesthetic damage caused by highway vehicles and vandalism.
- A railroad flagman will be required at the project expense.

Submission of Project Requests

A written request by the party wishing to undertake such projects should be forwarded to CSX's Public Projects Group for handling. The request should include information about the situation and the project objectives to assist CSX with completion of the review. The following information should be included:

- The project sponsor and public agency that will execute appropriate agreements for implementation as well as future maintenance of the painted surfaces.
- Paint specifications that meet CSX standards and methods for surface preparation, cleanup, and paint application.
- Qualifications and experience of the painting contractor. CSX will accept state qualified bridge painting contractors working for the responsible agency or company.

- The materials removed during the surface preparation must not impact the surrounding area including ground, water, or air. Materials must not be stored on CSX property.
- Control of paint overspray and vapors during application. The work must be done complying with appropriate regulations and over spray controlled to prevent damage to adjacent property and vehicles in the area.
- Containment system, clean up and disposal of all paint and other material removed from the bridge. The clean-up and disposal of material from the surface preparation for painting and actual painting must comply with all appropriate regulations.
- Pictures and conceptual drawing should be submitted with the initial request from the community to simplify the initial review and comment by CSX.
- Work site safety plan including keeping all personnel away from the tracks and fall protection measures where required.

Additional specifications are available upon request. Important environmental information is included in the Appendix titled "Soil and Water Management Policy."

CLEANING AND PAINTING OF BRIDGES OVER CSX

Overview

All work over CSX has the potential to impact CSX property and rail operations. CSX will review bridge painting and cleaning projects to ensure environmental and engineering standards are met. This review, flagging protection and construction monitoring costs will be paid by the project sponsor.

Key Points

- CSX understands that maintenance of bridges over CSX may include cleaning and painting. The safety of CSX employees, the general public, and the project sponsor's contractors is of paramount importance to CSX.
- A written request should be submitted to CSX's Public Projects Group to initiate this type of project. The request will be reviewed for safety considerations and compliance with CSX engineering and environmental standards.
- An agreement is required to accommodate engineering, review of plans, flagging, right-of-entry, and payment of CSX incurred costs.
- Any damage or required repair from painting operations shall be at the outside party's expense.

Requirements for Initiating and Implementing Bridge Cleaning and Painting

A Preliminary Engineering agreement is required to cover CSX's review of the project and preparation of a cost estimate and construction agreement.

To ensure safety, a railroad employee flagman must be present to control railroad operations in the area during the planned work.

A written request by the party wishing to undertake such projects should be forwarded to CSX's Public Projects Group for handling. The request should include information about the location and the project objectives to assist CSX with completion of the review. The following information should be included:

- The project sponsor and appropriate public agency that will execute appropriate agreements for implementation as well as future maintenance of the painted surfaces.
- Qualifications and experience of the painting contractor. CSX will accept state qualified bridge painting contractors working for the responsible agency or company.
- Containment system, clean up and disposal of all paint and other material removed from the bridge. The clean-up and disposal of material from the surface preparation for painting and actual painting must comply with all appropriate regulations.
- The materials removed during the surface preparation must not impact the surrounding area including ground, water, or air. Materials must not be stored on CSX property.
- Control of paint overspray and vapors during application. The work must be done complying with appropriate regulations and over spray controlled to prevent damage to adjacent property and vehicles in the area.
- Work site safety plan including keeping all personnel away from the tracks and fall protection measures where required.

Important environmental information is included in the Appendix titled "Soil and Water Management Policy."

PUBLIC ROAD CROSSING OPENINGS AND CLOSURES

Overview

CSX understands the importance of highway-rail grade crossings and their relevance to such priorities as economic development, emergency vehicle access and other growth opportunities in the communities through which we operate. Because of the safety concerns associated with highway-rail grade crossings, however, every effort must be made to obtain alternative access or additional capacity using grade separations, or by other roads leading to existing crossings.

Key Points

- Both federal and state government policies discourage the creation of new highway-rail grade crossings. To enhance highway-rail grade crossing safety, CSX endorses the United States Department of Transportation's goal of reducing the number of at-grade crossings through consolidation, elimination, grade separation and restriction of the number of new crossings installed.
- Grade separated structures are the best alternative to add new roads or additional highway capacity.
- CSX and state and federal agencies have worked with many communities to develop and implement projects that improve highway traffic flow without the creation of new highway-rail grade crossings.
- CSX, the Federal Railroad Administration (FRA), and state agencies encourage communities to consider all alternatives before planning to create new grade crossings and encourage closure of existing grade crossings where possible.
- CSX may provide incentive payments for crossing closures.
- To comply with and in support of the federal initiative to reduce crossings, CSX requires the community to identify three comparable active grade crossings to be closed for each new grade crossing.
- New crossings, if approved, shall be maintained at the appropriate agency's expense.

Crossing Closure Incentive Program

Eliminating crossings is a goal of CSX, states and the Federal Railroad Administration (FRA). Likewise, the Federal Highway Administration (FHWA) Railroad-Highway Grade Crossing Handbook acknowledges that the first alternative that should always be considered for a highway-rail at-grade crossing is elimination. Elimination of a crossing provides the highest level of crossing safety because the point of intersection between highway and railroad is removed. Closing adjacent crossings simplifies the design, installation and operation of highway-rail grade crossing warning systems. To help ensure the success of this effort, CSX may provide incentive payments for the closure of public crossings.

Considerations for Crossing Openings and Closures

The addition of any grade crossing brings the potential for incidents involving trains and motor vehicles. For this reason, both federal and state government policies discourage the creation of new grade crossings. CSX, other railroads, the United States Department of Transportation and most states encourage communities to carefully consider all alternatives, including grade separations (crossings that go over or under railroad tracks), as opposed to the creation of new at-grade crossings. The cost of a grade separation should not outweigh the enhanced safety it would provide for motorists.

CSX, the FRA and other railroads actively participate in programs such as Operation Lifesaver, an initiative dedicated to educating the public on the importance of practicing safe driving procedures at grade crossings. For more information about crossing safety, visit: <http://www.beyondourrails.org/safety>

Before agreeing to the establishment of a new crossing, CSX expects communities to engage in a study with the purpose of identifying existing redundant public crossings for closure. To comply with and in support of the federal initiative to reduce grade crossings, CSX requires that the community identify the closure of three or more comparable active public at-grade crossings.

As discussed above, the appropriate public authority will be expected to reimburse CSX for its cost of design, installation and future maintenance of the crossing.

Policies and Procedures to Guide New Crossing Requests:

The project sponsor requesting a new crossing or seeking to convert a private crossing to a public crossing will be asked to prepare a written request, presenting the following information:

1. A description of the proposed highway project, including proposed passive or active traffic control devices, and the need for preemption and/or interconnection with traffic signals, together with a scale drawing or sketch of the proposed highway and vicinity.
2. Expected Annual Average Daily Traffic (AADT) and proposed vehicular speed limit, photographs, aerial map.
3. A detailed explanation of the necessity of the crossing.
4. Identify at-grade crossings to be closed. Include their vehicular speed limit, AADT, and traffic type.
5. The determination by the highway or regulatory authority of the need for passive or active traffic control devices and other safety treatments (i.e., signage, roadway medians, etc.), as selected by the highway authority consistent with applicable federal and state MUTCD guidelines and requirements.
6. A plan to satisfy any appropriate regulatory authority's requirements, procedures and approval. The project sponsor should coordinate with all applicable agencies (state, county, city, etc.) to ensure proper procedures are followed.
7. Provide CSX authorization to incur costs for its Preliminary Engineering to review the crossing request (whether or not it is approved), design and construction expenses, and for the ongoing maintenance of the crossing surface and related grade crossing warning devices.

CSX will review the request for a new crossing and inform the project sponsor whether or not the new crossing is approved. CSX may deny a new crossing request due to safety or operational concerns.

BICYCLE/PEDESTRIAN PATHWAYS AND MULTI-USE TRAILS

Overview

CSX recognizes that communities often wish to establish recreational pathways and trails in the proximity of active railroad lines. While CSX will work with communities to accommodate such requests, it is critical for project sponsors to recognize that CSX requirements must be met and safety precautions taken to protect the public and CSX employees. In addition, certain requests, such as pathway crossings at grade outside of existing highway easements, will not be permitted.

Key Points

- Private or public bicycle/pedestrian pathways and trails parallel to the tracks are not permitted on CSX property.
- CSX prefers grade-separated bicycle/pedestrian pathways and multi-use trails.
- Bicycle/pedestrian pathways and trails cannot cross tracks at grade outside of existing highway easements.
- Pedestrian safety is enhanced when pathways and sidewalks are designed such that they cross the tracks at as close to a right angle as practical.
- The highway agency's design must include safety measures for at-grade pathways and trails within existing highway easements. These measures should include, at a minimum, detectable warnings. Pathways and trails should not be wider than 5'. All pathways and trails that exceed 5' in width must include additional safety measures beyond detectable warnings.
- CSX will oppose condemnation proceedings aimed at recreational use of trackside property.
- New crossings, if approved, and alterations to existing crossings, shall be maintained at the appropriate agency's expense.

CSX objects to publicly accessible parks, pathways and trails constructed within fifty (50) feet of its existing and proposed tracks. The location of publicly accessible recreational areas at such proximity to CSX poses major safety concerns and places undue liability to CSX. Agency shall be solely liable for any damages which could be mitigated or avoided by adherence to this safety standard.

Agency shall also install, own, maintain and repair, at its sole cost and expense, permanent protective fencing where its property is opposite CSX's property. Fencing shall be in accordance with CSX's standards.

CSX Policy on Pathways and Trails Parallel to CSX Property

At CSX safety is paramount. CSX's policy is not to permit private or public parallel bicycle/pedestrian paths that come within the railroad's right-of-way. CSX will insist upon safety measures such as fencing and signage where such pathways or parks are established parallel to the railroad's right-of-way. The cost of installing, inspection and future maintenance are the responsibility of the trail sponsor or agency. CSX will oppose any attempt to establish recreational usage of CSX property through condemnation. Regardless of construction of pathways and trails, CSX reserves the right to use CSX right of way for operational necessities.

Pathways and Trails Crossing CSX Tracks and Right-of-Way

Bicycle/pedestrian pathways and trails cannot cross tracks at grade outside of existing highway easements. Grade separated pathway and trail crossings are preferred in all cases, and required when outside of an existing highway easement. Pathways and trails under existing railroad structures are discouraged and will only be allowed under special circumstances. Pathways and trails under existing railroad structures will require a canopy. The canopy shall allow CSX to inspect, maintain, or repair its structure and shall not be attached to the CSX structure. Please refer to the Trail Construction Under CSX Bridges, for additional information (located in appendices to this document). Pathways and trails over and under the railroad track shall have protective fencing.

Bicycle/pedestrian pathways and trails crossing at-grade within a highway easement must have appropriate signs and warning systems as determined by the responsible highway and/or regulatory agency. When designing new sidewalk grade crossings, placing the sidewalk outside of the area occupied by grade crossing traffic control devices for vehicular traffic is important. This includes making sure that the counterweights and support arms for the automatic gates for vehicular traffic do not obstruct the sidewalk when the gate is fully lowered.

All expenses associated with the design, installation and maintenance of the pathway/trail, including the costs of signs, crossing surfaces and warning systems associated with an at-grade crossing, will be paid by the project sponsor.

Chapter 8 Section D of the Manual of Uniform Traffic Control Devices (MUTCD) provides design information to be considered by the highway agency responsible for the project engineering. The table of contents of this document has additional information on the MUTCD manual.

CSX prosecutes trespassers and every precaution must be taken to ensure that the public remains clear of CSX's property.

QUIET ZONE PROPOSALS

Overview

CSX will fully comply with the 49 CFR 222, FRA Train Horn Rule (Rule), which provides requirements for the sounding of locomotive horns when approaching public highway-rail grade crossings. The Rule also provides guidance for conditions under which a public authority with jurisdiction over the roadway crossing CSX tracks may apply for and establish Quiet Zones. A Quiet Zone is a section of a rail line that contains one or more consecutive public crossings at which locomotive horns are not routinely sounded. (For full details on the rules, CSX recommends that communities either visit the FRA web site at www.fra.dot.gov or contact the FRA's Office of Safety at 202-493-6299).

Policy on Quiet Zones

The Rule clearly defines requirements that must be satisfied by the public authority requesting that a Quiet Zone be established or continued. CSX will expect the public authority to strictly comply with these requirements.

Key Points

- This section was developed as a guideline for communities that approach CSX in regards to the implementation of a Quiet Zone under the Federal Railroad Administration's (FRA) final rule on the use of locomotive horns at public highway-rail grade crossings (49 CFR Part 222, the "Rule"), and to ensure CSX's full compliance and cooperation with respect to the Rule.
- According to the FRA, the implementation of Quiet Zones – without appropriate safeguards and equipment – increases the risk of accidents at highway-rail grade crossings. In this context, CSX encourages communities considering whether to pursue the implementation of a Quiet Zone to take into account the installation of appropriate Supplemental Safety Measures ("SSMs"), as defined in the Rule, as well as the consolidation and/or closing of adjacent crossings, all of which will act as a safeguard to potentially reduce the risk of accidents at each crossing below the risk level that existed prior to the implementation of the Quiet Zone.
- Communities that wish to implement Quiet Zones will be required to strictly comply with the Rule.
- Pursuant to the Rule, notifications and/or applications to implement or continue Quiet Zones are to be made to the FRA and must involve all relevant state and local agencies, CSX, and any other rail carriers operating in the area.
- CSX requires prepayment for all work performed to design, implement, and maintain railroad facilities within Quiet Zones.

- CSX desires to be a good corporate citizen. CSX also places importance on the quality and timeliness of service to its customers and the communities it serves. As such, consistent with the Rule, CSX will seek to encourage communities requesting Quiet Zones to implement solutions and SSMs that optimally achieve safety while minimizing the impact on railroad operations.

Should SSMs or ASMs fall out of compliance, CSX will resume train horn until repairs are made.

Plans for proposed Quiet Zones shall conform to current MUTCD standards.

CSX has published a Quiet Zone Manual, located here: <https://www.csx.com/index.cfm/library/files/about-us/property/quiet-zones/>

Identification of the crossing and location

Each crossing has a unique DOT inventory identification number posted at the crossing. There is often more than one crossing on the same road. The crossing number (such as 123456A) must be used to identify the specific crossing in all communications with the railroad to reduce possible confusion about the specific location.

Preliminary Planning for Quiet Zones

Preliminary work by CSX personnel and/or its consultants is likely to be required in connection with the proposed new or continued Quiet Zone, including, but not limited to: updating crossing inventory information; attending meetings; participating, to the extent feasible, in diagnostic reviews of the public, private and pedestrian crossings in a proposed Quiet Zone; preparing and processing estimates covering the cost of work to be performed by CSX, if applicable; and processing necessary agreements. CSX will coordinate preliminary planning activities with each public authority pursuant to an initial agreement that will also provide for payment to CSX for services provided during development of Quiet Zones.

Getting Started: Process for Pursuing a Quiet Zone

1. Groups or individuals interested in Quiet Zones should first contact the public authority responsible for the highway where the Quiet Zone would be located. Public authorities should then contact the FRA for additional information on Quiet Zone requirements and procedures.
2. The public authority shall initiate contact with CSX to: crossingrequests@csx.com. Those making this contact will be furnished with the Quiet Zone policy and advised of the appropriate contact within the CSX Public Projects Group for the initial planning activities with CSX.
3. If the public authority decides to proceed with preliminary planning for a Quiet Zone, the public authority shall deposit funds with CSX for CSX's Quiet Zone related expenses. After this deposit is received, CSX will assist by providing, when required, DOT inventory information and attending diagnostic review meetings, to the extent schedules permit. CSX resources to attend these meetings are limited and thus CSX will seek flexibility in establishing meeting dates and times in order to permit CSX representatives to attend.
4. The preliminary planning for a Quiet Zone project should include a review of the following principles:
 - a. CSX will cooperate and work in good faith with local communities and the appropriate public authority to provide all possible assistance in a manner that protects the safety of local citizens and their communities as well as CSX's employees.
 - b. In accordance with the Rule, CSX's support of a Quiet Zone proposal will require the plan to meet very specific FRA measures and requirements, which in some cases, may be subject to FRA review, approval and on-going oversight. Accordingly, CSX retains the right to review and comment on the requests.
 - c. CSX expects the involvement of the state DOT, FRA, and/or state regulatory authority in any diagnostic review of a public, private and pedestrian crossing in the Quiet Zone corridor being proposed.
 - d. As discussed above, the appropriate public authority will be expected to reimburse CSX for its cost of design, installation and future maintenance of safety enhancements, including, but not limited to, its installation of Supplemental Safety Measures (SSMs) and Alternative Safety Measures (ASMs). As an example, CSX installs and maintains active warning systems at highway-rail grade crossings that may be modified or expanded for a Quiet Zone. Curbs, medians, pavement markings and other traffic control signs such as advance warning signs are installed and maintained by Public Authorities. The specific responsibilities are expected to be resolved during the preliminary planning for a Quiet Zone.
 - e. If one or more SSMs or ASMs selected to be installed require work by CSX, a separate standard Preliminary Engineering Agreement will be required to cover CSX's engineering, review, handling, and estimate preparation connected with the proposed work. A separate Construction Agreement will be used for implementation of the projects. The cost of this work will be the responsibility of the requesting public authority.
 - f. SSMs or ASMs installed and maintained by the public authority as described above are important parts of traffic control at each crossing. The public authority is responsible for periodic inspection and repair of these items.
5. Standard CSX Public Projects Group design and estimating procedures will be used for projects related to Quiet Zones.
6. Vehicle Loop Detection Circuitry will not be designed, installed, owned, or maintained by CSX.
7. Wayside Horn Systems are not authorized for use on CSX.

APPENDIX

CSX TRANSPORTATION

PRELIMINARY ENGINEERING AGREEMENT

PRELIMINARY ENGINEERING AGREEMENT

This Preliminary Engineering Agreement (this “Agreement”) is made as of, 201, by and between CSX TRANSPORTATION, INC., a Virginia corporation with its principal place of business in Jacksonville, Florida (“CSX”), and [INSERT AGENCY NAME], a body corporate and political subdivision of the [INSERT STATE] (“Agency”).

EXPLANATORY STATEMENT

1. Agency wishes to facilitate the development of the proposed [INSERT Project Description; eg: rehabilitation / repair of the Ridgeview Middle School Pedestrian Bridge Structure passing over CSX (DOT# 228 637B) in the vicinity of CSX milepost CD-6.15 on the Great Lakes Division, Columbus Subdivision, located in Columbus, Franklin County, Ohio] (the “Project”).

2. Agency has requested that CSX proceed with certain necessary engineering and/or design services for the Project to facilitate the parties’ consideration of the Project.

3. Subject to the approval of CSX, which approval may be withheld for any reason directly or indirectly related to safety or CSX operations, property, or facilities, the Project is to be constructed, if at all, at no cost to CSX, under a separate construction agreement to be executed by the parties at a future date.

NOW, THEREFORE, for and in consideration of the foregoing Explanatory Statement and other good and valuable consideration, the receipt and sufficiency of which are acknowledged by the parties, the parties agree as follows:

1. Scope of Work

1.1. Generally. The work to be done by CSX under this Agreement shall consist of: (i) the preparation or review and approval of preliminary and final engineering and design plans, specifications, drawings, agreements and other documents pertaining to the Project, (ii) the preparation of cost estimates for CSX’s work in connection with the Project, and (iii) the review of construction cost estimates, site surveys, plats, legal descriptions, assessments, studies, easements, agreements and related construction documents submitted to CSXT by Agency for the Project (collectively, the “Engineering Work”). Engineering Work may also include office reviews, field reviews, attending hearings and meetings, and preparing correspondence, reports, and other documentation in connection with the Project. Nothing contained in this Agreement shall oblige CSX to perform work which, in CSX’s opinion, is not relevant to CSX’s participation in the Project.

1.2. Effect of CSX Approval or Preparation of Documents. By its review, approval or preparation of plans, specifications, drawings or other documents pursuant to this Agreement (collectively, the “Plans”), CSX signifies only that the Plans and the Project proposed to be constructed in accordance with the Plans satisfy CSX’s requirements. CSX expressly disclaims all other representations and warranties in connection with the Plans, including, but not limited to, the integrity, suitability or fitness for the purposes of Agency or any other persons of such Plans or the Project constructed in accordance with the Plans.

2. Project Construction. Nothing contained in this Agreement shall be deemed to constitute CSX’s approval of or consent to the construction of the Project, which approval or consent may be withheld for any reason directly or indirectly related to safety or CSX operations, property, or facilities. The Project if constructed is to be constructed, if at all, under a separate construction agreement to be executed by the parties at a future date.

3. Reimbursement of CSX Expenses.

3.1. Reimbursable Expenses. Agency shall reimburse CSX for all costs and expenses incurred by CSX in connection with the Engineering Work, including, without limitation: (i) all out of pocket expenses, (ii) travel and lodging expenses, (iii) telephone, facsimile, and mailing expenses, (iv) costs for equipment, tools, materials and supplies, (v) sums paid to consultants and subcontractors, and (vi) labor, together with labor overhead percentages established by CSX pursuant to applicable law (collectively, the “Reimbursable Expenses”).

3.2. Estimate. CSX has estimated the total Reimbursable Expenses for the Project to be approximately \$ [INSERT DOLLAR AMOUNT] (the “Estimate” as amended or revised). In the event CSX anticipates that actual Reimbursable Expenses may exceed such Estimate, it shall provide Agency with the revised Estimate of total Reimbursable Expenses for Agency’s approval and confirmation that sufficient funds have been appropriated to cover the total Reimbursable Expenses as reflected in the revised Estimate. CSX may elect, by delivery of notice to Agency, to immediately cease all further Engineering Work, unless and until Agency provides such approval and confirmation.

3.3. Payment Terms.

3.3.1. Advance Payment in Full. Upon execution and delivery of this Agreement by Agency, Agency will deposit with CSX a sum equal to the Reimbursable Expenses, as shown by the Estimate. Agency shall pay CSX for Reimbursable Expenses in the amount set forth in CSX Schedule PA attached hereto, a copy of which shall accompany the advance payment. If CSX anticipates that it may incur Reimbursable Expenses in excess of the deposited amount, CSX will request an additional deposit equal to the then remaining Reimbursable Expenses which CSX estimates that it will incur. CSX shall request such additional deposit by delivery of invoices to Agency. Agency shall make such additional deposit within thirty (30) days following delivery of such invoice to Agency.

3.3.2. Following completion of all Engineering Work, CSX shall reconcile the total Reimbursable Expenses incurred by CSX against the total payments received from Agency and shall submit to Agency a final invoice if required. Agency shall pay to CSX the amount by which actual Reimbursable Expenses exceed total payments, as shown by the final invoice, within thirty (30) days following delivery to Agency of the final invoice. CSX will provide a refund of any unused deposits if the deposit exceeds the incurred Reimbursable Expenses for the Project.

3.3.3. In the event that Agency fails to pay CSX any sums due CSX under this Agreement: (i) Agency shall pay CSX interest at the lesser of 1.0% per month or the maximum rate of interest permitted by applicable law on the delinquent amount until paid in full; and (ii) CSX may elect, by delivery of notice to Agency: (A) to immediately cease all further work on the Project, unless and until Agency pays the entire delinquent sum, together with accrued interest; and/or (B) to terminate this Agreement.

3.4. Effect of Termination. Agency’s obligation to pay CSX Reimbursable Expenses in accordance with this Section shall survive termination of this Agreement for any reason.

4. Appropriations. Agency represents to CSX that: (i) Agency has obtained appropriations sufficient to reimburse CSX for the Reimbursable Expenses encompassed by the initial Estimate; (ii) Agency shall use its best efforts to obtain appropriations necessary to cover Reimbursable Expenses encompassed by subsequent Estimates approved by Agency; and (iii) Agency shall promptly notify CSX in the event that Agency is unable to obtain such additional appropriations.

5. Termination.

5.1. By Agency. Agency may terminate this Agreement, for any reason, by delivery of notice to CSX. Such termination shall become effective upon the expiration of fifteen (15) calendar days following delivery of notice to CSX or such later date designated by the notice.

5.2. By CSX. CSX may terminate this Agreement (i) as provided pursuant to Section 3.3.3., or (ii) upon Agency's breach of any of the terms of, or its obligations under, this Agreement and such breach continues without cure for a period of ninety (90) days after written notification from CSX to Agency of such breach.

5.3. Consequences of Termination. If the Agreement is terminated by either party pursuant to this Section or any other provision of this Agreement, the parties understand that it may be impractical to immediately stop the Engineering Work. Accordingly, both parties agree that, in such instance a party may continue to perform Engineering Work until it has reached a point where it may reasonably and/or safely suspend the Engineering Work. Agency shall reimburse CSX pursuant to this Agreement for the Engineering Work performed, plus all costs reasonably incurred by CSX to discontinue the Engineering Work and all other costs of CSX incurred as a result of the Project up to the time of full suspension of the Engineering Work. Termination of this Agreement or Engineering Work on the Project, for any reason, shall not diminish or reduce Agency's obligation to pay CSX for Reimbursable Expenses incurred in accordance with this Agreement. In the event of the termination of this Agreement or the Engineering Work for any reason, CSX's only remaining obligation to Agency shall be to refund to Agency payments made to CSX in excess of Reimbursable Expenses in accordance with Section 2.

6. Subcontracts. CSX shall be permitted to engage outside consultants, counsel and subcontractors to perform all or any portion of the Engineering Work.

7. Notices. All notices, consents and approvals required or permitted by this Agreement shall be in writing and shall be deemed delivered (i) on the expiration of three (3) days following mailing by first class U.S. mail, (ii) on the next business day following mailing by a nationally recognized overnight carrier, or (iii) on the date of transmission, as evidenced by written confirmation of successful transmission, if by facsimile or other electronic transmission if sent on a business day (or if not sent on a business day, then on the next business day after the date sent), to the parties at the addresses set forth below, or such other addresses as either party may designate by delivery of prior notice to the other party:

If to CSX: CSX Transportation, Inc.
500 Water Street, J301 Jacksonville, Florida 32202
Attention: Director Project Management – Public Projects

If to Agency: _____

8. Entire Agreement. This Agreement embodies the entire understanding of the parties, may not be waived or modified except in a writing signed by authorized representatives of both parties, and supersedes all prior or contemporaneous written or oral understandings, agreements or negotiations regarding its subject matter. In the event of any inconsistency between this Agreement and the Exhibits, the more specific terms of the Exhibits shall be deemed controlling.

9. Waiver. If either party fails to enforce its respective rights under this Agreement, or fails to insist upon the performance of the other party's obligations hereunder, such failure shall not be construed as a permanent waiver of any rights or obligations in this Agreement.

10. Assignment. CSX may assign this Agreement and all rights and obligations herein to a successor in interest, parent company, affiliate, or future affiliate. Upon assignment of this Agreement by CSX and the assumption by CSX's assignee of CSX's obligations under this Agreement, CSX shall have no further obligations under this Agreement. Agency shall not assign its rights or obligations under this Agreement without CSX's prior written consent, which consent may be withheld for any reason.

11. Applicable Law. This Agreement shall be governed by the laws of the [INSERT STATE] , exclusive of its choice of law rules. The parties further agree that the venue of all legal and equitable proceedings related to disputes under this Agreement shall be situated in Duval County, Florida, and the parties agree to submit to the personal jurisdiction of any State or Federal court situated in Duval County, Florida.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in duplicate, each by its duly authorized officers, as of the date of this Agreement.

[INSERT AGENCY NAME]

By: _____

Print Name: _____

Title: _____

CSX TRANSPORTATION, INC.

By: _____

Tony C. Bellamy, P.E.

Director Project Management – Public Projects

CSX SCHEDULE PA
(Advance Payment – Preliminary Engineering Agreement)

PAYMENT SUBMISSION FORM

Payment is hereby provided in accordance with the terms of Section 3.3 of the Agreement dated _____,
201____, between Agency and CSX.

1) A copy of this Payment Submission Form shall accompany all payments delivered by Agency to CSX which shall be forwarded
to the following address:

CSX Transportation, Inc.
PO BOX 530192
ATLANTA GA 30353-0192

2) Email copies of check and this form to Nicole_Henning@csx.com and LShaw@Benesch.com

Upon execution and delivery of this Agreement by Agency, Agency will remit payment in accordance with Section 3.3.1.
of this Agreement.

(All information below to be completed by Agency providing Payment)

Check No	Payment Amount	Payment Date
_____	_____	_____

Date: _____ By: _____

Name: _____

Title: _____

Phone: _____

Email: _____

APPENDIX

CSX TRANSPORTATION

CONSTRUCTION AGREEMENT

CONSTRUCTION AGREEMENT

This Construction Agreement ("Agreement") is made as of _____, 201____, by and between CSX TRANSPORTATION, INC., a Virginia corporation with its principal place of business in Jacksonville, Florida ("CSX"), and [INSERT Name of Public Agency], a body corporate and political subdivision of the State of (INSERT Name of State] ("Agency").

EXPLANATORY STATEMENT

1. Agency has proposed to construct, or to cause to be constructed, [INSERT Project Description; eg: rehabilitation / repair of the Ridgeview Middle School Pedestrian Bridge Structure passing over CSX (DOT# 228 637B) in the vicinity of CSX milepost CD-6.15 on the Great Lakes Division, Columbus Subdivision, located in Columbus, Franklin County, Ohio] (the "Project").
2. Agency has obtained, or will obtain, all authorizations, permits and approvals from all local, state and federal agencies (including Agency), and their respective governing bodies and regulatory agencies, necessary to proceed with the Project and to appropriate all funds necessary to construct the Project.
3. Agency acknowledges that: (i) by entering into this Agreement, CSX will provide services and accommodations to promote public interest in this Project, without profit or other economic inducement typical of other Agency contractors;
(ii) neither CSX nor its affiliates (including their respective directors, officers, employees or agents) will incur any costs, expenses, losses or liabilities in excess of payments made to CSX, by or on behalf of Agency or its contractors, pursuant to this Agreement; and
(iii) CSX retains the paramount right to regulate all activities affecting its property and operations.
4. It is the purpose of this Agreement to provide for the terms and conditions upon which the Project may proceed.

NOW, THEREFORE, in consideration of the foregoing Explanatory Statement and other good and valuable consideration, the receipt and sufficiency of which are acknowledged by the parties, the parties agree as follows:

1. Project Plans and Specifications

1.1 Preparation and Approval. Pursuant to Exhibit A of this Agreement, all plans, specifications, drawings and other documents necessary or appropriate to the design and construction of the Project shall be prepared, at Agency's sole cost and expense, by Agency or CSX or their respective contractors. Project plans, specifications and drawings prepared by or on behalf of Agency shall be subject, at CSX's election, to the review and approval of CSX. Such plans, specifications and drawings, as prepared or approved by CSX, are referred to as the "Plans", and shall be incorporated and deemed a part of this Agreement. Plans prepared or submitted to and approved by CSX as of the date of this Agreement are set forth in Exhibit B to this Agreement.

1.2 Effect of CSX Approval or Preparation of Plans. By its review, approval or preparation of Plans pursuant to this Agreement, CSX signifies only that such Plans and improvements constructed in accordance with such Plans satisfy CSX's requirements. CSX expressly disclaims all other representations and warranties in connection with the Plans, including, but not limited to, the integrity, suitability or fitness for the purposes of Agency or any other persons of the Plans or improvements constructed in accordance with the Plans.

1.3 Compliance with Plans. The Project shall be constructed in accordance with the Plans.

2. Allocation and Conduct Of Work

Work in connection with the Project shall be allocated and conducted as follows:

2.1 CSX Work. Subject to timely payment of Reimbursable Expenses as provided by Section 4, CSX shall provide, or cause to be provided, the services as set forth by Exhibit A to this Agreement. Agency agrees that CSX shall provide all services that CSX deems necessary or appropriate (whether or not specified by Exhibit A) to preserve and maintain its property and operations, without impairment or exposure to liability of any kind and in compliance with all applicable federal, state and local regulations and CSX's contractual obligations, including, but not limited to, CSX's existing or proposed third party agreements and collective bargaining agreements.

2.2 Agency Work. Agency shall perform, or cause to be performed, all work as set forth by Exhibit A, at Agency's sole cost and expense.

2.3 Conduct of Work. CSX shall commence its work under this Agreement following: (i) delivery to CSX of a notice to proceed from Agency; (ii) payment of Reimbursable Expenses (as provided by Section 4.1) as required by CSX prior to the commencement of work by CSX; (iii) issuance of all permits, approvals and authorizations necessary or appropriate for such work; and (iv) delivery of proof of insurance acceptable to CSX, as required by Section 9. The initiation of any services by CSX pursuant to this Agreement, including, but not limited to, the issuance of purchase orders or bids for materials or services, shall constitute commencement of work for the purposes of this Section. The parties intend that all work by CSX or on CSX property shall conclude no later than [INSERT DATE], unless the parties mutually agree to extend such date.

3. Special Provisions Agency shall observe and abide by, and shall require its contractors ("Contractors") to observe and abide by the terms, conditions and provisions set forth in Exhibit C to this Agreement (the "Special Provisions"). To the extent that Agency performs Project work itself, Agency shall be deemed a Contractor for purposes of this Agreement. Agency further agrees that, prior to the commencement of Project work by any third party Contractor, such Contractor shall execute and deliver to CSX Schedule I to this Agreement to acknowledge Contractor's agreement to observe and abide by the terms and conditions of this Agreement.

4. Cost Of Project and Reimbursement Procedures

4.1 Reimbursable Expenses. Agency shall reimburse CSX for all costs and expenses incurred by CSX in connection with the Project, including, without limitation: (1) all out of pocket expenses, (2) travel and lodging expenses, (3) telephone, facsimile, and mailing expenses, (4) costs for equipment, tools, materials and supplies, (5) sums paid to CSX's consultants and subcontractors, and (6) CSX labor in connection with the Project, together with CSX labor overhead percentages established by CSX pursuant to applicable law (collectively, "Reimbursable Expenses"). Reimbursable Expenses shall also include expenses incurred by CSX prior to the date of this Agreement to the extent identified by the Estimate provided pursuant to Section 4.2.

4.2 Estimate. CSX has estimated the total Reimbursable Expenses for the Project as shown on Exhibit D (the "Estimate", as amended or revised). In the event CSX anticipates that actual Reimbursable Expenses for the Project may exceed such Estimate, it shall provide Agency with the revised Estimate of the total Reimbursable Expenses, together with a revised Payment Schedule (as defined by Section 4.3.1), for Agency's approval and confirmation that sufficient funds have been appropriated to cover the total Reimbursable Expenses of such revised Estimate. CSX may elect, by delivery of notice to Agency, to immediately cease all further work on the Project, unless and until Agency provides such approval and confirmation.

4.3 Payment Terms.

4.3.1 Agency shall pay CSX for Reimbursable Expenses in the amounts and on the dates set forth in the Payment Schedule as shown on Exhibit E (the "Payment Schedule", as revised pursuant to Section 4.2). CSX agrees to submit invoices to Agency for such amounts and Agency shall remit payment to CSX at the later of thirty (30) days following delivery of each such invoice to Agency or, the payment date (if any) set forth in the Payment Schedule.

4.3.2 Following completion of the Project, CSX shall submit to Agency a final invoice that reconciles the total Reimbursable Expenses incurred by CSX against the total payments received from Agency. Agency shall pay to CSX the amount by which Reimbursable Expenses exceed total payments as shown by the final invoice, within thirty (30) days following delivery of such invoice to Agency. In the event that the payments received by CSX from Agency exceed the Reimbursable Expenses, CSX shall remit such excess to Agency.

4.3.3 In the event that Agency fails to pay CSX any sums due CSX under this Agreement: (i) Agency shall pay CSX interest at the lesser of 1.0% per month or the maximum rate of interest permitted by applicable law on the delinquent amount until paid in full; and (ii) CSX may elect, by delivery of notice to Agency: (A) to immediately cease all further work on the Project, unless and until Agency pays the entire delinquent sum, together with accrued interest; and/or (B) to terminate this Agreement.

4.3.4 All invoices from CSX shall be delivered to Agency in accordance with Section 16 of this Agreement. All payments by Agency to CSX shall be made by certified check and mailed to the following address or such other address as designated by CSX's notice to Agency:

CSX Transportation, Inc.
P.O. Box 530192
Atlanta, GA 30353-0192

4.4 Effect of Termination. Agency's obligation to pay to CSX Reimbursable Expenses in accordance with Section 4 shall survive termination of this Agreement for any reason.

5. Appropriations Agency represents to CSX that: (i) Agency has appropriated funds sufficient to reimburse CSX for the Reimbursable Expenses encompassed by the Estimate attached as Exhibit D; (ii) Agency shall use its best efforts to obtain appropriations necessary to cover Reimbursable Expenses encompassed by subsequent Estimates approved by Agency; and (iii) Agency shall promptly notify CSX in the event that Agency is unable to obtain such appropriations.

6. Easements and Licenses

6.1 Agency Obligation. Agency shall acquire all necessary licenses, permits and easements required for the Project.

6.2 Temporary Construction Licenses. Insofar as it has the right to do so, CSX hereby grants Agency a nonexclusive license to access and cross CSX's property, to the extent necessary for the construction of the Project (excluding ingress or egress over public grade crossings), along such routes and upon such terms as may be defined and imposed by CSX and such temporary construction easements as may be designated on the Plans approved by CSX.

6.3 Temporary Construction Easements. CSXT may grant without warranty to Agency, if required, a temporary non-exclusive easement for access to the extent necessary for the project on terms and conditions and at a price acceptable to the parties.

6.4 Maintenance Agreement. Contemporaneous with the execution of this Agreement, CSXT and Agency have executed that certain Maintenance Agreement providing for Agency's ongoing use maintenance, repair, renewal and removal of the Project.

6.5 Permanent Easements. Insofar as it has the right to do so, CSXT shall grant, without warranty to Agency, easements for the use and maintenance (in accordance with the provisions of the Maintenance Agreement described in 6.4) of the Project wholly or partly on CSXT property as shown on the Plans approved by CSXT, if any, on terms and conditions and at a price acceptable to both parties. Upon request by CSXT, Agency shall furnish to CSXT descriptions and plat plans for the easements.

7. Permits At its sole cost and expense, Agency shall procure all permits and approvals required by any federal, state, or local governments or governmental agencies for the construction, maintenance and use of the Project, copies of which shall be provided to CSX.

8. Termination

8.1 By Agency. For any reason, Agency may, as its sole remedy, terminate this Agreement by delivery of notice to CSX. Agency shall not be entitled to otherwise pursue claims for consequential, direct, indirect or incidental damages or lost profits as a consequence of CSX's default or termination of this Agreement or Work on the Project by either party.

8.2 By CSX. In addition to the other rights and remedies available to CSX under this Agreement, CSX may terminate this Agreement by delivery of notice to Agency in the event Agency or its Contractors fail to observe the terms or conditions of this Agreement and such failure continues more than ten (10) business days following delivery of notice of such failure by CSX to Agency.

8.3 Consequences of Termination. If the Agreement is terminated by either party pursuant to this Section or any other provision of this Agreement, the parties understand that it may be impractical for them to immediately stop the Work. Accordingly, they agree that, in such instance a party may continue to perform Work until it has reached a point where it may reasonably and safely suspend the Work. Agency shall reimburse CSX pursuant to this Agreement for the Work performed, plus all costs reasonably incurred by CSX to discontinue the Work and protect the Work upon full suspension of the same, the cost of returning CSX's property to its former condition, and all other costs of CSX incurred as a result of the Project up to the time of full suspension of the Work. Termination of this Agreement or Work on the Project, for any reason, shall not diminish or reduce Agency's obligation to pay CSX for Reimbursable Expenses incurred in accordance with this Agreement. In the event of the termination of this Agreement or the Work for any reason, CSX's only remaining obligation to Agency shall be to refund to Agency payments made to CSX in excess of Reimbursable Expenses in accordance with Section 4.

9. Insurance In addition to the insurance that Agency requires of its Contractor, Agency shall acquire or require its Contractor to purchase and maintain insurance in compliance with CSX's insurance requirements attached to this Agreement as Exhibit F. Neither Agency nor Contractor shall commence work on the Project until such policy or policies have been submitted to and approved by CSX's Risk Management Department.

10. Ownership and Maintenance

[SELECT ONE OF THE FOLLOWING ALTERNATE PROVISIONS:]

- Railroad Bridge

10.1 By Agency. Agency shall own and, without cost to CSX, shall maintain, repair, replace and renew, or cause same to be done, in good condition and repair to CSX's satisfaction, the railroad bridge structure (excluding only those components which CSX owns and has agreed to maintain, repair and replace pursuant to this Section), the highway underpass structure, the roadway surfacing, the roadway slopes, the retaining walls, the roadway drainage facilities, sidewalks and lighting. In the event that Agency fails to properly maintain such structures and improvements, and such failure, in the opinion of CSX, jeopardizes the safe and efficient operation of its property, CSX shall be entitled to remedy such failure and recover from Agency the costs incurred by CSX in doing so.

10.2 By CSX. CSX shall own and, at its sole cost and expense, maintain, repair, replace and renew its tracks, ballast and approach embankments, and railroad signal and communication systems, and CSX shall be permitted to install, maintain, repair and replace other utilities, facilities and cable, or cause same to be done, as CSX authorizes from time to time on or within the railroad bridge structure.

10.3 Alterations. Agency shall not undertake any alteration, modification or expansion of the Project, without the prior approval of CSX, which may be withheld for any reason, and the execution of such agreements as CSX may require. CSX may effectuate any improvements to that portion of the Project on which CSX operates its rail line, without securing the prior approval of the Agency so long as such improvements will not have a negative impact on highway traffic using the highway underpass.

- Highway Bridge

10.1 By Agency. Agency shall own and, without cost to CSX, maintain, repair, replace and renew, or cause same to be done, in good condition and repair to CSX's satisfaction, the highway overpass structure, the roadway surfacing, the roadway slopes, the retaining walls, and the highway drainage facilities. In the event that Agency fails to properly maintain such structures and improvements and such failure, in the opinion of CSX, jeopardizes the safe and efficient operation of its property, CSX shall be entitled to remedy such failure and recover from Agency the costs incurred by CSX in doing so. Upon the cessation of use of the Project by Agency, Agency shall remove the bridge structure and restore CSX's property to its original condition, at Agency's sole cost and expense, to CSX's satisfaction.

10.2 Alterations. Agency shall not undertake any alteration, modification or expansion of the Project, without the prior approval of CSX, which may be withheld for any reason, and the execution of such agreements as CSX may require.

- At Grade Crossings

10.1 By Agency. Agency shall maintain and repair, at its sole cost and expense, all parts comprising the permanent aspects of the Project, as shown by the Plans, consisting of roadway pavement up to the outer ends of the railroad cross ties, sidewalks, guardrails, and curbs, in good and safe condition to CSX's satisfaction. In the event Agency fails to do so after reasonable notice from CSX (unless an emergency condition exists or is imminent in the opinion of CSX that requires immediate action), CSX may perform such maintenance and repair, at Agency's sole cost and expense.

10.2 By CSX. CSX shall maintain and repair the crossing surface between the ends of its cross ties and its signal facilities at the crossing, at Agency's sole cost and expense.

10.3 Alterations. Agency shall not undertake any alteration, modification or expansion of the Project, without the prior written approval of CSX, which may be withheld for any reason, and the execution of such agreements as CSX may require. CSX may undertake alterations of its property, track or facilities and shall be reimbursed by Agency for the expenses incurred by CSX with respect to the removal and restoration of the crossing in connections with such alteration.

- Other Improvements

10.1 By Agency. Agency shall own, maintain and repair, at its sole cost and expense, all parts comprising the permanent aspects of the Project, as shown by the Plans. In the event Agency fails to do so after reasonable notice from CSX (no more than thirty (30) days, unless an emergency condition exists or is imminent in the opinion of CSX, that requires immediate action), CSX may perform such maintenance and repair, at Agency's sole cost and expense. Upon the cessation of use of the Project by Agency, Agency shall remove the structure and restore CSX's property to its original condition, at Agency's sole cost and expense, to CSX's satisfaction.

10.2 Alterations. Agency shall not undertake any alteration, modification or expansion of the Project, without the prior approval of CSX, which may be withheld for any reason, and the execution of such agreements as CSX may require.

11. Indemnification

11.1 Generally. To the maximum extent permitted by applicable law, Agency and its Contractors shall indemnify, defend, and hold CSX and its affiliates harmless from and against all claims, demands, payments, suits, actions, judgments, settlements, and damages of every nature, degree, and kind (including direct, indirect, consequential, incidental, and punitive damages), for any injury to or death to any person(s) (including, but not limited to the employees of CSX, its affiliates, Agency or its Contractors), for the loss of or damage to any property whatsoever (including but not limited to property owned by or in the care, custody, or control of CSX, its affiliates, Agency or its Contractors, and environmental damages and any related remediation brought or recovered against CSX and its affiliates), arising directly or indirectly from the negligence, recklessness or intentional wrongful misconduct of the Contractors, Agency, and their respective agents, employees, invitees, contractors, or its contractors' agents, employees or invitees in the performance of work in connection with the Project or activities incidental thereto, or from their presence on or about CSX's property. The foregoing indemnification obligation shall not be limited to the insurance coverage required by this Agreement, except to the extent required by law or otherwise expressly provided by this Agreement.

11.2 Compliance with Laws. Agency shall comply, and shall require its Contractors to comply, with any federal, state, or local laws, statutes, codes, ordinances, rules, and regulations applicable to its construction and maintenance of the Project. Agency's Contractors shall indemnify, defend, and hold CSX and its affiliates harmless with respect to any fines, penalties, liabilities, or other consequences arising from breaches of this Section.

11.3 "CSX Affiliates". For the purpose of this Section 11, CSX's affiliates include CSX Corporation and all entities, directly or indirectly, owned or controlled by or under common control of CSX or CSX Corporation and their respective officers, directors, employees and agents.

11.4 Notice of Incidents. Agency and its Contractor shall notify CSX promptly of any loss, damage, injury or death arising out of or in connection with the Project work.

11.5 Survival. The provisions of this Section 11 shall survive the termination or expiration of this Agreement.

12. Independent Contractor The parties agree that neither Agency nor its Contractors shall be deemed either agents or independent contractors of CSX. Except as otherwise provided by this Agreement, CSX shall exercise no control whatsoever over the employment, discharge, compensation of, or services rendered by Agency or Agency's Contractors, or the construction practices, procedures, and professional judgment employed by Agency or its Contractor to complete the Project. Notwithstanding the foregoing, this Section 12 shall in no way affect the absolute authority of CSX to prohibit Agency or its

Contractors or anyone from entering CSX's property, or to require the removal of any person from its property, if it determines, in its sole discretion, that such person is not acting in a safe manner or that actual or potential hazards in, on or about the Project exist.

13. "Entire Agreement" This Agreement embodies the entire understanding of the parties, may not be waived or modified except in a writing signed by authorized representatives of both parties, and supersedes all prior or contemporaneous written or oral understandings, agreements or negotiations regarding its subject matter. In the event of any inconsistency between this Agreement and the Exhibits, the more specific terms of the Exhibits shall be deemed controlling.

14. Waiver If either party fails to enforce its respective rights under this Agreement, or fails to insist upon the performance of the other party's obligations hereunder, such failure shall not be construed as a permanent waiver of any rights or obligations in this Agreement.

15. Assignment CSX may assign this Agreement and all rights and obligations herein to a successor in interest, parent company, affiliate, or future affiliate. Upon assignment of this Agreement by CSX and the assumption of CSX's assignee of CSX's obligations under this Agreement, CSX shall have no further obligation under this Agreement. Agency shall not assign its rights or obligations under this Agreement without CSX's prior consent, which consent may be withheld for any reason.

16. Notices All notices, consents and approvals required or permitted by this Agreement shall be in writing and shall be deemed delivered upon personal delivery, upon the expiration of three (3) days following mailing by first class U.S. mail, or upon the next business day following mailing by a nationally recognized overnight carrier, to the parties at the addresses set forth below, or such other addresses as either party may designate by delivery of prior notice to the other party:

If to CSX: CSX Transportation, Inc.

500 Water Street, J301 Jacksonville, Florida 32202

Attention: Director Project Management – Public Projects

If to Agency:

17. Severability The parties agree that if any part, term or provision of this Agreement is held to be illegal, unenforceable or in conflict with any applicable federal, state, or local law or regulation, such part, term or provision shall be severable, with the remainder of the Agreement remaining valid and enforceable.

18. Applicable Law This Agreement shall be governed by the laws of the State of [INSERT STATE OF PROJECT LOCATION], exclusive of its choice of law rules. The parties further agree that the venue of all legal and equitable proceedings related to disputes under this Agreement shall be situated in Duval County, Florida, and the parties agree to submit to the personal jurisdiction of any State or Federal court situated in Duval County, Florida.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in duplicate, each by its duly authorized officers, as of the date of this Agreement.

[INSERT NAME OF AGENCY]

By: _____

Print Name: _____

Title: _____

CSX TRANSPORTATION, INC.

By: _____

Tony C. Bellamy, P.E.

Director Project Management-Public Projects

EXHIBIT A

ALLOCATION OF WORK

Subject to Section 2.1, work to be performed in connection with the Project is allocated as follows:

A. Agency shall let by contract to its Contractors:

1. [INSERT DESCRIPTION OF WORK]

B. CSX shall perform or cause to be performed:

1. Preliminary engineering services.
2. Changes in communication and signal lines.
3. Flagging services and other protective services and devices as may be necessary.
4. Construction engineering and inspection to protect the interests of CSX.

A-1
EXHIBIT B
PLANS AND SPECIFICATIONS

Plans, Specifications and Drawings:

As of the date of this Agreement, the following plans, specifications and drawings have been submitted by Agency to CSX for its review and approval:

[IDENTIFY PLANS AND SPECIFICATIONS BY DATE, PREPARER, TITLE, PROJECT NUMBER, ETC.]

SHEET	DESCRIPTION	PREPARER	DATE
1 of			

EXHIBIT C

CSX SPECIAL PROVISIONS

DEFINITIONS:

As used in these Special Provisions, all capitalized terms shall have the meanings ascribed to them by the Agreement, and the following terms shall have the meanings ascribed to them below:

“CSX” shall mean CSX Transportation, Inc., its successors and assigns.

“CSX Representative” shall mean the authorized representative of CSX Transportation, Inc.

“Agreement” shall mean the Agreement between CSX and Agency, as amended from time to time.

“Agency” shall mean the [INSERT NAME OF AGENCY].

“Agency Representative” shall mean the authorized representative of [INSERT NAME OF AGENCY].

“Contractor” shall have the meaning ascribed to such term by the Agreement.

“Work” shall mean the Project as described in the Agreement.

I. AUTHORITY OF CSX ENGINEER

The CSX Representative shall have final authority in all matters affecting the safe maintenance of CSX operations and CSX property, and his or her approval shall be obtained by the Agency or its Contractor for methods of construction to avoid interference with CSX operations and CSX property and all other matters contemplated by the Agreement and these Special Provisions.

II. INTERFERENCE WITH CSX OPERATIONS

A. Agency or its Contractor shall arrange and conduct its work so that there will be no interference with CSX operations, including train, signal, telephone and telegraphic services, or damage to CSX's property, or to poles, wires, and other facilities of tenants on CSX's Property or right-of-way. Agency or its Contractor shall store materials so as to prevent trespassers from causing damage to trains, or CSX Property. Whenever Work is likely to affect the operations or safety of trains, the method of doing such Work shall first be submitted to the CSX Representative for approval, but such approval shall not relieve Agency or its Contractor from liability in connection with such Work.

B. If conditions arising from or in connection with the Project require that immediate and unusual provisions be made to protect train operation or CSX's property, Agency or its Contractor shall make such provision. If the CSX Representative determines that such provision is insufficient, CSX may, at the expense of Agency or its Contractor, require or provide such provision as may be deemed necessary, or cause the Work to cease immediately.

C-1

III. NOTICE OF STARTING WORK. Agency or its Contractor shall not commence any work on CSX Property or rights-of-way until it has complied with the following conditions:

- A. Notify CSX in writing of the date that it intends to commence Work on the Project. Such notice must be received by CSX at least ten business days in advance of the date Agency or its Contractor proposes to begin Work on CSX property. The notice must refer to this Agreement by date. If flagging service is required, such notice shall be submitted at least thirty (30) business days in advance of the date scheduled to commence the Work.
- B. Obtain authorization from the CSX Representative to begin Work on CSX property, such authorization to include an outline of specific conditions with which it must comply.
- C. Obtain from CSX the names, addresses and telephone numbers of CSX's personnel who must receive notice under provisions in the Agreement. Where more than one individual is designated, the area of responsibility of each shall be specified.

IV. WORK FOR THE BENEFIT OF THE CONTRACTOR

- A. No temporary or permanent changes to wire lines or other facilities (other than third party fiber optic cable transmission systems) on CSX property that are considered necessary to the Work are anticipated or shown on the Plans. If any such changes are, or become, necessary in the opinion of CSX or Agency, such changes will be covered by appropriate revisions to the Plans and by preparation of a force account estimate. Such force account estimate may be initiated by either CSX or Agency, but must be approved by both CSX and Agency. Agency or Contractor shall be responsible for arranging for the relocation of the third party fiber optic cable transmission systems, at no cost or expense to CSX.
- B. Should Agency or Contractor desire any changes in addition to the above, then it shall make separate arrangements with CSX for such changes to be accomplished at the Agency or Contractor's expense.

V. HAUL ACROSS RAILROAD

- A. If Agency or Contractor desires access across CSX property or tracks at other than an existing and open public road crossing in or incident to construction of the Project, the Agency or Contractor must first obtain the permission of CSX and shall execute a license agreement or right of entry satisfactory to CSX, wherein Agency or Contractor agrees to bear all costs and liabilities related to such access.
- B. Agency and Contractor shall not cross CSX's property and tracks with vehicles or equipment of any kind or character, except at such crossing or crossings as may be permitted pursuant to this section.

VI. COOPERATION AND DELAYS

- A. Agency or Contractor shall arrange a schedule with CSX for accomplishing stage construction involving work by CSX. In arranging its schedule, Agency or Contractor shall ascertain, from CSX, the lead time required for assembling crews and materials and shall make due allowance therefore.

C-2

B. Agency or Contractor may not charge any costs or submit any claims against CSX for hindrance or delay caused by railroad traffic; work done by CSX or other delay incident to or necessary for safe maintenance of railroad traffic; or for any delays due to compliance with these Special Provisions.

C. Agency and Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.

D. Agency and Contractor understand and agree that CSX does not assume any responsibility for work performed by others in connection the Project. Agency and Contractor further understand and agree that they shall have no claim whatsoever against CSX for any inconvenience, delay or additional cost incurred by Agency or Contractor on account of operations by others.

VII. STORAGE OF MATERIALS AND EQUIPMENT

Agency and Contractor shall not store their materials or equipment on CSX's property or where they may potentially interfere with CSX's operations, unless Agency or Contractor has received CSX Representative's prior written permission. Agency and Contractor understand and agree that CSX will not be liable for any damage to such materials and equipment from any cause and that CSX may move, or require Agency or Contractor to move, such material and equipment at Agency's or Contractor's sole expense. To minimize the possibility of damage to the railroad tracks resulting from the unauthorized use of equipment, all grading or other construction equipment that is left parked near the tracks unattended by watchmen shall be immobilized to the extent feasible so that it cannot be moved by unauthorized persons.

VIII. CONSTRUCTION PROCEDURES

A. General

1. Construction work on CSX property shall be subject to CSX's inspection and approval.
2. Construction work on CSX property shall be in accord with CSX's written outline of specific conditions and with these Special Provisions.
3. Contractor shall observe the terms and rules of the CSX Safe Way manual, which Agency and Contractor shall be required to obtain from CSX, and in accord with any other instructions furnished by CSX or CSX's Representative.

B. Blasting

1. Agency or Contractor shall obtain CSX Representative's and Agency Representative's prior written approval for use of explosives on or adjacent to CSX property. If permission for use of explosives is granted, Agency or Contractor must comply with the following:
 - a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of Agency or Contractor.
 - b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
 - c. No blasting shall be done without the presence of an authorized representative of CSX. At least 30 days' advance notice to CSX Representative is required to arrange for the presence of an authorized CSX representative and any flagging that CSX may require.

d. Agency or Contractor must have at the Project site adequate equipment, labor and materials, and allow sufficient time, to (i) clean up (at Agency's expense) debris resulting from the blasting without any delay to trains; and (ii) correct (at Agency's expense) any track misalignment or other damage to CSX's property resulting from the blasting, as directed by CSX Representative, without delay to trains. If Agency's or Contractor's actions result in delay of any trains, including Amtrak passenger trains, Agency shall bear the entire cost thereof.

e. Agency and Contractor shall not store explosives on CSX property.

2. CSX Representative will:

a. Determine the approximate location of trains and advise Agency or Contractor of the approximate amount of time available for the blasting operation and clean-up.

b. Have the authority to order discontinuance of blasting if, in his or her opinion, blasting is too hazardous or is not in accord with these Special Provisions.

IX. MAINTENANCE OF DITCHES ADJACENT TO CSX TRACKS

Agency or Contractor shall maintain all ditches and drainage structures free of silt or other obstructions that may result from their operations. Agency or Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either

(1) silt fence; (2) hay or straw barrier; (3) berm or temporary ditches; (4) sediment basin; (5) aggregate checks; and (6) channel lining. All such maintenance and repair of damages due to Agency's or Contractor's operations shall be performed at Agency's expense.

X. FLAGGING / INSPECTION SERVICE

A. CSX has sole authority to determine the need for flagging required to protect its operations and property. In general, flagging protection will be required whenever Agency or Contractor or their equipment are, or are likely to be, working within fifty (50) feet of live track or other track clearances specified by CSX, or over tracks.

B. Agency shall reimburse CSX directly for all costs of flagging that is required on account of construction within CSX property shown in the Plans, or that is covered by an approved plan revision, supplemental agreement or change order.

C. Agency or Contractor shall give a minimum of 10 days' advance notice to CSX Representative for anticipated need for flagging service. No work shall be undertaken until the flag person(s) is/are at the job site. If it is necessary for CSX to advertise a flagging job for bid, it may take up to 90-days to obtain this service, and CSX shall not be liable for the cost of delays attributable to obtaining such service.

D. CSX shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSX Representative, such inspection may be necessary. Agency shall reimburse CSX for the costs incurred by CSX for such inspection service. Inspection service shall not relieve Agency or Contractor from liability for its Work.

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E. CSX shall render invoices for, and Agency shall pay for, the actual pay rate of the flagpersons and inspectors used, plus standard additives, whether that amount is above or below the rate provided in the Estimate. If the rate of pay that is to be used for inspector or flagging service is changed before the work is started or during the progress of the work, whether by law or agreement between CSX and its employees, or if the tax rates on labor are changed, bills will be rendered by CSX and paid by Agency using the new rates. Agency and Contractor shall perform their operations that require flagging protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

XI. UTILITY FACILITIES ON CSX PROPERTY

Agency shall arrange, upon approval from CSX, to have any utility facilities on or over CSX Property changed as may be necessary to provide clearances for the proposed trackage.

XII. CLEAN-UP

Agency or Contractor, upon completion of the Project, shall remove from CSX's Property any temporary grade crossings, any temporary erosion control measures used to control drainage, all machinery, equipment, surplus materials, falsework, rubbish, or temporary buildings belonging to Agency or Contractor. Agency or Contractor, upon completion of the Project, shall leave CSX Property in neat condition, satisfactory to CSX Representative.

XIII. FAILURE TO COMPLY

If Agency or Contractor violate or fail to comply with any of the requirements of these Special Provisions, (a) CSX may require Agency and/or Contractor to vacate CSX Property; and (b) CSX may withhold monies due Agency and/or Contractor; (c) CSX may require Agency to withhold monies due Contractor; and (d) CSX may cure such failure and the Agency shall reimburse CSX for the cost of curing such failure.

C-5
EXHIBIT D
INITIAL ESTIMATE ATTACHED

D-1
EXHIBIT E
PAYMENT SCHEDULE

[SELECT ONE OF FOLLOWING ALTERNATE PROVISIONS:]

Advance Payment in Full

Upon execution and delivery of notice to proceed with the Project, Agency will deposit with CSX a sum equal to the Reimbursable Expenses, as shown by the Estimate. If CSX anticipates that it may incur Reimbursable Expenses in excess of the deposited amount, CSX will request an additional deposit equal to the then remaining Reimbursable Expenses which CSX estimates that it will incur. CSX shall request such additional deposit by delivery of invoices to Agency. Agency shall make such additional deposit within 30 days following delivery of such invoice to Agency.

50/50 Payment in Advance

Upon delivery of notice to proceed with the Project, Agency will deposit with CSX a sum equal to fifty percent (50%) of the Reimbursable Expenses as shown by the Estimate. Prior to the incurrence of Reimbursable Expenses in excess of such deposit, CSX will request an additional deposit equal to the Reimbursable Expenses which CSX expects to incur. CSX shall request such additional deposit by delivery of invoices to Agency. Agency shall make such additional deposits within 30 days following delivery of such invoice to Agency.

Scheduled Payments

Agency shall deposit with CSX the following sums on or before the dates set forth below, which sums and dates shall be subject to adjustment in the event of revisions to the Estimate:

Payment Date:	Payment:
_____	_____
	Total:

Progress Payments In Arrears

Notwithstanding anything to the contrary set forth in this Agreement, Agency shall pay CSX in arrears for its Reimbursable Expenses, rather than in advance, with only such exceptions, such as purchasing materials and equipment, as the parties mutually agree. Accordingly, Agency shall remit payment to CSX for its Reimbursable Expenses within thirty (30) days following delivery to Agency of an invoice.

EXHIBIT F

INSURANCE REQUIREMENTS

I. Insurance Policies

Agency and Contractor, if and to the extent that either is performing work on or about CSX's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than \$5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured.
2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than \$1,000,000, which insurance must contain a waiver of subrogation against CSX and its affiliates (if permitted by state law).
3. Commercial automobile liability insurance with limits of not less than \$1,000,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured.
4. Railroad protective liability insurance with limits of not less than \$5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of \$10,000,000, which insurance shall satisfy the following additional requirements:
 - a. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.
 - b. CSX Transportation must be the named insured on the Railroad Protective Insurance Policy.
 - c. Name and Address of Contractor and Agency must appear on the Declarations page.
 - d. Description of operations must appear on the Declarations page and must match the Project description.
 - e. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.
 - f. Authorized endorsements may include:
 - (i). Broad Form Nuclear Exclusion - IL 00 21
 - (ii) 30-day Advance Notice of Non-renewal or cancellation
 - (iii) Required State Cancellation Endorsement
 - (iv) Quick Reference or Index - CL/IL 240
 - g. Authorized endorsements may not include:
 - (i) A Pollution Exclusion Endorsement except CG 28 31
 - (ii) A Punitive or Exemplary Damages Exclusion
 - (iii) A "Common Policy Conditions" Endorsement
 - (iv) Any endorsement that is not named in Section 4 (e) or (f) above.
 - (v) Policies that contain any type of deductible

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5. All insurance companies must be A. M. Best rated A- and Class VII or better.
6. The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or certificates of insurance.
7. Such additional or different insurance as CSX may require.

II. Additional Terms

1. Contractor must submit the complete Railroad Protective Liability policy, Certificates of Insurance and all notices and correspondence regarding the insurance policies in an electronic format to:

Insurance Department
CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202

OR

insurancedocuments@csx.com

2. Neither Agency nor its Designee may begin work on or about CSX property until written approval of the required insurance has been received from CSX or CSX's Insurance Compliance vendor, Ebix.

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SCHEDULE I

CONTRACTOR'S ACCEPTANCE

To and for the benefit of CSX Transportation, Inc. ("CSX") and to induce CSX to permit Contractor on or about CSX's property for the purposes of performing work in accordance with the Agreement dated _____, 201____, between [INSERT NAME OF AGENCY] and CSX, Contractor hereby agrees to abide by and perform all applicable terms of the Agreement, including, but not limited to Exhibits C and F to the Agreement, and Sections 3, 9 and 11 of the Agreement.

Contractor: _____

By: _____

Name _____

Title: _____

Date: _____

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APPENDIX

CSX TRANSPORTATION

TEMPORARY RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT, made as of _____, 20____, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called "CSX," and (*****), whose mailing address is (*****), (*****), hereinafter called "Licensee," WITNESSETH:

WHEREAS, Licensee has submitted a written application to CSX requesting permission to enter CSX's property located within the (****) Division, (****) Subdivision, at DOT#: (****) MP (****). (**Street**) in (**City**), (**) County, (**State**) (the "Property"), (description of scope of work), beginning (**) feet from the (****) and (**) right of way, (the "Project").

WHEREAS, CSX is willing to grant to Licensee the limited right and permission to enter upon the Property for the limited purpose of performing the Project.

NOW THEREFORE, CSX hereby grants to Licensee the right and permission to enter upon the Property for the purpose of performing said Project, subject to the terms and conditions set forth below:

1. PROJECT: The Project shall be performed at the entire cost and expense of Licensee, in accordance with good and sound engineering practices, to the satisfaction of CSX's Division Engineer or his or her duly authorized representative ("Division Engineer") and in a manner to avoid accidents, damages, unnecessary delays to or interference with train traffic of CSX. Prior to entry, Licensee shall notify the Division Engineer's representative and arrange for flagging protection in accordance to Sections 5 and 6 of this Agreement. Licensee shall not dig in the ballast line or within the tracks loading influence area, or otherwise disturb the track structure. Licensee and Licensee's employees, agents, contractors and other representatives (collectively, "Agents") shall maintain in their possession a copy of this Agreement at all times during their occupation of the Property.

2. INDEMNITY:

2.1 Licensee hereby assumes risk of and agrees to indemnify, defend, protect and save CSX and CSX's Affiliates harmless with respect to any and all attorneys' fees, liability, claims, demands, payments, suits, actions, recoveries, penalties, costs, legal expenses, judgments, settlements, and damages of every nature, degree, and kind (including direct, indirect, consequential, incidental, and punitive damages) for:

2.1.1 Personal injury, including, but not limited to bodily injury to or death of any person or persons whomsoever, including the agents, servants, Affiliates or employees of the parties;

2.1.2 The loss or damage to any property whatsoever, including property owned or in the care, custody or control of the parties hereto or their respective Affiliates;

2.1.3 Any environmental damage and any related remediation brought or recovered against CSX or any of its Affiliates; and

2.1.4 Any and all other losses or damages; arising directly or indirectly from the presence of Licensee or its Agents on or about the Property, whether or not attributable in whole or part to the negligence, gross negligence, or intentional misconduct of CSX or its Affiliates.

2.2 The parties waive any and all right or opportunity to contest the enforceability of this Section and agree that, in the event this Section, or any part of this Section, is found unenforceable by the final, unappealable judgment of a court of competent jurisdiction, this Section shall be construed so as to be enforceable to the maximum extent permitted by applicable law. In the event that such court of competent jurisdiction finds that Florida statutory construction contract indemnity monetary limits apply to this Agreement with respect to Licensee's indemnification of CSX and its Affiliates for liability caused in whole or in part by any act, omission or default by CSX or its Affiliates, the parties hereto agree that such limit shall be equal to the limits (exclusive of deductibles) of the applicable insurance required by Sections 3 and 4 of this Agreement. The parties acknowledge and agree that this monetary limit,

if required, bears a commercially reasonable relationship to this Agreement, in so far as, among other factors, the parties have taken into account the availability and cost of insurance and other risk transference devices, the scope of the Project, the risks associated with the Project, and the compensation and any other benefits exchanged between the parties in connection with this Agreement.

2.2.1 Licensee shall comply with any federal, state, or local laws, statutes, codes, ordinances, rules, and regulations applicable to its presence or performance of any activity on the Property and agrees to indemnify, defend, and hold CSX and its Affiliates harmless with respect to any fines, penalties, liabilities, or other consequences for its failure to so comply.

2.2.2 For the purpose of this Agreement, the term "Affiliates" includes all entities, directly or indirectly owned or controlled by, or under common control of a party or its respective officers, directors, employees and agents, and in the case of CSX, includes CSX Corporation, CSX and their Affiliates and their respective officers, directors, employees and agents.

2.2.3 The provisions of this Section shall survive the termination or expiration of this Agreement.

3. GENERAL LIABILITY INSURANCE: Licensee shall procure and maintain, at its expense: (i) statutory Worker's Compensation and Employers Liability Insurance with available limits of not less than \$1,000,000.00, which insurance must contain a waiver of subrogation against CSX and its Affiliates; (ii) Commercial General Liability coverage (inclusive of contractual liability) with available limits of not less than \$5,000,000.00 in combined single limits for bodily injury and property damage and covering the contractual liabilities assumed under this Agreement; (iii) business automobile liability insurance with available limits of not less than \$1,000,000.00 combined single limit for bodily injury and/or property damage per occurrence; and (iv) such other insurance as CSX may reasonably require. Upon request, Licensee shall provide CSX with a copy of Licensee's applicable insurance policies. A policy endorsement naming CSX as an additional insured and specifying such coverage shall be furnished to CSX prior to the execution of this Agreement, and the required coverage will be kept in force until all of Licensee's obligations under this Agreement have been fully discharged and fulfilled, or until Licensee shall have been specifically released by a written instrument signed by an authorized officer of CSX. Licensee shall also provide CSX with a copy of the insurance policies. The insurance policies shall provide that the insurance carrier must give CSX notice at least thirty (30) days in advance of cancellation of coverage, of any change in coverage, or of cancellation of the policy. Notwithstanding any provisions of this Section, the liability assumed by Licensee shall not be limited to the required insurance coverage.

4. RAILROAD PROTECTIVE LIABILITY INSURANCE: Licensee agrees to purchase Railroad Protective Liability Insurance in accordance with CSX's requirements (attached as Exhibit A and incorporated into this Agreement) for the benefit of CSX for Licensee's operations under this Agreement. Licensee shall furnish an appropriate Insurance policy (and required endorsements), as the case may be, with the return of this executed Agreement.

5. PRIOR NOTIFICATION: Licensee or Licensee's Agents shall notify CSX's Roadmaster at least 10 days prior to requiring entry on the Property and shall abide by the instructions of the Division Engineer, or his or her authorized representative. The Roadmaster, (*****), can be contacted at: (*****), to schedule flagging services.

6. CLEARANCES: Neither Licensee nor Agents shall perform any Project or place or operate any equipment of Licensee or Agents at a distance closer than fifty (50) feet from the center of any track, without the prior approval of the Division Engineer. The Division Engineer may require protective services or such other services as deemed necessary or appropriate. Equipment shall be moved across CSX's track(s) only at a public crossing unless prior arrangements have been made with the Division Engineer and a Private Crossing Agreement is fully executed and in place. Licensee and Agents shall take all precautions

necessary to avoid interference with or damage to CSX's property and signal and communication facilities during their performance of the Project.

7. PROTECTIVE SERVICES: If protective services, such as flagging protection, are required by CSX, Licensee shall make arrangements with the Roadmaster to furnish such personnel, flagman or watchman, that in the Roadmaster's opinion may be necessary to protect the facilities and traffic of CSX during the performance of the Project. Licensee shall pay for the cost of such services, including all applicable surcharges and additives. These services are estimated to be \$_____, as supported by the attached estimate.

8. PAYMENT FOR PROTECTIVE SERVICES: Payment shall be made by Licensee in accordance with the following designated option:

() Option 1: Licensee shall make an advance deposit of funds based on an estimate of the cost of protective or other services as determined by CSX. The cost for CSX's services shall then be assessed by CSX against this advance deposit. Upon completion of the Project, any unused funding will be returned to Licensee. Notwithstanding the foregoing, in the event Licensee performs any Project work without permission or without protective services (such as flagging protection) as may be required by CSX, no portion of Licensee's advance deposit will be refunded. If CSX's costs exceed the advance deposit(s), a request will be made to Licensee for additional funds or an invoice will be issued to Licensee for final payment. Licensee shall remit payment to CSX within thirty (30) days of receipt of either a request for additional funds or an invoice.

() Option 2: Licensee shall promptly reimburse CSX for the cost of protective or other services on an as-incurred basis, including all applicable surcharges, upon receipt of bill(s) therefor.

9. ENVIRONMENTAL: This Agreement does not include and expressly excludes the performance of any site investigation activities designed to determine environmental conditions on, about or beneath the Property. Precluded activities include performing soil borings for purposes other than geotechnical investigation, obtaining soil, sediment, groundwater and surface water samples, and conducting field or laboratory analyses of any soil, sediment, groundwater or surface water samples obtained from CSX property to identify chemical composition or environmental condition. If any type of environmental investigation is desired, a separate right of entry agreement issued through CSX's Environmental Department must be secured.

10. CLAIMS: Licensee shall, or shall require Agents, to promptly notify the Division Engineer of any loss, damage, injury or death arising out of or in connection with the Project.

11. REMEDIATION: It is understood and agreed that, upon completion of the Project, the Property shall be left in a condition satisfactory to Division Engineer or his or her duly authorized representative.

12. SAFETY:

12.1 All personnel entering the Property must comply with CSX safety rules and requirements to include, without exception, the wearing of hard hats and approved safety shoes and safety glasses with side shields. Anyone not in compliance with these rules and regulations will be asked to leave the Property.

12.2 Before performing any work authorized by this Agreement, Licensee, at its sole cost and expense, shall obtain all necessary permit(s) (including but not limited to zoning, building, construction, health, safety or environmental matters), letter(s) or certificate(s) of approval. Licensee expressly agrees and warrants that it shall conform and limit its activities to the terms of such permit(s), approval(s) and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (state, federal or local) having jurisdiction over Licensee's activities, including the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b), et al.), and State "One Call" - "Call Before You Dig" requirements.

13. TERM: This Right-of-Entry Agreement and the permission conferred and the license granted by it does not constitute a grant of permanent easement and shall terminate upon completion of the Project or at midnight, , whichever occurs first, unless extended in writing by CSX. In the event Licensee fails to comply with terms and provisions of this Agreement, Licensee agrees to pay and agrees that CSX shall be entitled to recover costs and expenses incurred by CSX, including legal fees and expenses, to enforce the terms of this Agreement.

14. SEVERABILITY: The parties agree that if any part, term or provision of the Agreement is held to be illegal, unenforceable or in conflict with any applicable federal, state, or local law or regulation, such part, term or provision shall be severable, with the remainder of the Agreement remaining valid and enforceable. If any provision or any part of a provision of the Agreement shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable law, ordinance, rule or regulation, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Agreement, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

15. ENTIRE AGREEMENT: This Agreement embodies the entire understanding of the parties, may not be waived or modified except in a writing signed by authorized representatives of both parties, and supersedes all prior or contemporaneous written or oral understandings, agreements or negotiations regarding its subject matter.

16. NOTICES: All notices, consents and approvals required or permitted by this agreement shall be in writing and shall be deemed delivered; upon personal delivery, upon the expiration of three (3) business days following mailing by U.S. first class mail, or upon the next business day following mailing by a nationally recognized overnight carrier, to the Licensee at the address above, and to Licensor at the address shown on Page 1, or at such other addresses as either party may designate by delivery of prior notice to the other party .

17. TERMINATION: CSX shall have the right at any time and at its sole discretion to terminate this Agreement upon notice to Licensee.

18. WAIVER: If either party fails to enforce its respective rights under this Agreement, or fails to insist upon the performance of the other party's obligations hereunder, such failure shall not be construed as a permanent waiver of any rights or obligations in this Agreement.

19. GOVERNING LAW; VENUE: This Agreement shall be governed by and construed under the laws of the State of Florida, without regard to the choice of law provisions thereof. Venue for any action arising from, or brought to enforce, this Agreement, shall vest exclusively in the state or federal courts located in Duval County, Florida, and the parties agree to submit to the personal jurisdiction of any state or federal court located in Duval County, Florida.

20. NO ASSIGNMENT: Notwithstanding anything to the contrary contained in this Agreement, Licensee shall not permit Agents to enter the Property without first requiring Agents to agree in writing to comply with all of the terms of this Agreement. Notwithstanding the foregoing, Licensee shall continue to be responsible for insuring that Agents comply with all of the terms and conditions of this Agreement and shall indemnify and hold CSX harmless for any damages described in Section 2 above caused in whole or in part by such subcontractor. Assignment of this Agreement to any party other than Agents in accordance with this Section shall not be permitted except upon the prior written consent of CSX, which consent may be granted or withheld at CSX's sole discretion. This Agreement shall be binding upon the parties and their respective successors and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written.

Witness for CSX Transportation:

CSX TRANSPORTATION, INC.

By: _____

Name:

Title:

Witness for: ()

():

By: _____

Print/Type Name:

Print/Type Title:

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the [*] to the terms and conditions of this Agreement.

ATTACHMENT “A” INSURANCE REQUIREMENTS

I. Insurance Policies:

Agency and its Designee, if and to the extent that either is performing work on or about CSX’s property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than \$5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured. The policy shall include endorsement ISO CG 24 17 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.
2. Statutory Worker’s Compensation and Employers Liability Insurance with limits of not less than \$1,000,000, which insurance must contain a waiver of subrogation against CSX and its affiliates (if permitted by state law).
3. Commercial automobile liability insurance with limits of not less than \$1,000,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured. The policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.
4. Railroad protective liability insurance with limits of not less than \$5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of \$10,000,000, which insurance shall satisfy the following additional requirements:
 - a. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.
 - b. CSX Transportation must be the named insured on the Railroad Protective Insurance Policy.
 - c. Name and Address of Contractor and Agency must appear on the Declarations page.
 - d. Description of operations must appear on the Declarations page and must match the Project description.
 - e. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.
 - f. Authorized endorsements may include:
 - (i). Broad Form Nuclear Exclusion - IL 00 21
 - (ii) 30-day Advance Notice of Non-renewal or cancellation
 - (iii) Required State Cancellation Endorsement
 - (iv) Quick Reference or Index - CL/IL 240

- g. Authorized endorsements may not include:
- (i) A Pollution Exclusion Endorsement except CG 28 31
 - (ii) A Punitive or Exemplary Damages Exclusion
 - (iii) A "Common Policy Conditions" Endorsement
 - (iv) Any endorsement that is not named in Section 4 (e) or (f) above.
 - (v) Policies that contain any type of deductible

- 5. All insurance companies must be A. M. Best rated A- and Class VII or better.
- 6. The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or certificates of insurance.
- 7. Such additional or different insurance as CSX may require.

II. Additional Terms

- 1. Contractor must submit the complete Railroad Protective Liability policy, Certificates of Insurance and all notices and correspondence regarding the insurance policies in an electronic format to:

Insurance Department
CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202

OR

insurancedocuments@csx.com

- 2. Neither Agency nor its Designee may begin work on or about CSX property until written approval of the required insurance has been received from CSX or CSX's Insurance Compliance vendor, Ebix.

APPENDIX

CSX TRANSPORTATION

RIGHT of ENTRY AND INDEMNITY AGREEMENT FOR BRIDGE PAINTING (AESTHETIC)

RIGHT OF ENTRY AND INDEMNITY AGREEMENT FOR BRIDGE PAINTING (AESTHETIC)

This Agreement is made and effective as of _____, by and between CSX TRANSPORTATION, INC., a Virginia corporation, with a mailing address of 500 Water Street, Jacksonville, Florida 32202, hereinafter called "CSX," and the Name of Agency, a public corporation, under the laws of the State of State, with a mailing address of Street Address, PO Box, City State and ZIP, hereinafter called "AGENCY".

WHEREAS, CSX controls and operates a right of way and bridge located within the ***** Division, ***** Subdivision, at DOT#: 123456A MP XXX-123.45. Street Name in City, County County, State ("the Property");

WHEREAS, AGENCY has submitted a written request to enter the Property and to clean and paint the facing of the bridge (the "Project") as described in Exhibit A, attached and incorporated by reference; and

WHEREAS, CSX is willing to grant AGENCY the limited right and permission to enter upon the Property for the limited purpose of performing the Project;

NOW, THEREFORE, CSX hereby grants to AGENCY the right and permission to enter upon the Property for the purpose of performing the Project, subject to the terms and conditions set forth below:

1. TERM AND SCOPE

From the period starting from the date of execution of this Agreement, through the date that is one year from such date unless further extended by mutual agreement of the parties (the "Term"), AGENCY, through its employees, agents, contractors, subcontractors, and/or other representatives (each, a "Designee" and collectively, "Designees"), may, only once (meaning not on a repetitive basis) enter the Property and perform the Project (the "Work"). Notwithstanding the foregoing, provided that CSX shall first have approved the specifications therefore, as set forth in Section 2 hereof, AGENCY may also engage in periodic spot painting to remove graffiti (the "Spot Painting").

2. PROJECT

A. All plans, specifications, drawings and other documents necessary or appropriate to the design and performance of the Project, including but not limited to paint color and temporary attachment specifications (if any), shall be prepared, at AGENCY's sole cost and expense, by AGENCY or its Designees. Such plans shall be submitted to CSX for review and approval of CSX at least thirty (30) days prior to starting the Work or Spot Painting. The specifications for Spot Painting must include the paint color (which must be compatible with the most recent paint applied), application method (e.g. spray, brush, etc.), and structure access/reach equipment type (e.g. ladders, man lifts, etc.). CSX may require paint removal prior to Spot Painting for safety reasons; if so, AGENCY must also submit a paint removal method (e.g. sand-blasting, chemical removal, etc.). No Work or Spot Painting may begin until CSX has approved the plans and specifications. By its review or approval of plans pursuant to this Agreement, CSX signifies only that such plans and performance of the Work and Spot Painting in accordance with such plans satisfy CSX's requirements.

B. Upon receipt of the specifications, CSX's authorized representative will determine and inform AGENCY whether a flagman need be present and whether AGENCY need implement any special protective or safety measures. If a flagman is required, AGENCY shall notify CSX's authorized representative and arrange for safety protection in accordance with this Agreement.

C. The Work and Spot Painting shall be performed in accordance with good and sound practices, to the satisfaction of CSX's authorized representative in a manner to avoid accidents, damages, unnecessary delays to or interference with the continuous and uninterrupted use of CSX tracks or other operations, including train, signal, telephone and communication services, or damage to CSX's property, or to poles, wires, and other facilities of tenants on CSX's property or right-of-way. Under no circumstances shall Work or Spot Painting affect the operations or safety of trains. If conditions arising from or in connection with the Project require that immediate and unusual provisions be made to protect train operation or CSX's property, AGENCY shall make such provision.

D. The Project shall be designed and the Work and Spot painting performed at no cost, expense or liability to CSX.

3. COMMENCEMENT OF WORK; AUTHORITY OF CSX REPRESENTATIVE

A. AGENCY shall not commence any Work on CSX Property until AGENCY has:

1. Notified CSX in writing of the date that it expects Work or Spot Painting to commence on the Project. Such notice must be received by CSX at least ten (10) business days in advance of the date AGENCY proposes to begin Work or Spot Painting on the Property. The notice must refer to this Agreement by date.

2. Obtain authorization from CSX's authorized representative to begin Work on CSX property, such authorization to include an outline of specific conditions with which AGENCY must comply.

B. CSX retains the paramount right to regulate all activities affecting its property and operations. CSX's authorized representative shall have final authority in all matters affecting the safe maintenance of CSX operations and CSX property, and his or her approval shall be obtained by AGENCY for methods of construction to avoid interference with CSX operations and CSX property and all other matters contemplated by the Agreement.

4. FLAGGING / INSPECTION SERVICE

A. CSX has sole authority to determine the need for flagging required to protect its operations and property.

B. CSX shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSX's authorized representative, such inspection may be necessary.

C. Any CSX expenses associated with flagging and inspection service shall be calculated, estimated, and reimbursed by AGENCY in the manner described in Section 10.

D. Should CSX's authorized representative determine that flagging is necessary, AGENCY may attempt to coordinate the timing of the Work or Spot Painting with CSX's authorized representative so that the Project may be performed during times that flagging is already ongoing at the Property.

5. SAFETY

A. CSX will provide AGENCY with a copy of its safety rules and requirements prior to the commencement of the Work or Spot Painting. Any AGENCY personnel or Designee entering the Property must comply with CSX's safety rules and requirements. Anyone not in compliance with these rules and regulations will be asked to leave the Property.

B. Before performing any Work authorized by this Agreement, AGENCY, at no expense to CSX, will obtain all necessary permit(s) (including, but not limited to, zoning, building, construction, health, safety or environmental matters), letter(s) or certificate(s) of approval. AGENCY expressly agrees and warrants that it shall conform and limit activities to the terms of such permit(s), approval(s) and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (state, federal or local) having jurisdiction over the activities in the Project, including applicable provisions of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b), et al.).

6. ACCESS LIMITATIONS; STORAGE OF MATERIALS

A. This Agreement does not give AGENCY the right to cross CSX property or tracks with vehicles, equipment or in any other matter other than at an existing and open public crossing. At no time will anyone performing the Work or Spot Painting be allowed beyond the bridge abutments on CSX's property or be allowed on top of the bridge unless accompanied by CSX personnel.

B. AGENCY shall not store materials or equipment on CSX's property or where they may potentially interfere with CSX's operations, unless AGENCY has received prior written permission from CSX's authorized representative.

7. ENVIRONMENTAL

A. This Agreement does not include and expressly excludes the performance of any site investigation activities designed to determine environmental conditions on, about or beneath the Property.

B. AGENCY shall comply with all federal, state and local environmental laws and regulations in its work at the Property and shall perform the Work or Spot Painting in an environmentally protective manner, and shall prevent releases and spills of any materials that could harm human health or the environment, including but not limited to, hydrocarbon products, anti-freeze, spent mechanical draining, solvents, hazardous substances and hazardous wastes as defined in the Comprehensive Environmental Response, Compensation and Liability Act and the Resource Conservation and Recovery Act, respectively ("Environmental Substances"). AGENCY, at its expense, shall assume all responsibility for the investigation and cleanup of any release or discharge of any Environmental Substance at the Property that arises from the performance of any work, presence or other activity at the Property by AGENCY or its Designees. In addition to other liability terms contained in this Agreement, AGENCY agrees to indemnify, defend and hold harmless CSX and CSX's Affiliates from and against all environmental costs and expenses, including without limitation, all environmental analysis and cleanup expenses, fines and claims, or penalties arising from any work, presence or activity of the AGENCY or its Designees at the Property.

8. REMEDIATION AND CLEAN-UP

AGENCY, upon completion of the Work or Spot Painting, shall (i) remove from the Property any equipment, surplus materials, or rubbish belonging to AGENCY or AGENCY's Designee; and (ii) leave CSX Property to its original condition, satisfactory to CSX's authorized representative.

9. INSURANCE AND WAIVERS

AGENCY shall (i) acquire or require AGENCY's Designee to purchase and maintain insurance in compliance with CSX's insurance requirements attached to this Agreement as Exhibit B; (ii) require any individual not employed by AGENCY to execute the Waiver and Release Form attached hereto as Exhibit C; and (iii) require any Designee to execute the Acceptance by AGENCY Designee Form attached hereto as Exhibit D prior to entering CSX property and/ or commencing any Work or Spot Painting. Neither AGENCY nor AGENCY's Designee shall commence the Work or Spot Painting until such insurance policy or policies and forms have been submitted to and approved by CSX's Risk Management Department.

10. CSX'S COSTS AND EXPENSES; REIMBURSEMENT PROCEDURES

A. Reimbursable Expenses. AGENCY shall reimburse CSX or shall cause AGENCY's Designee to reimburse CSX for all costs and expenses incurred by CSX in connection with the Project, Work or Spot Painting (the "Reimbursable Expenses").

B. Estimate. CSX has estimated the total Reimbursable Expenses as shown on Exhibit E (the "Estimate", as amended or revised). In the event CSX anticipates that actual Reimbursable Expenses may exceed such Estimate, it shall provide AGENCY with the revised Estimate of the total Reimbursable Expenses.

C. Payment Terms. Upon execution and delivery of this Agreement by AGENCY, AGENCY will deposit with CSX a sum equal to the estimated Reimbursable Expenses, as shown by the Estimate. Following completion of the Project, CSX shall submit to AGENCY a final invoice that reconciles the total costs incurred by CSX against the total payments received from AGENCY. AGENCY shall pay to CSX the amount by which expenses exceed total payments as shown by the final invoice, within thirty (30) days following delivery of such invoice to AGENCY. In the event that the payments received by CSX from AGENCY exceed the estimated expenses, CSX shall remit such excess to AGENCY.

11. INDEMNIFICATION.

A. As a material inducement for entering into this Agreement, and without which CSX would not enter into the same, AGENCY covenants and agrees that to the extent permitted by law, AGENCY shall indemnify, defend, and hold CSX and its affiliates harmless from and against all claims, demands, payments, suits, actions, judgments, settlements, and damages of every nature, degree, and kind (including direct, indirect, consequential, incidental, and punitive damages), for any injury to or death to any person(s) (including, but not limited to the employees of CSX, its affiliates, AGENCY or its Designees), for the loss of or damage to any property whatsoever (including but not limited to property owned by or in the care, custody, or control of CSX, its affiliates, AGENCY or its Designees), arising or resulting from the performance of this Agreement by AGENCY or any other person performing any work or service on the AGENCY's behalf on or about the Property. The foregoing indemnification obligation shall not be limited to the insurance coverage required by this Agreement, except to the extent required by law or otherwise expressly provided by this Agreement.

B. Compliance with Laws. AGENCY shall comply, and shall require its Designees to comply, with any federal, state, or local laws, statutes, codes, ordinances, rules, and regulations applicable to its construction and maintenance of the Project. AGENCY's Designees shall indemnify, defend, and hold CSX and its affiliates harmless with respect to any fines, penalties, liabilities, or other consequences arising from breaches of this Section.

C. "CSX Affiliates". For the purpose of this Agreement, CSX's affiliates include CSX Corporation and all entities, directly or indirectly, owned or controlled by or under common control of CSX or CSX Corporation and their respective officers, directors, employees and agents.

D. Survival. The provisions of this Section shall survive the termination or expiration of this Agreement.

12. CLAIMS

AGENCY shall promptly notify the CSX's authorized representative of any loss, damage, or injury arising out of or in connection with the Work or Spot Painting. AGENCY shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of CSX for any such Work or Spot Painting performed.

13. MAINTENANCE

A. By AGENCY. Upon completion of the Project, AGENCY, or its Designee, shall be solely responsible for maintaining the aesthetic appearance of the Project, including taking any actions deemed necessary by CSX, in its sole discretion, to address any damage or disfiguration due to vandalism or graffiti by Spot Painting, in accordance with Section 1. In the event AGENCY or its Designee fails to maintain the aesthetic appearance of the Project in a reasonable condition, as determined by CSX in its sole discretion, CSX, after due notice to AGENCY, may [(i) require AGENCY to remove or paint over the mural, (ii) at AGENCY Designee's sole cost and expense arrange for the mural to be removed or painted over, or (iii)] take such action as it deems appropriate to restore the railroad bridge to a condition acceptable to CSX. For purposes of this Section, "due notice" shall mean thirty (30) days' notice unless CSX, in its sole discretion, determines that an emergency condition exists, in which case, AGENCY or its Designee shall take immediate action.

B. By CSX. CSX shall not in any manner be restricted from (i) maintaining, repairing, replacing or renewing its tracks, all parts of the railroad bridge supports, signal and communication systems or any other rail facilities or its property as it deems appropriate or (ii) performing any actions required to reasonably support rail operations. Neither shall CSX in any manner be responsible for any damage or disfiguration caused to the Project due to such work, actions, or railroad operations, nor shall CSX be responsible for the aesthetic appearance of the mural or the area of the railroad bridge supports upon which the Project is painted, so long as AGENCY remains responsible for the maintenance of the Project.

C. Alterations. AGENCY shall not undertake any alteration, modification or expansion of the Project, without the prior approval of CSX, which may be withheld for any reason, and the execution of such agreements as CSX may require.

14. INDEPENDENT CONTRACTOR

The parties agree that neither AGENCY nor the AGENCY Designee shall be deemed either agents or independent contractors of CSX. Except as otherwise provided by this Agreement, CSX shall exercise no control whatsoever over the employment, discharge, compensation of, or services rendered by AGENCY or AGENCY's Representative, or the construction practices, procedures, and professional judgment employed by AGENCY or AGENCY's Representative to complete the Project. Notwithstanding the foregoing, this Section shall in no way affect the absolute authority of CSX to prohibit AGENCY or AGENCY's Representative or anyone from entering CSX's property, or to require the removal of any person from its property, if it determines, in its sole discretion, that such person is not acting in a safe manner or that actual or potential hazards in, on or about the Property exist.

15. INTERPRETATION

AGENCY and CSX each acknowledge that the terms, covenants, conditions, and provisions of this Agreement have been negotiated between and jointly authored by the parties hereto, and in consequence of this joint authorship, the parties agree that no term, covenant, condition or provision hereunder shall be construed more strictly against one party or the other hereto.

16. SEVERABILITY

The parties agree that if any part, term or provision of the Agreement is held to be illegal, unenforceable or in conflict with any applicable federal, state, or local law or regulation, such part, term or provision shall be severable, with the remainder of the Agreement remaining valid and enforceable. If any provision or any part of a provision of the Agreement shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable law, ordinance, rule or regulation, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Agreement, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

17. ENTIRE AGREEMENT

This Agreement embodies the entire understanding of the parties, may not be waived or modified except in a writing signed by authorized representatives of all parties, and supersedes all prior or contemporaneous written or oral understandings, agreements or negotiations regarding its subject matter. No modification or alteration of the terms hereof shall be binding unless such modification or alteration is in writing and executed by the parties.

18. NOTICES

All notices, consents and approvals required or permitted by this agreement shall be in writing and shall be deemed delivered; upon personal delivery, upon the expiration of three (3) business days following mailing by U.S. first class mail, or upon the next business day following mailing by a nationally recognized overnight carrier, to the parties at the addresses set forth below, or such other addresses as either party may designate by delivery of prior notice to the other party.

TO CSX: CSX Transportation, Inc.
500 Water Street, J301
Jacksonville, Florida 32202
Attention – Director Project Management, Public Projects

TO AGENCY: Name _____
Title Agency _____
Street Address City, State ZIP _____

19. TERMINATION

CSX and AGENCY shall have the right to terminate this Agreement upon notice for any reason.

Termination of this Agreement or Work on the Project, for any reason, shall not diminish or reduce AGENCY's obligation to pay CSX for Reimbursable Expenses incurred in accordance with this Agreement. In the event of the termination of this Agreement or the Work for any reason, CSX's only remaining obligation to AGENCY shall be to refund to AGENCY payments made to CSX in excess of Reimbursable Expenses in accordance with Section 10.

20. WAIVER

If any party fails to enforce its respective rights under this Agreement, or fails to insist upon the performance of the other party's obligations hereunder, such failure shall in no way be construed as a permanent waiver of any rights or obligations in this Agreement, nor in any way to affect the validity of this Agreement or any part hereof or the right of either party to thereafter enforce each and every such provision and to exercise any such right or option. No waiver of any breach of this Agreement shall be held to be a waiver of any other or subsequent breach.

21. GOVERNING LAW; VENUE

This Agreement shall be governed by and construed under the laws of the State of Florida, without regard to the choice of law provisions thereof. Venue for any action arising from, or brought to enforce, this Agreement, shall vest exclusively in the state or federal courts located in Duval County, Florida, and the parties agree to submit to the personal jurisdiction of any state or federal court located in Duval County, Florida.

22. ASSIGNMENT

This Agreement shall be binding upon the parties hereto and upon all persons successor in interest to said parties. This Agreement shall not be assignable by AGENCY without the express written consent of CSX.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the day and year first above written.

Agency

CSX TRANSPORTATION, INC.

Name / Title

Date: _____

Name: Dale W. Ophardt

Title: Assistant Vice President – Engineering

Date: _____

APPROVED AS TO FORM AND LEGALITY:

AGENCY Attorney

Date: _____

EXHIBIT A

PROJECT PLANS AND SPECIFICATIONS

EXHIBIT B

INSURANCE REQUIREMENTS

I. Insurance Policies:

Agency and Contractor, if and to the extent that either is performing work on or about CSX's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than \$5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured. The policy shall include endorsement ISO CG 24 17 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.
2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than \$1,000,000, which insurance must contain a waiver of subrogation against CSX and its affiliates (if permitted by state law).
3. Commercial automobile liability insurance with limits of not less than \$1,000,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSX as an additional named insured. The policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, railroad protective liability insurance must be provided as described in item 4 below.
4. Railroad protective liability insurance with limits of not less than \$5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of \$10,000,000, which insurance shall satisfy the following additional requirements:
 - a. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.
 - b. CSX Transportation must be the named insured on the Railroad Protective Insurance Policy.
 - c. Name and Address of Contractor and Agency must appear on the Declarations page.
 - d. Description of operations must appear on the Declarations page and must match the Project description.
 - e. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.
 - f. Authorized endorsements may include:
 - (i). Broad Form Nuclear Exclusion - IL 00 21
 - (ii) 30-day Advance Notice of Non-renewal or cancellation
 - (iii) Required State Cancellation Endorsement
 - (iv) Quick Reference or Index - CL/IL 240

g. Authorized endorsements may not include:

- (i) A Pollution Exclusion Endorsement except CG 28 31
- (ii) A Punitive or Exemplary Damages Exclusion
- (iii) A "Common Policy Conditions" Endorsement
- (iv) Any endorsement that is not named in Section 4 (e) or (f) above.
- (v) Policies that contain any type of deductible

5. All insurance companies must be A. M. Best rated A- and Class VII or better.

6. The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or certificates of insurance.

7. Such additional or different insurance as CSX may require.

II. Additional Terms

1. Contractor must submit the original Railroad Protective Liability policy, Certificates of Insurance and all notices and correspondence regarding the insurance policies to:

Insurance Department
CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202

OR

insurancedocuments@csx.com

2. Neither Agency nor Contractor may begin work on the Project until it has received CSX's written approval of the required insurance.

EXHIBIT C

WAIVER AND RELEASE FORM TEMPORARY LICENSE AGREEMENT

_____ shall indemnify and hold CSX Transportation, Inc. ("CSX"), the owner or holder in interest of the tract of real property known as the CSX Transportation right of way under the _____, (the "Property"), harmless from all claims, damages, demands, causes of action, suits, expenses (including attorney's fees and costs), judgments and interest whatsoever arising from a project to clean up and paint the bridge supports on the Property.

Signature: _____

Date: _____

Note: AGENCY must require any member, volunteer or other person not employed by AGENCY to execute this Waiver and Release Form, Exhibit C, prior to entering CSX property and/or commencing any work on the Project. A copy of all Waiver and Release Forms obtained from any member, volunteer or other person not employed by AGENCY must be sent to:

Julie Skinner
CSX Insurance Analyst
500 Water Street, 14th Floor, Jacksonville, FL 32202
Phone: 904-366-3804

EXHIBIT D

ACCEPTANCE BY AGENCY DESIGNEE

To and for the benefit of CSX Transportation, Inc. ("CSX") and to induce CSX to permit the AGENCY Designee on or about CSX's property for the purposes of performing Work or Spot Painting in accordance with the Agreement dated _____ 201__, between AGENCY and CSX, AGENCY Designee hereby agrees to abide by and perform all applicable terms of the Agreement, including, but not limited to Exhibit B and Exhibit C to the Agreement, and Sections 2, 3, 7, 8, 11, and 13 of the Agreement. Any notices required to be given to AGENCY Designee shall be in writing and delivered to the person identified below.

AGENCY Designee

By: _____

Print Name: _____

Title: _____

Date: _____

Notices shall be delivered to:

[name and address]

EXHIBIT E
ESTIMATE OF REIMBURSABLE EXPENSES

Attached

APPENDIX

CSX TRANSPORTATION

CSX SPECIAL PROVISIONS

DEFINITIONS:

As used in these Special Provisions, all capitalized terms shall have the meanings ascribed to them by the Agreement, and the following terms shall have the meanings ascribed to them below:

“CSX” shall mean CSX Transportation, Inc., its successors and assigns.

“CSX Representative” shall mean the authorized representative of CSX Transportation, Inc.

“Agreement” shall mean the Agreement between CSX and Agency dated as of _____, 20____ amended from time to time.

“Agency” shall mean the _____, _____

“Agency Representative” shall mean the authorized representative of _____, _____

“Contractor” shall have the meaning ascribed to such term by the Agreement.

“Work” shall mean the Project as described in the Agreement.

I. AUTHORITY OF CSX ENGINEER

The CSX Representative shall have final authority in all matters affecting the safe maintenance of CSX operations and CSX property, and his or her approval shall be obtained by the Agency or its Contractor for methods of construction to avoid interference with CSX operations and CSX property and all other matters contemplated by the Agreement and these Special Provisions.

II. INTERFERENCE WITH CSX OPERATIONS

A. Agency or its Contractor shall arrange and conduct its work so that there will be no interference with CSX operations, including, but not limited to: train, signal, telephone and telegraphic services, or damage to CSX’s property, or to poles, wires, and other facilities of tenants on CSX’s Property or right-of-way. Agency or its Contractor shall store materials so as to prevent trespassers from causing damage to trains, or CSX Property. Whenever Work is likely to affect the operations or safety of trains, the method of doing such Work shall first be submitted to the CSX Representative for approval, but such approval shall not relieve Agency or its Contractor from liability in connection with such Work.

B. If conditions arising from or in connection with the Project require that immediate and unusual provisions be made to protect train operation or CSX’s property, Agency or its Contractor shall make such provision. If the CSX Representative determines that such provision is insufficient, CSX may, at the expense of Agency or its Contractor, require or provide such provision as may be deemed necessary, or cause the Work to cease immediately.

C. Should work activities be required within CSX property or right-of-way, the Contractor shall request CSX to locate any buried utilities or facilities (air lines, wells, etc.). A written request shall be delivered to the CSX Representative at least five (5) days in advance. The traditional “One Call” utility locate services are not responsible for locating any CSX undergrade utilities or facilities.

III. INSURANCE

The Contractor shall not be permitted to work on, or have potential to foul, CSX property or right-of-way until CSX has acknowledged written acceptance of the insurance coverages for the proposed project. See PAGE 16 - INSURANCE REQUIREMENTS.

IV. NOTICE OF STARTING WORK

Agency or its Contractor shall not commence any work on CSX Property or rights-of-way until it has complied with the following conditions:

- A. Notify CSX in writing of the date that it intends to commence Work on the Project. Such notice must be received by CSX at least ten (10) business days in advance of the date Agency or its Contractor proposes to begin Work on CSX property. The notice must refer to this Agreement by date. If flagging service is required, such notice shall be submitted at least thirty (30) business days in advance of the date scheduled to commence the Work.
- B. Obtain authorization, through the Notice to Proceed, from the CSX Representative to begin Work on CSX property. Once authorization is given, Agency or Contractor shall provide a detailed schedule to include means and methods for review, comment and/or approval prior to commencement of work. CSX will in turn provide direction regarding specific conditions with which it must comply.
- C. Obtain from CSX the names, addresses and telephone numbers of CSX's personnel who must receive notice under provisions in the Agreement. Where more than one individual is designated, the area of responsibility of each shall be specified.

V. WORK FOR THE BENEFIT OF THE CONTRACTOR

- A. No temporary or permanent changes to wire lines or other facilities (other than third party fiber optic cable transmission systems) on CSX property that are considered necessary to the Work are anticipated or shown on the Plans. If any such changes are, or become, necessary in the opinion of CSX or Agency, such changes will be covered by appropriate revisions to the Plans and by preparation of a force account estimate. Such force account estimate may be initiated by either CSX or Agency, but must be approved by both CSX and Agency. Agency or Contractor shall be responsible for arranging for the relocation of the third party fiber optic cable transmission systems, at no cost or expense to CSX.
- B. Should Agency or Contractor desire any changes in addition to the above, then it shall make separate arrangements with CSX for such changes to be accomplished at the Agency or Contractor's expense.

VI. HAUL ACROSS RAILROAD

- A. If Agency or Contractor desires access across CSX property or tracks at other than an existing and open public road crossing in or incident to construction of the Project, the Agency or Contractor must first obtain the permission of CSX and shall execute a license agreement or right of entry satisfactory to CSX, wherein Agency or Contractor agrees to bear all costs and liabilities related to such access.
 - 1. Temporary construction haul roads across CSX tracks will require a separate application and payment to CSX Property Services. Agreement extensions require additional payment. Actual cost is variable and project specific. Additional information can be found at this URL: <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/permitting-utility-installations-and-rights-of-entry/>.
- B. Agency and Contractor shall not cross CSX's property and tracks with vehicles or equipment of any kind or character, except at such crossing or crossings as may be permitted pursuant to this section.

VII. COOPERATION AND DELAYS

- A. Agency or Contractor shall arrange a schedule with CSX for accomplishing stage construction involving work by CSX. In arranging its schedule, Agency or Contractor shall ascertain, from CSX, the lead time required for assembling crews and materials and shall make due allowance therefor.
- B. Agency or Contractor may not charge any costs or submit any claims against CSX for hindrance or delay caused by railroad traffic; work done by CSX or other delay incident to or necessary for safe maintenance of railroad traffic; or for any delays due to compliance with these Special Provisions.
- C. Agency and Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.
- D. Agency and Contractor understand and agree that CSX does not assume any responsibility for work performed by others in connection with the Project. Agency and Contractor further understand and agree that they shall have no claim whatsoever against CSX for any inconvenience, delay or additional cost incurred by Agency or Contractor on account of operations by others.

VIII. STORAGE OF MATERIALS AND EQUIPMENT

Agency and Contractor shall not store their materials or equipment on CSX's property or where they may potentially interfere with CSX's operations, unless Agency or Contractor has received CSX Representative's prior written permission. Agency and Contractor understand and agree that CSX will not be liable for any damage to such materials and equipment from any cause and that CSX may move, or require Agency or Contractor to move, such material and equipment at Agency's or Contractor's sole expense. To minimize the possibility of damage to the railroad tracks resulting from the unauthorized use of equipment, all grading or other construction equipment that is left parked near the tracks unattended by watchmen shall be immobilized to the extent feasible so that it cannot be moved by unauthorized persons.

IX. CONSTRUCTION PROCEDURES

A. General

1. Construction work on CSX property shall be subject to CSX's inspection and approval.
2. Construction work on CSX property shall be in accord with CSX's Construction Submission Criteria, latest edition and CSX's written outline of specific conditions and with these Special Provisions.
3. Contractor shall observe the terms and rules of the CSX Safe Way manual, which Agency and Contractor shall be required to obtain from CSX, and in accord with any other instructions furnished by CSX or CSX's Representative. Failure to comply with the terms of the agreement and CSX rules can result in mandatory railroad worker protective training for the Agency, Contractor and its subcontractors.

B. Blasting

1. Agency or Contractor shall obtain CSX Representative's and Agency Representative's prior written approval for use of explosives on or adjacent to CSX property. If permission for use of explosives is granted, Agency or Contractor must comply with the following:

- a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of Agency or Contractor.
- b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
- c. No blasting shall be done without the presence of an authorized representative of CSX. At least thirty (30) days' advance notice to CSX Representative is required to arrange for the presence of an authorized CSX representative and any flagging that CSX may require.
- d. Agency or Contractor must have at the Project site adequate equipment, labor and materials, and allow sufficient time, to (i) clean up (at Agency's expense) debris resulting from the blasting without any delay to trains; and (ii) correct (at Agency's expense) any track misalignment or other damage to CSX's property resulting from the blasting, as directed by CSX Representative, without delay to trains. If Agency's or Contractor's actions result in delay of any trains, including Amtrak passenger trains, Agency shall bear the entire cost thereof.
- e. Agency and Contractor shall not store explosives on CSX property.

2. CSX Representative will:

- a. Determine the approximate location of trains and advise Agency or Contractor of the approximate amount of time available for the blasting operation and clean-up.
- b. Have the authority to order discontinuance of blasting if, in his or her opinion, blasting is too hazardous or is not in accord with these Special Provisions.

X. ENVIRONMENTAL

A. Should soil excavation within CSX property be anticipated and said soils cannot remain on CSX property during and after construction, then CSX Environmental must be contacted at least thirty (30) days in advance of the work in order to schedule sampling, classification and disposition of material. Excavated material is prohibited from being removed from CSX property, or rights-of-way, without expressed written direction from CSX. Should final disposition require disposal of excavated material, CSX shall have sole discretion of means and location of said disposal. The project sponsor or Agency will bear all costs associated with sampling, staging and subsequent disposal if deemed necessary. Contractor will be required to obtain all disposal tickets / documentation and provide the information to the CSX Representative. CSX will not bear any costs associated with this work.

B. Any waste materials generated by the Project, including but not limited to washing with cleaning solvents, blasting, scraping, brushing and painting operations, shall be the responsibility of the Agency or its Contractor and shall be contained, collected and properly disposed of by the Agency or its Contractor. Agency and its Contractor agree to fully comply with all federal, state, and local environmental laws, regulations, statutes and ordinances at all times.

XI. MAINTENANCE OF DITCHES ADJACENT TO CSX TRACKS

Agency or Contractor shall maintain all ditches and drainage structures free of silt or other obstructions that may result from their operations. In addition, Agency or Contractor shall maintain all CSX property or right-of-way impacted by project operations including but not limited to; access or haul roads, staging areas, parking lots in a manner that provides CSX free and clear access to facilities, materials while providing acceptable driving surfaces free of drainage impacts or reduced CSX capacity. Agency or Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either (1) silt fence; (2) hay or straw barrier; (3) berm or temporary ditches; (4) sediment basin; (5) aggregate checks; and (6) channel lining. All such maintenance and repair of damages due to Agency's or Contractor's operations shall be performed at Agency's expense.

XII. TRACK PROTECTION / INSPECTION SERVICE

- A. CSX has sole authority to determine the need for track protection required to protect its operations and property. In general, track protection will be required whenever Agency or Contractor or their equipment are, or are likely to be, working within fifty (50) feet of live track or other track clearances specified by CSX, or over tracks.
- B. Agency shall reimburse CSX directly for all costs of track protection that is required on account of construction within CSX property shown in the Plans, or that is covered by an approved plan revision, supplemental agreement or change order.
- C. Agency or Contractor shall give a minimum of thirty (30) days' advance notice to CSX Representative for anticipated need for track protection. No work shall be undertaken until the flag person(s) is/are at the job site. If it is necessary for CSX to advertise a flagging job for bid, it may take up to ninety (90) days to obtain this service and CSX shall not be liable for the cost of delays attributable to obtaining such service.
- D. CSX shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSX Representative, such inspection may be necessary. Agency shall reimburse CSX for the costs incurred by CSX for such inspection service. Inspection service shall not relieve Agency or Contractor from liability.
- E. CSX shall render invoices for, and Agency shall pay for, the actual pay rate of the flagpersons and inspectors used, plus standard additives, whether that amount is above or below the rate provided in the Estimate. If the rate of pay that is to be used for inspector or flagging service is changed before the work is started or during the progress of the work, whether by law or agreement between CSX and its employees, or if the tax rates on labor are changed, bills will be rendered by CSX and paid by Agency using the new rates. Agency and Contractor shall perform their operations that require track protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

XIII. UTILITY FACILITIES ON CSX PROPERTY

Agency shall arrange, upon approval from CSX, to have any utility facilities on or over CSX Property changed as may be necessary to provide clearances for the proposed trackage.

XIV. CLEAN-UP

Agency or Contractor, upon completion of the Project, shall remove and dispose from CSX's Property any temporary construction work, any temporary erosion control measures used to control drainage, all machinery, equipment, surplus materials, falsework, rubbish, or temporary buildings belonging to Agency or Contractor. Agency or Contractor, upon completion of the Project, shall leave CSX Property in neat condition, satisfactory to the CSX Representative.

XV. FAILURE TO COMPLY

If Agency or Contractor violate or fail to comply with any of the requirements of these Special Provisions, (a) CSX may require Agency and/or Contractor to vacate CSX Property; and (b) CSX may withhold monies due Agency and/or Contractor; (c) CSX may require Agency to withhold monies due Contractor; and (d) CSX may cure such failure and the Agency shall reimburse CSX for the cost of curing such failure.

APPENDIX

CSX TRANSPORTATION

OVERHEAD BRIDGE CRITERIA

CSX Transportation (CSX) has minimum requirements for outside parties constructing, rehabilitating, or replacing bridges over CSX's railroad tracks. These requirements are intended to provide safe and continuous passage of all train traffic during and after construction of bridges over its tracks. Part of these requirements is for the outside party to submit a detailed plan of the project as well as provide details of the construction methodology. This document provides information on the requirements by CSX for overhead bridges.

Plans and specifications for new or reconstructed bridges over CSX's railroad tracks or right-of-way shall meet the following requirements:

I. GENERAL REQUIREMENTS:

- A. CSX's valuation station and the distance from the nearest milepost at the intersection of the centerline of the track and the centerline of the bridge shall be shown on the General Plan.
- B. The existing and proposed minimum horizontal and vertical clearances shall be marked clearly on the General Plan and Elevation.
- C. At least one subsurface exploration boring for each substructure unit adjacent to the track shall be furnished to CSX's during the design submittal. Borings shall provide enough information to design shoring and foundations.
- D. Prior to construction activities, all overhead bridge projects will require the procurement of the appropriate property rights from Real Estate and other construction agreement(s) with CSX Transportation.
- E. All lifting equipment and connection devices shall have capacity for 150% of the actual lifting load. The factor of safety provided by the manufacturer in the lifting capacity data shall not be considered in the 150% requirement. A licensed professional engineer, familiar with lifting and rigging, in the State where the construction work is proposed must sign and seal all plans and calculations related to critical lifting on the project.

II. CLEARANCES:

- A. Horizontal Clearance: Standard horizontal clearance from centerline of the track to the face of the pier or abutment shall typically be 25'-0" or greater, but never less than 18'-0", measured perpendicular to the track. Provisions for future tracks, access roads, other CSX facilities, and drainage may require the minimum clearance be increased or use of multi-span structures. The toe of footings shall not be closer than 11'-0" from centerline of the track to provide adequate room for sheeting.
- B. Vertical Clearance: A standard vertical clearance of 23'-0" shall be provided, measured from top of high rail to lowest point of structure in the horizontal clearance area which extends 6'-0" either side of the centerline of track.
- C. Temporary Construction clearances to be used shall be subject to approval by CSX. Typically reductions in clearance for construction are not permitted.
- D. CSX shall be furnished as-built drawings showing actual clearances as constructed.

III. CRASHWALLS:

AREMA Specifications, Chapter 8, Article 2.1.5 covers the requirements for crashwalls. Crashwalls are required when face of the pier is closer than 25'-0" from centerline of the track, measured perpendicular to the track, except as noted below.

Crashwalls shall meet the following requirements:

- A. Crashwalls for single column piers shall be minimum 2'-6" thick and shall extend a minimum of 6'-0" above the top of high rail for piers located between 18'-0" and 25'-0" from the centerline of the nearest track. The wall shall extend minimum 6'-0" beyond the column on each side in the direction parallel to the track.
- B. For multi-column piers, the columns shall be connected with a wall of the same thickness as the columns or 2'-6" whichever is greater. The wall shall extend a minimum of 2'-6" beyond the end of outside columns in a direction parallel to the track.
- C. Reinforcing steel to adequately anchor the crashwalls to the column and footing shall be provided. For piers of heavy construction, crashwalls may be omitted. Solid piers with a minimum thickness of 2'-6" and length of 20'-0", single column piers of minimum 4'-0" X 12'-6" dimensions or any other solid pier sections with equivalent cross sections and minimum 2'-6" thickness are considered as heavy construction.

IV. DRAINAGE:

Drainage from the bridge shall be preferably collected with drain pipes and drained away from CSX's right-of-way. When open scuppers are provided on the bridge, none shall be closer than 25'-0" of the centerline of nearest track. Flow from the scuppers shall be directed away from CSX's drainage ditches.

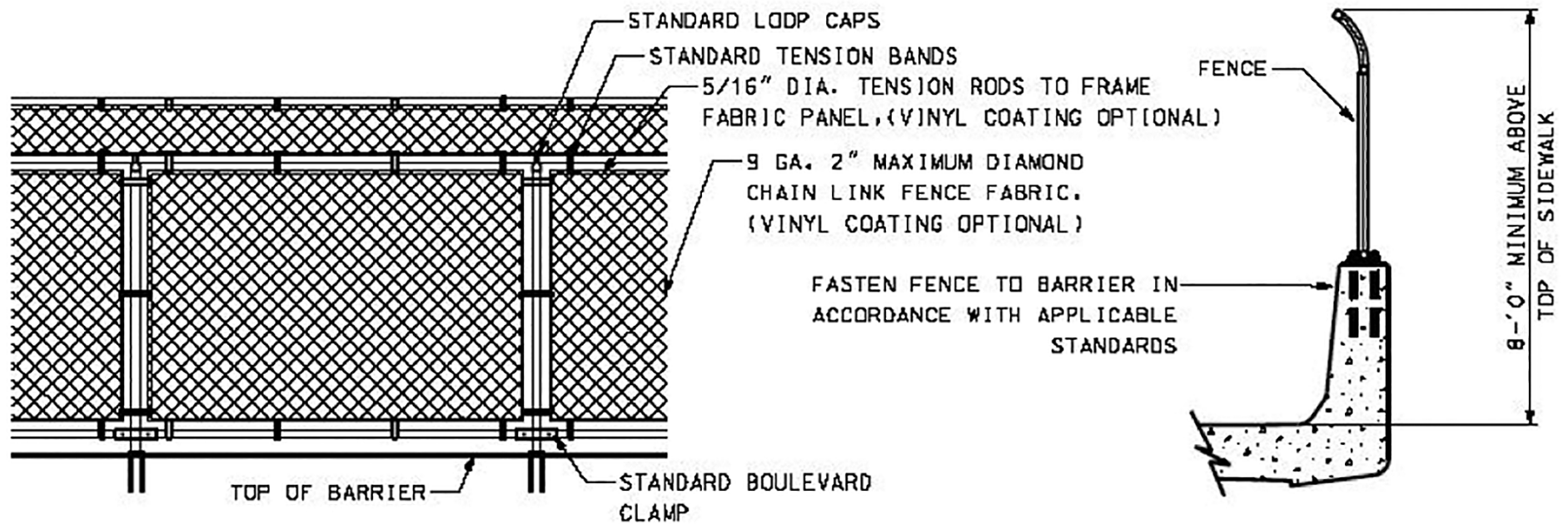
Projects including stormwater systems shall be designed for a 100-year storm event as a minimum. If stormwater is drained on or to CSX's right-of-way, calculations must be submitted to CSX to verify the 100-year storm event is properly handled. Improvements to the adjacent drainage systems may be required at project expense, to ensure the impacted system will meet the 100-year storm event minimum condition.

During and after completion of construction, the outside party or its contractor must clear CSX's drainage ditches of all debris to the satisfaction of CSX's construction engineering and inspection representative.

V. PROTECTIVE FENCING:

All highway structures including controlled access highways shall have a protective barrier fence to extend at least 8'-0" from the top of the sidewalk or driving surface adjacent to the barrier wall. The fence may be placed on top of the barrier wall. The fence shall be capable of preventing pedestrians from dropping debris onto CSX's right-of-way, and in particular, passing trains.

Openings in the fence shall not exceed 2" x 2". Fencing should also include anti-climb shields or be of a configuration to minimize the likelihood of climbing on the outside of the protective fencing. A chain link fence option is shown below:



VI. STRUCTURE EXCAVATION AND SHORING:

Shoring protection shall be provided when excavating adjacent to an active track. Shoring will be provided in accordance with AREMA Manual for Railway Engineering Chapter 8 part 28, except as noted below.

Shoring will not be required if both the following conditions are satisfied:

1. Excavation does not encroach upon a 1 horizontal to 1 vertical theoretical slope line starting at bottom corner of tie (live load influence zone).
2. Track is on level ground or in a cut section and on stable soil.

When the track is on an embankment, excavating the toe of the embankment without shoring may affect the stability of the embankment. Therefore, excavation of the embankment toe without shoring will not be permitted.

Preferred protection is the cofferdam type that completely encloses the excavation. Where dictated by conditions, partial cofferdams with open sides away from the track may be used. Cofferdams shall be constructed using steel sheet piling or steel soldier piles with timber lagging. Wales and struts shall be provided as needed. The following shall be considered when designing cofferdams:

- a. Shoring shall be designed to resist a vertical live load surcharge of 1,882 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, 8'-6" wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in AREMA Manual for Railway Engineering, Chapter 8, Part 20.
- b. Allowable stresses in materials shall be in accordance with AREMA Manual for Railway Engineering, Chapter 7, 8, and 15.
- c. A construction procedure for temporary shoring shall be shown on the drawing.
- d. Safety railing shall be installed when temporary shoring is within 15'-0" of the centerline of the track.
- e. A minimum distance of 10 feet from centerline of the track to face of nearest point of shoring shall be maintained.

The contractor shall submit the following drawings and calculations for CSX's review and approval.

1. Three (3) sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances from centerline of track to face of shoring. Drawing shall show a section showing height of shoring and track elevation in relation to bottom of excavation.
2. One set of calculations of the shoring design.

The drawings and calculations shall be prepared by a Licensed Professional Engineer in the State where shoring is to be constructed and shall bear his seal and signature. Shoring plans shall be approved by CSX's construction engineering and inspection representative.

3. For sheeting and shoring within 18'-0" of the centerline of the track, the live load influence zone, and in slopes, the contractor shall use sheet pile. No sheet pile in slopes or within 18'-0" of the centerline of track shall be removed. Sheet piles shall be cut off 3'-0" below the finished ground line. The remaining 3'-0" shall be backfilled and compacted immediately after cut off.

VII. DEMOLITION OF EXISTING STRUCTURE:

The Contractor shall submit a detailed procedure for demolition of existing structures over or adjacent to CSX's tracks or right-of-way. The procedure shall clearly indicate the capacity of cranes, location of cranes with respect to the tracks and calculated lifting loads (refer to Section I.E of this document). The demolition procedure must be approved by CSX's construction engineering and inspection representative.

CSX's tracks, signals, structures, and other facilities shall be protected from damage during demolition of existing structure or replacement of deck slab. As a minimum, both of the following methods shall be used:

- A. During demolition of the deck, a protection shield shall be erected from the underside of the bridge over the track area to catch falling debris. The protection shield shall be supported from girders or beams. The deck shall be removed by cutting it in sections and lifting each section out. The protection shield shall be designed, with supporting calculations, for a minimum of 50 pounds per square foot plus the weight of the equipment, debris, personnel, and other loads to be carried.

Large pieces of deck shall not be allowed to fall on the protection shield

- B. A ballast protection system consisting of geofabric or canvas shall be placed over the track structure to keep the ballast clean. The system shall extend along the track structure for a minimum of 25'-0" beyond the limits of the demolition work, or farther if required by CSX's construction engineering and inspection representative.
- C. The Contractor shall submit detailed plans, with supporting calculations, of the protection shield and ballast protection systems for approval prior to the start of demolition.

- D. Blasting will not be permitted to demolish a structure over or within CSX's right-of-way.

VIII. ERECTION PROCEDURE:

The Contractor shall submit a detailed procedure for erecting over or adjacent to CSX's tracks or right-of-way. The procedure

shall clearly indicate the capacity of cranes, location of cranes with respect to the tracks and calculated lifting loads (refer to Section. E of this document). The erection procedure must be approved by CSX's construction engineering and inspection representative.

IX. PILE INSTALLATION:

A. For the installation of piles and sheeting for abutment foundations, pier foundations, retaining wall foundations, temporary and permanent shoring and other structures on or adjacent to CSX's right-of-way, the contractor may be required to submit a detailed track monitoring program for CSX's approval prior to performing any work near CSX's right-of-way.

B. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. CSX shall have the capability of modifying the survey locations and monitoring frequency as needed during the project.

C. If any settlement is observed, CSX's construction engineering and inspection representative shall be immediately notified. CSX, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by CSX or performed by CSX including the monitoring of corrective action of the contractor will be at project expense.

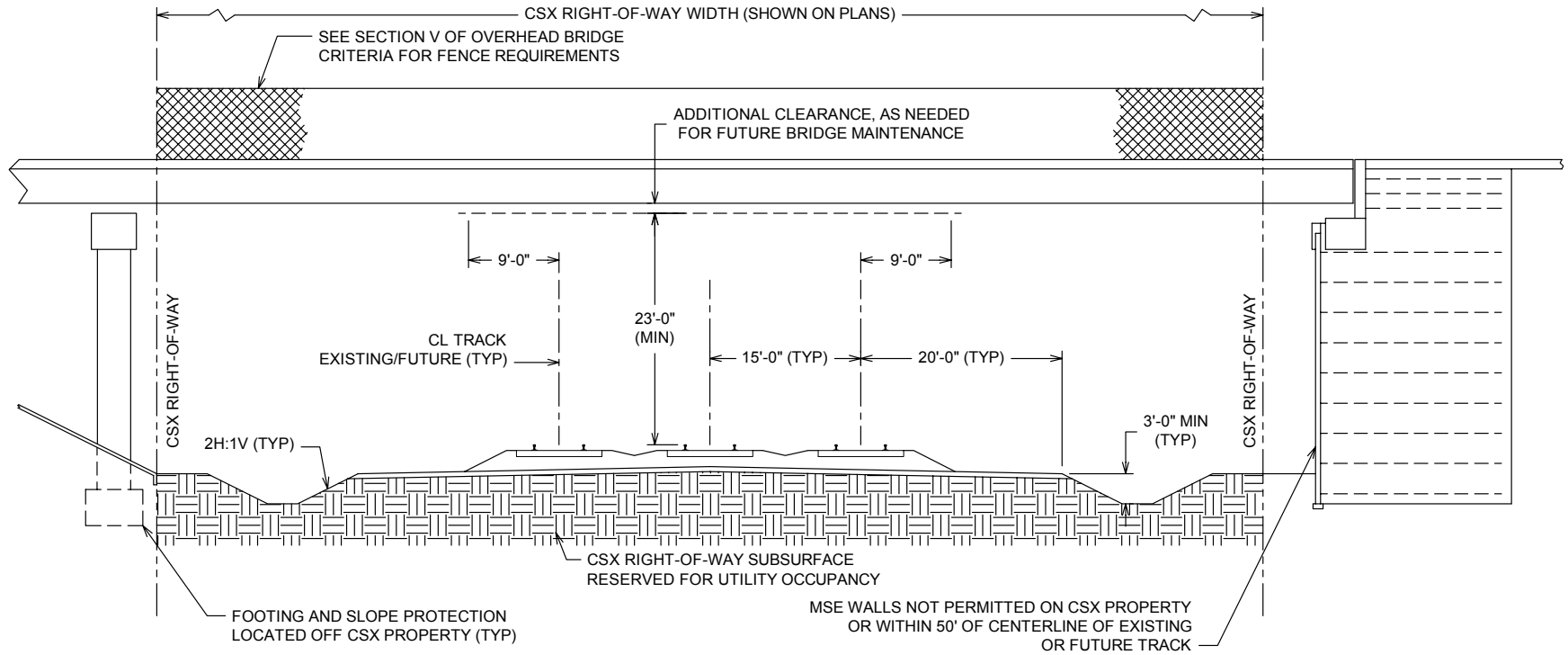
X. PEDESTRIAN OVERHEAD:

Pedestrian overhead bridges shall be governed by this document in its entirety with the following exceptions:

A. Pedestrian overhead bridges shall span the entire width of CSX's right-of-way. Intermediate piers or other supports will not be permitted.

B. Pedestrian overhead bridges shall be completely enclosed with protective canopy or by other means to prevent users from dropping debris onto CSX's right-of-way.

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TYPICAL TRACK CROSS SECTION FOR OVERHEAD BRIDGE DESIGNS

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NOTES:

1. PROPOSED BRIDGES MUST CLEAR SPAN THE CSX RIGHT-OF-WAY. THE PROPOSED SUBSTRUCTURE INCLUDING ANY EMBANKMENT MUST NOT IMPEDE CSX'S ABILITY TO UTILIZE THE FULL RIGHT-OF-WAY. ANY IMPEDANCE ON CSX RIGHT-OF-WAY WILL BE SUBJECT TO ADDITIONAL REVIEW AND WRITTEN APPROVAL.
2. HORIZONTAL DIMENSIONS SHOWN ARE PERPENDICULAR TO ϵ OF TANGENT TRACK. INCREASES MUST BE PROVIDED FOR THE EFFECTS OF CURVATURE AND SUPERELEVATION.
3. ADDITIONAL VERTICAL CLEARANCE MAY BE REQUIRED TO ALLOW FOR ADJUSTMENT OF SAG IN VERTICAL CURVES (TOP OF RAIL SURVEY REQUIRED 1,000' IN EACH DIRECTION), FLOOD CONSIDERATION, AND BRIDGE CONSTRUCTION/MAINTENANCE PURPOSES.
4. ALL DRAINAGE MUST BE DIRECTED AWAY FROM CSX PROPERTY.
5. CRASHWALLS MAY BE REQUIRED BASED ON SITE SPECIFIC PARAMETERS (SEE SECTION III OF OVERHEAD BRIDGE CRITERIA).
6. THEORETICAL TOE OF SLOPE IS BASED ON THE STANDARD ROADBED SECTION. ACTUAL TOE OF SLOPE MAY VARY DUE TO EXISTING GROUND LINE.
7. THE DITCH SECTION SHOWN IS THE MINIMUM ACCEPTABLE SECTION. THE DITCH SECTION IS TO BE INCREASED AS REQUIRED BY LOCAL CONDITIONS, BASED ON HYDROLOGICAL AND HYDRAULIC STUDIES.
8. CSX RESERVES THE RIGHT TO USE THE ENTIRE WIDTH OF THE RIGHT-OF-WAY FOR CURRENT AND FUTURE UTILITIES.

REVISIONS		
DATE	LTR.	DESCRIPTION

CSX

PUBLIC PROJECTS MANUAL
TYPICAL DRAWINGS

OVERHEAD BRIDGE DETAILS
PERMANENT CLEARANCES

REF. NO.: N/A

DATE: MARCH 5, 2025

DRAWING NO.: 1

APPENDIX

CSX TRANSPORTATION

CRITERIA FOR UNDERGRADE RAILROAD BRIDGES

INTRODUCTION

SECTION I: General Design

SECTION II: Design Loads

SECTION III: Construction Material Requirements

SECTION IV: Clearances

SECTION V: Superstructure

SECTION VI: Substructure

SECTION VII: Bridge Layout

SECTION VIII: Plan Preparation and Submittals

SECTION IX: Construction Considerations

EXHIBIT A

Typical Sections and Details:

- CSX Standard 2604 – Clearance Diagrams
- CSX Standard 2703 – No Trespassing Sign
- CSX Standard 2802 – Bridge Number Signs
- Typical Track Geometry and Clearances
- Steel Superstructure with Steel Deck
- Steel Superstructure with Concrete Deck
- Through Plate Girder
- Inspection Walkway System
- Steel Deck Drain Detail

INTRODUCTION

Undergrade railroad bridges are generally considered railroad structures over the roadways or other non-railroad crossings. New bridges designed and built by outside forces have the responsibility to deliver a quality product that aligns with CSX best practices for common railroad-performed future maintenance tasks, serviceability to the network, and expected performance life. This section outlines CSX-recognized guidelines for designers and contractors to deliver railroad structures while meeting CSX expectations and specifications.

I. GENERAL DESIGN

The AREMA Manual for Railway Engineering (MRE) shall serve as the overarching authority for, and recommended practice in the design, fabrication, and construction of CSX railroad bridges. The intent of this document is to provide criteria which supplements, modifies and/or supersedes the applicable sections of the AREMA MRE for designing undergrade railway bridges which are to be owned and/or operated on by CSX. Additionally, these requirements help guide an outside party through the necessary procedures for interacting with CSX and delivering an acceptable structure that is constructible, inspectable, maintainable, long lasting, and reliable.

A. The bridge shall be designed in accordance with the applicable chapter, parts, and sections from the current edition of the AREMA MRE. Applicable chapters may include, but are not limited to, the following:

- Chapter 8 Concrete Structures and Foundations
- Chapter 9 Seismic Design for Railway Structures
- Chapter 15 Steel Structures

B. Only simple spans with ballasted decks are allowed. Acceptable superstructure types are described in Section V: “Superstructures” of this Appendix. Design shall incorporate typical standard details common to CSX.

C. Design and construction shall be in accordance with requirements outlined in this Appendix. The requirements in this document shall be supplemented by the AREMA MRE recommendations for fabrication and erection.

D. Bridge low chords shall pass the 100 year 24 hour storm/flood event with an additional 2 feet of freeboard.

E. Items not covered by this Appendix shall be governed by applicable highway specifications from the Commonwealth, District, Province, or State where the bridge is being constructed.

F. Any proposed deviation(s) from this criteria shall be submitted in writing to the CSX Public Projects Manager for review and approved by the CSX Chief Engineer - Design and Construction.

G. Consultants to submit a TS&L (Type, Size, and Location) plan sheet (1 sheet) for review to the CSX Public Projects Manager. After review and acceptance, design work can proceed to 30% completion. Designs which do not meet the requirements as prescribed by this document should not progress beyond 30% without CSX's written approval. Else, the design will be considered 30% complete by CSX regardless of the Applicant's percentage of completion.

H. Bridge superstructures and substructures shall be designed for a minimum design service life of 100 years. This may be addressed by, but not limited to, the following:

1. Additional sacrificial steel thickness added to flanges and webs of primary bridge members of steel superstructures over that which is required by design. See reference part III – Construction Material Requirements, Section C – Structural Steel Requirements, Part 1 – Material Properties.

2. A corrosion protection plan that includes additional cover for mild reinforcement, low permeability concrete mixes, concrete penetrating sealers, and durability testing.

I. Reference “Construction Submission Criteria” Appendix in this manual for other construction considerations.

J. All railroad bridge projects shall include a signed and sealed load rating analysis report, considering the As-Built conditions.

II. DESIGN LOADS

The proposed Undergrade Railroad Bridge shall be designed for the following loads:

A. Dead load shall include up to 3’-7” of ballast from top of deck to the top of tie and all other applicable dead load. The 3’-7” accounts for 7” tie height, 1’-0” minimum below tie, plus an additional 2’-0” of future ballast.

B. Live loads:

1. Steel structures shall consider both the Cooper E-90 loading and the Alternate Live Load with full diesel impact; whichever produces the greater stress.

2. Multiple track structures shall calculate live load based on the assumption that the track(s) can be located anywhere on the bridge with a maximum track spacing of 13’-0”.

3. Multiple track structure design assumes that trains will operate on all tracks at any given time.

C. Seismic loading shall be considered as required between the Caltrans or governing legislation, whichever is most restrictive.

D. Additional loads shall be applied as specified in the AREMA MRE Chapters 8, 9, and 15, as applicable.

E. Load Application Assumptions:

All bridges shall be designed assuming non-composite interaction between the superstructure and the deck. Adequate connection between deck and superstructure shall be provided to ensure appropriate load transfer.

III. CONSTRUCTION MATERIAL REQUIREMENTS

Design and Construction requirements for structural materials are outlined below. Deviations from, and use of items not addressed specifically in this document require CSX written approval.

A. Concrete Requirements

Concrete shall conform to the following minimum specifications, except as otherwise noted:

1. Concrete shall have a minimum compressive strength of 5,000 pounds per square inch at 28 days.
2. Cement shall conform to the following:
 - i. Fly ash is prohibited in concrete unless approved by CSX. If approved, silica fume or fly ash shall not be used to reduce the quantity of cement.
 - ii. For standard concrete - Cement shall be Portland cement, type I, IA or II, conforming to the requirements of ASTM C150. Alternatively, the use of Portland-limestone cement (PLC) Type IL, conforming to the requirements ASTM C595, must be approved by CSX. Specify blended cement percentage.
 - iii. For high-early strength concrete - Cement shall be Portland cement, Type III or IIIA, conforming to the requirements of ASTM C150. Alternatively, the use of Portland-limestone cement (PLC) Type IL(10) or Type IL(10) A, conforming to the requirements ASTM C595, must be approved by CSX.
3. Cement content shall be 7.0 minimum to 8.0 maximum sacks of cement per cubic yard of concrete.
4. Air content shall be 5%-7% (by volume) unless otherwise approved by CSX. Air-entraining admixture shall conform to the requirements of ASTM C260.
5. Admixtures, other than air entrainment, shall not be used without approval by CSX.
6. Exposed surfaces shall be formed in a manner which shall produce a smooth and uniform appearance without rubbing or plastering. All concrete corners/edges shall have a 3/4" chamfer provided unless otherwise noted on the plans or where embedded plates are located. The top surface is to have a smooth finish, free of all float or trowel marks.
7. Concrete water repellent and curing compound shall meet the following requirements:
 - i. Water repellent material shall consist of a silane based, one part liquid penetrating sealer, in accordance with AREMA Chapter 8, Part 1 and in conformance with applicable ASTM designations.
 - ii. Water repellent shall be applied to curbs, top and sides of bent caps, and top and sides of wingwalls.
8. For precast elements, the fabricator shall stencil the fabricator's name, date of fabrication, the bridge number, lifting weight, and piece mark on each component. Stencil shall be placed in such a manner to be visible from the installed position.

9. The production facility must be pre-certified. Production procedures for the manufacture of precast members shall be in accordance with the AREMA MRE and the current edition of the Precast Concrete Institute's Manual MNL 116 for Quality Control.

10. The area around all lifting loops shall be recessed so that the loops can be removed to a depth of 3/4" and grouted. Properly designed lift anchors are acceptable in lieu of lifting loops.

11. The fabricator will be responsible for loading and properly securing the precast concrete members for shipment via rail, barge, or truck. All concrete components shall be made available, at CSX's discretion, for inspection by the Engineer-of-Record and CSX at the fabricator's plant prior to shipment.

12. Block outs used to create internal voids in a precast concrete member shall be securely tied down to prevent displacement during concrete placement. Tie block outs to rebar, NOT prestressing strands.

B. Reinforcing Steel Requirements

Fabrication, bending and placement of reinforcing steel and dowel bars shall be in accordance with Chapter 8 of the AREMA MRE, current edition and conform to the following minimum specifications, except as otherwise noted:

1. Reinforcing steel shall be deformed, new billet bars per current ASTM A615 Specifications and meet Grade 60 requirements.

2. All dimensions for reinforcing bars refer to the centerline of the bar except in the bar bending details where dimensions are out-to-out.

3. Bars shall be free from dirt, paint, oil, grease, rust and other foreign substances.

4. Reinforcing bars shall meet the lap requirements of Chapter 8 of the AREMA MRE, current edition.

5. Mechanical splices are not permitted unless approved by CSX. If approved, the mechanical splice shall fully develop the strength of the reinforcing bar, and shall be certified by the manufacturer.

6. Bars shall be bent in accordance with Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice.

7. Reinforcing is to be blocked to proper location and securely wired against displacement. Tack welding of reinforcing is prohibited. Minimum concrete cover not otherwise noted shall meet current AREMA MRE Chapter 8 recommendations.

8. For on-site reinforcing steel storage, dunnage shall be provided. Reinforcing bars shall be off the ground and away from mud, dirt, and other contaminants.

9. Reinforcement supports shall be made entirely of plastic or stainless steel.

C. Structural Steel Requirements

All Structural Steel shall conform to the following minimum specifications, except as otherwise noted:

1. Material Properties

- i. Rolled steel and Built-Up Steel members shall be ASTM A709, Grade 50. 70 ksi or higher strength steel is prohibited.
- ii. Commonly rolled and available standard steel shapes as made available in the AISC Manual of Steel Construction are preferred for structural components. Built-up members are permitted subject to CSX approval.
- iii. Plate Flanges shall not exceed 3" in thickness.
- iv. Minimum steel thickness shall be ½" even if calculations determine otherwise. Additionally, all steel material shall be 1/8" greater in thickness than determined by calculation.
- v. Pipe pile steel shall be ASTM A252, Grade 3 (Modified 50 ksi).
- vi. H-Pile steel shall be ASTM A690.
- vii. Sheet Pile steel shall be ASTM A572, Grade 50.
- viii. H-Pile splices shall conform to ASTM A992 or ASTM A572, Grade 50.

2. All structural steel shall be painted with a 3-coat system, including weathering steel.

- i. Clean surfaces in accordance with SSPC-SP6, current edition. Paint shall be applied in accordance with SSPC-PA1, current edition.
- ii. Paint Systems: The products of one coating system from a single manufacturer shall be used for shop and field coating work. Do not mix coating systems or products of different manufacturers.
- iii. Hot-Dip Galvanizing: The zinc for Hot-Dip Galvanizing shall be Special High Grade (SHG), conforming to ASTM B6, Specification for zinc.
- iv. Color for paint systems: The color of the topcoat steel shall be Federal Standard 595 Color – FS16473 Aircraft Gray.
- v. Shop Coating – Paint System: Inorganic zinc-rich primer/epoxy intermediate/urethane finish coating system.
 - 1. This system shall be shop applied to all bridge surfaces designated for coating with the exception that contact surfaces of field connections be shop primed with inorganic zinc rich primer only. After all bridge surfaces have been primed with one coat of inorganic zinc rich primer, all field connection surfaces shall be masked off. A full coat of the epoxy intermediate shall then be applied followed by a stripe coat of that same epoxy intermediate coating to all edges, crevices, and other irregularly shaped surfaces. Following the full and stripe coats of epoxy intermediate, a full urethane finish coat shall be applied.
 - 2. After bridge erection is complete, field coating using this system shall be performed on all damaged areas, all field connections, all fasteners, and any other areas not coated in the shop. Surface prep shall be in accordance with SSPC-SP2 or SSPC-SP3.

3. One of the following coating systems shall be selected and applied:

MANUFACTURER	FIRST COAT (DFT)	SECOND COAT (DFT)	THIRD COAT (DFT)
Carboline Company	Carbozinc 11 HS (2.0 to 3.0 mils)	Carboguard 885 (3.0 to 5.0 mils)	Carbothane 134 HG (2.0 to 2.5 mils)
International	Interzinc 22 HS (2.0 to 3.0 mils)	Intergard 475 HS (4.0 to 6.0 mils)	Interthane 990 HS (2.0 to 3.0 mils)
PPG-Protective and Marine Coatings	Dimetcote 9 (2.0 to 4.0 mils)	Amercoat 385 (4.0 to 6.0 mils)	Amercoat 450H (2.0 to 3.0 mils)
Sherwin-Williams	Zinc Clad II Plus B69VZ12/B69BZ13/B69D11 (2.0 to 4.0 mils)	Recoat Epoxy B67A5/B67V5 (4.0 to 6.0 mils)	Hi-Solids Polyurethane B65 300/B60V30 (3.0 to 4.0 mils)

4. All bridges shall be coated with a sealer and anti-graffiti coating. The sealer and anti-graffiti coating shall be compatible with the paint coating system.

3. Welding Requirements

i. Welds and welding procedures shall be in accordance with the American Welding Society (AWS) Bridge Welding Code D1.5, current edition and all addenda.

ii. Welded Connections:

1. Only submerged arc welding (SAW), shielded metal arc welding (SMAW), or flux core arc welding (FCAW) may be used. If FCAW is used, it shall be gas shielded with 71-T1 electrodes unless otherwise approved. Any other process must be approved by CSX.

2. Welding electrodes for arc welding shall meet the current requirements of the AWS Bridge Welding Code. As noted above, if FCAW is used, the electrodes shall be 71-T1.

4. Bolting Requirements

i. Bolts shall conform to ASTM F3125, grade A325, high strength, Type 1 bolts. Grade A490 Bolts are not permitted.

ii. Nuts shall meet the current requirements of ASTM A563 Specifications.

iii. Washers shall meet the current requirements of ASTM F436 Specifications.

iv. Bolted connections shall be made with 7/8" diameter bolts.

v. All bolted structural members shall have a minimum of three (3) bolts at each connection face.

vi. All 7/8" diameter bolts shall be tightened to a minimum tension per bolt of 39,000 lbs. A bolt tension calibrator is to be used to verify minimum tension.

vii. All shop bolt holes shall be sub-drilled and reamed or drilled from the solid. At no time are holes to be sub-punched and reamed or punched full size. All holes shall be 1/16" larger than the specified bolt size unless noted otherwise.

viii. All bolt holes that require field drilling shall be drilled from the solid. At no time are holes to be torch cut or produced by other means and methods. Oversizing holes for field fit up shall be done by reaming using a fluted reamer with a tapered shank. Reamer diameter shall be 1/16" larger than the specified bolt diameter. Holes, new or enlarging, made by use of cutting torch is cause for rejection of the entire member.

IV. CLEARANCES

Permanent clearances shall be maintained at all times. Construction phasing and means and methods shall ensure permanent clearances are maintained during construction. Permanent clearances protect the structure from oversized or unauthorized loads by providing sufficient clearance and protective devices.

A. Under Bridge Vehicular Clearances (Permanent Vertical Clearance Under the Structure)

1. Undergrade structures shall be designed to ensure that the structure will be protected from oversized or unauthorized loads by providing sufficient vertical clearance and protective devices. Provide a minimum vertical clearance over the entire roadway width for all new or reconstructed structures as follows:
 - i. 16'-6", including any future wearing surfaces, for steel superstructures with 5 or more rolled beams or 4 or more deck plate girders per track.
 - ii. 17'-6", including any future wearing surfaces, for steel through plate girders or less than 4 deck plate girders per track with bolted bottom flanges.
 - iii. 20'-0", including any future wearing surfaces, for steel through plate girders or less than 4 deck plate girders per track with welded bottom flanges.
 - iv. Concrete superstructures are not permitted over any span of a roadway crossing.
 - v. Vertical clearance must not be violated due to the deflection of the superstructure.
2. Variance from vertical clearances defined above shall require prior review by CSX. The variance required shall provide exhaustive justification. Cost shall not be the determining factor.
3. Roadway profile and roadway design vehicle information shall be provided and considered in vertical clearance design. If resurfacing or any other activity is to be performed below the undergrade structure, the owner of the roadway must submit a request for approval from CSX. This request must provide the existing measured and posted clearances of the structure and the proposed configuration after work is completed.

B. Permanent Horizontal and Vertical Bridge Clearances (on the structure)

Permanent horizontal and vertical clearances on an undergrade structure shall conform to the requirements of the AREMA MRE, Chapter 15, Part 1 and the following:

1. Standard clearances on the bridge shall not be modified without written notice of approval by the CSX Chief Engineer – Design & Construction. Any proposed modification shall be furnished with detailed engineering justification for review.
2. Commonwealth, District, Provincial, or State clearance laws must not be violated. Legal requirements must be upheld, unless written permission for waiver is provided by the appropriate regulatory authority.
3. Adequate clearance, structural geometry, and capacity shall be provided for a future track and future vertical track raises. The structure shall not require modifications to accommodate the additional 2'-0" of future ballast.

4. Track centers shall not be closer than 15'-0".
5. Standard clearances shown are for tangent track. Increases in clearances must be provided to account for effects from curvature and superelevation as per CSX Standard Drawing 2604.
6. Minimum horizontal clearance on the bridge shall be provided as shown in Exhibit A – "Typical Track Geometry and Clearances".

C. Sacrificial Impact Protection Devices

CSX must approve vertical clearances in violation of Section IV.A: "Under Bridge Vehicular Clearances". All CSX approved exceptions must adhere to the following guidelines for Sacrificial Impact Protection Devices:

1. All structures with vertical clearances less than defined in Section IV.A: "Under Bridge Vehicular Clearances" shall be protected with a sacrificial device on each side of the structure.
2. Sacrificial beam shall be placed at least 1" below the low chord of the main structural bridge.
3. Protection shall be in the form of a redundant steel fascia beam and must be adequately anchored to the bridge seat.
4. The sacrificial beam shall not be connected to the structural beams via diaphragms.
5. The sacrificial beam deflection from impact, if struck, shall be considered for the beam's placement in front of the main structure to avoid damage to the main structural members.

V. SUPERSTRUCTURE

Permanent clearances shall be maintained at all times. Construction phasing and means and methods shall ensure permanent clearances are maintained during construction. Permanent clearances protect the structure from oversized or unauthorized loads by providing sufficient clearance and protective devices.

A. General Span Arrangement

1. All bridges shall be comprised of simple spans. Continuous spans are prohibited.
2. Skewed bridges shall be avoided, and all framing shall be orthogonal. Severe skews shall be avoided even at the expense of providing longer spans or making changes in the roadway alignment. Site conditions may not allow the complete elimination of bridge skew, but skew elimination shall be considered and presented to CSX for approval.
3. Superstructure designs shall provide accommodations for inspection, future maintenance, and bearing replacements.

B. Acceptable Superstructure Types

All railroad bridge replacements shall reduce the number of spans of a given bridge asset where feasible. Single span bridges are ideal. Piers or bents may be provided after other design options have been exhausted. The following is a list of undergrade structure types that are acceptable to CSX and listed in the order of preference. CSX's preferred superstructure type is the highest listed feasible alternative unless a detailed type selection report provides justifications that a lower listed alternative is more beneficial to CSX and to the project.

1. Rolled Beams with steel deck. There shall be at least 5 beams per track.
2. Built Up Girders with steel deck. There shall be at least 5 beams per track.
3. T through Plate Girders with steel deck will be considered by CSX when conditions preclude any other structure types.
4. Rolled Beams with concrete deck. There shall be at least 5 beams per track.
5. Built Up Girders with concrete deck. There shall be at least 5 beams per track.
6. Undergrade structures of deck truss or through truss design are discouraged. However, in unusual circumstances, they will be considered by CSX if conditions preclude the use of any other type of structure.
7. Where possible, use of Railroad standard span details are encouraged. Railroad standard spans are composed of rolled W section beams, W section diaphragms, and a concrete ballasted deck.

Note: Concrete box beams, concrete girders, and concrete slab superstructures are not permitted.

C. Deck Requirements

All bridges are designed to assume non-composite strength. Mechanical connections shall be provided as necessary to provide adequate load transfer between the deck to the superstructure.

1. Deck Type – The deck shall be a uniform ballast pan across all tracks. Intermediate curbs shall not be permitted. The deck must be designed to prevent ballast or other material from falling through.
2. Deck Width – The deck width shall be a function of future track, access road, existing track(s), minimum horizontal clearances and minimum of 15'-0" spacing between centerlines of tracks and ballasted walkways. Ballasted walkways shall occur between all tracks and on the field side of the exterior track.
3. Parapet Walls – All bridge deck limits shall be equipped with minimum 6'-0" tall continuous parapet walls on each fascia measured from the top surface of the bridge deck to the top of wall and allow for a minimum 3'-6" height from top of ballast to top of wall when considering future ballast. Parapet walls shall include two (2) 6" conduit ducts on each parapet to accommodate signal and utility needs.
4. Ballast Depth – The minimum required depth of ballast shall be 1'-0" measured from the top of the deck waterproofing to the bottom of the tie, at the centerline of the low rail. This dimension shall be clearly labeled on the contract drawings, cross section views.
5. Ties – Timber crossties measuring 7" tall x 9" wide x 8'-6" long shall be used. Ties are to be spaced at 1'-8" centers. Alternatively, concrete crossties may be used also at 1'-8" centers, or steel crossties may be used at 2'-0" centers.
6. Track Material – Track material such as rail, plates, spikes, et cetera shall be subject to review by CSX or provided by CSX at project expense.

7. Inside Guardrail – Inside guard rails are required across the following bridge span types:

- i. Through truss
- ii. Pony truss
- iii. Deck trusses on towers
- iv. Deck plate girders (for spans over 100'-0")
- v. Movable spans and other structures as designated by CSX

Contact CSX to receive the guardrail standards. The use of these span types are subject to railroad approval.

D. Concrete Deck

Cast-In-Place concrete decks are preferred. However, precast concrete decks are permitted. Both types of concrete decks shall conform to the following requirements:

- 1. The bridge deck shall have adequate anchorage to the bridge superstructure. Shear studs shall not be permitted.
- 2. The outside edge of the slab shall be not more than 1'-6" from the centerline of the outside (fascia) girder.
- 3. Provide a drip edge on the outside edge, bottom face of the deck slab.
- 4. Concrete deck to include ballast mat and waterproofing.

E. Steel Deck

- 1. Steel deck plates shall be shop welded with a pair of 5/16" continuous fillet welds to each floor beam or deck girder. Deck units shall be shop assembled with multiple beams per unit, and areas to be field welded shall be masked and field painted after welding is complete.
- 2. The closing deck plate between adjacent deck units shall be fillet welded to the beams with continuous 5/16" fillet welds at each beam. After deck plates are welded to the beam, fill space between deck plates at joint with material compatible with deck waterproofing membrane.
- 3. The minimum thickness of steel deck plates shall be 1".
- 4. For multiple deck girders with steel deck plates:
 - i. Provide a welded field splice in the deck plate at or near the centerline of bearing of the girders. Provide a closing deck plate from the abutments to this field splice that is normal to the girders and normal to the long direction of the main deck plates. This will avoid splicing deck plates over the back wall.
 - ii. Outside girders shall be spaced such that deck plates will not overhang the flange of the outside girders by more than 2" and a steel parapet wall shall be provided. The wall shall be securely anchored to the deck girder and have a minimum width of 1'-0" at the top.

5. Steel deck to include Ballast Mat and Waterproofing.

F. Ballast Retainers, Fences and Handrails

1. Ballast retainers must be designed to prevent ballast from falling on the roadway.
2. If the parapet walls do not meet FRA requirements, handrails shall be provided on both sides of the deck as well as off both ends of the bridge to ensure safe walking access.
3. Fencing may be included where required by the Applicant or CSX. Handrails and fences shall be simple designs that require minimum maintenance and shall meet the criteria presented in Section IV: "Clearances" of this Appendix.

G. External Walkway

1. External walkways are discouraged and require CSX approval.
2. The ballast section may be used as walkway at the discretion of CSX provided that the clear distance from centerline of track to the ballast retainer is a minimum of 9'-0".
3. The walkways shall be constructed of solid material and a curb or toe board shall be provided at a height of 4" from top of walkway.
4. To prevent cracking under live loads, 1/4" control joints shall be provided in concrete curbs, concrete walkways and concrete ballast retainers and shall be spaced at 10'-0" or less for the lengths of the structure.
5. When walking structures are used, provide a detail showing the walkway transition from bridge to roadbed at the bridge ends. Where there is a vertical distance from the roadbed walking surface to the bridge walkway, adjust the roadbed walkway profile to eliminate the vertical separation or provide other means to provide a safe transition. The design shall not restrict drainage at the abutments and shall be submitted to CSX for review.

H. Drainage

Inadequate drainage facilities can severely limit the life span of the superstructure. The following drainage requirements shall be met:

1. The top surface of waterproofing protection shall have a minimum transverse slope of 1/8" per foot with a crown at the centerline of the deck.
2. The top surface of waterproofing protection shall have a minimum longitudinal slope of 0.5%.
3. The designer may provide drainage toward one end of the structure, or when the structure's length is excessive, provide adequate deck grades and deck drains to drain the structure to both ends.
4. All deck types shall be designed and constructed to provide the required slopes and to direct water to deck drains.
5. When the deck is level or slopes less than 0.5%, underlayment is to be used to provide required slopes.

6. Deck drains shall be cast iron and downspouts shall be galvanized steel. Deck drains shall have a grate or perforated cover. Downspouts shall be provided with cleanouts at each change in direction. See Exhibit A –“Steel Deck Drain Detail”.

7. Deck drains shall not discharge on other bridge elements or traffic passing underneath the structure.

I. Ballast Mat and Waterproofing

1. Materials for ballast mat and waterproofing and the construction and installation shall be in accordance with the AREMA MRE, Chapter 8.

2. All bridge decks shall use ballast mat “ATP-DR Ballast Mat Type 4” by Progress Rail or approved equal.

3. Spray applied ballast protection mat shall be a minimum of 250 mils.

4. All bridge decks shall be waterproofed using membrane waterproofing. Waterproofing shall be a two-component, sprayable polyurea, 100% solids elastomeric coating. TuffGrip HP11-90, manufactured by Rhino Linings is the preferred material or equal alternative.

5. Waterproofing membrane shall be a minimum of 120 mils.

6. Waterproofing system shall be UV stabilized.

7. Waterproofing shall be applied to the entire surface of deck and bottom 3'-0" of inside faces of parapets.

8. All deck joints between spans shall be watertight.

9. Waterproofing installation shall be observed and approved by the manufacturer's representative.

J. Steel Superstructure

The steel superstructure shall be designed per the AREMA MRE, Chapter 15, unless otherwise required by CSX or herein.

1. Fracture critical member material, fabrication, welding, inspection and testing shall be in accordance with the AREMA MRE, Chapter 15.

2. The diameter of high strength bolts shall be 7/8".

3. Bolted joints shall be strictly designed as slip critical only.

4. Splices shall be avoided. When splice locations are required, the location of the splice shall account for future maintenance and access. Final splice details and location must be approved by CSX.

5. CSX requires all structural elements to be designed with additional sacrificial thickness for future corrosion. Sacrificial thickness shall be at least 1/8".

6. All structural steel members must have a minimum thickness of 1/2".

7. Diaphragms or cross frames shall be provided for all steel spans as required.

8. Mechanisms providing for jacking of spans are required for all steel structures at bridge seats. Design and details shall provide accommodation for future maintenance.

9. All end diaphragms require jacking stiffeners. Ensure adequate vertical clearance is provided between the bridge seat and the diaphragm for future jacking and maintenance. Jacking locations as well as jacking loads shall be specifically denoted and called out in the bridge plans. Jacking loads shall be sized to accommodate full dead load of the structure, including future ballast.

K. Rolled Beams

1. Coping and other member modifications for primary members are not allowed.
2. Connections to rolled members shall be bolted. Welding is not permitted.

L. Welded Plate Girders

1. Built-up girder and beam sections shall utilize welds per AREMA Chapter 15.
2. Flange width and thickness must be continuous along the length of the girder. Flange transitions are not permitted.
3. When a lateral bracing system is required, girder connections shall be bolted.
4. Bearing stiffeners shall be welded to both top and bottom flanges with CJP groove weld, or mill-to-bear.
5. End Diaphragms shall have access holes for accessibility to the bearings and backwalls.
6. Inspection walkways shall be included between any girders which have a depth of 5'-0" or more beneath the deck.

M. Through Plate Girders

1. Through plate girder bridges are only permitted upon CSX approval.
2. The use of intermediate girders is discouraged due to interference with track maintenance.
3. All stringers shall frame into floor beams.
4. Intermediate floor beams shall frame into the girder web using double connection angles and high strength bolts.
5. End floor beams shall be provided, and connections shall be designed such that the bridge can be jacked up by placing jacks between the end floor beams and pier or abutment. Jacking stiffeners shall be provided at points of jacking.
6. All stringers shall have top and bottom flanges clipped at an angle not greater than 45 degrees to permit future field removal and installation.

N. Concrete Superstructure

Concrete superstructures shall not be considered for undergrade railroad bridges.

O. Bearings

Bearings shall be designed per the AREMA MRE Chapter 15 part 5.

1. Elastomeric bearings are not permitted for use on CSX undergrade railroad bridges.
2. Provisions for the replacement of bearings shall be considered in the design. Bridges shall be designed to accommodate cyclical bearing replacement through jacking operations.
3. Each type of bearing system or component has differing characteristics and capacities to accommodate or restrain translational and rotational movements and to resist vertical and horizontal loads. The bearing type chosen for a particular bridge application must have adequate load and movement capabilities. Acceptable bearing types are as follows:
 - i. Rocker Plate Bearing
 - ii. Spherical Bearing
 - iii. Rocker Pedestal
 - iv. Fixed Pedestal
 - v. Multi-Rotational Disc Bearing (applicant to maintain)
 - vi. Multi-Rotational Spherical Bearing (applicant to maintain)
 - vii. Roller Nest with Ovaloid Rollers with Pintels and Keeper Plates (applicant to maintain)

VI. SUBSTRUCTURE

Design and Construction requirements for structural materials are outlined below. Deviations from, and use of items not addressed specifically in this document require CSX written approval.

A. Foundations

1. Footings for all substructures shall be located and designed to allow a minimum of 12'-0" measured perpendicular from centerline of nearest active track to face of shoring to facilitate footing construction.
2. Cross-hole Sonic Log (CSL) Testing is required for every drilled shaft to evaluate the integrity of drilled shafts/caissons. The Plans and Specifications shall include provisions for this testing. CSL tube testing pipe shall be steel. Other testing methods may be necessary, as required by CSX.
3. Drilled shafts within the influence of live load, track, and soil surcharge shall be designed with permanent or temporary casing for protection against cave-in, subsidence and or displacement of surrounding ground. Casing shall be designed for live load due to the railroad surcharge in addition to all other applicable loads. Drilled shafts shall be designed to allow the drilling operation to proceed without impacting the railroad operation.

B. Abutments and Wing Walls

1. The minimum abutment width shall be sufficient to provide for 15'-0" track centers, and a standard roadbed section. For multiple track bridges, the abutment width shall be sufficient to provide for the standard shoulder, plus 15'-0" track centers for each existing or future track.
2. Provide a minimum of 6" from edge of masonry plate or bearing to edge of concrete.
3. Slope the top of bridge seat to drain.
4. Design shall provide accommodations for future maintenance. Abutment seat shall accommodate adequate jacking locations corresponding with the superstructure jacking stiffeners and shall not require the removal of bearings in order to jack. Jacking locations as well as jacking area shall be specifically denoted and laid out on the bridge plans.
5. Wing walls shall be designed to support 2 horizontal to 1 vertical embankment slope, a level approach to the bridge walkways, and provide positive ballast containment. MSE and sheet pile walls are not permissible.
6. Provide minimum clearance necessary between end of structural steel and face of backwalls to accommodate expansion, but not less than 4" at each end.
7. Provide water stops at all construction joints. Water stops shall be a hollow bulb PVC 9" X 3/8" (Bulb 3/4" inside diameter, 1-1/2" outside diameter) placed continuous across the joint.
8. Provide waterproofing on the backside of all abutments and wing walls. Waterproofing shall be as follows or approved equal: "MasterSeal 581" by BASF. Waterproofing system shall be UV stabilized.
9. 2'-0" of clean porous backfill, measured horizontally, shall be provided full height below sub ballast, behind all abutments and wing walls.
10. Provide adequate drainage behind abutments and wing walls utilizing filter fabric-wrapped perforated pipe drains at the base of the abutments and wingwalls. When abutment geometry does not allow for perforated pipe drains, weep holes with screens may be required. Drainage from the bridge shall drain away from the CSX right of way.
11. Non-perforated pipe shall be connected to the perforated pipe and drain away from the bridge with a 1% minimum slope.
12. Sloping embankments in front of abutments shall be comprised of large riprap (minimum 12" nominal sized stone) grouted with concrete on top of filter fabric. Sloping embankments shall be sloped no greater than 2 horizontal to 1 vertical.

C. Piers

1. Single column piers shall not be considered for undergrade structures. Piers shall be solid pier walls with a minimum thickness of 4'-0". Pier types shall be clearly identified in the TS&L (Type, Size, and Location) general plan sheet for CSX approval.

2. Width of pier cap shall be minimum 4'-0" measured at the bearing seat.
3. Slope the top of the bridge seat to drain.
4. Provide a minimum of 6" from edge of masonry plate or bearing to edge of concrete.
5. Provide a minimum of 1'-6" beyond the outside edge of outermost masonry plate or bearing to end of the pier.
6. Bridge piers adjacent to roadways shall be protected from vehicular traffic as required per AASHTO and governing standards or regulations.

D. Signage and Miscellaneous

1. CSX's standard "No Trespassing" and bridge number signs shall be furnished and installed as required by CSX sign standards 2703 and 2802, respectively, provided in Exhibit A.
2. Undergrade roadway clearance signs, advance warning signs, and other roadway signage shall be the responsibility of the roadway agency. Signs shall not be attached to the bridge.
3. The Applicant shall be responsible for graffiti removal from the structure, regardless of other provisions for division of maintenance responsibility.

VII. BRIDGE LAYOUT

A. The TS&L (Type, Size, and Location) as well as the general plan drawing of the bridge shall show the railroad valuation stations at the front face of backwalls, and centerline of piers or bents, along the centerline of the bridge. Distance from front face of low milepost backwall to low milepost nearest the bridge shall also be shown. The following criteria will serve as a guide for labeling the bridge layout.

1. CSX bridges are laid out in direction of increasing milepost, increasing from left to right on plans.
2. Plans shall denote the railroad direction and the nearest significant terminal or junction leading away from either end of the bridge.
3. Substructures are numbered starting with zero and increasing in the direction of increasing mileposts.
4. Superstructures are numbered starting with 1 and increasing in the direction of increasing mileposts.
5. Floor systems of through plate girder, through truss, and deck truss spans are numbered starting with 0 and increasing in the direction of increasing mileposts.
6. Bridge components are numbered from left to right facing the direction of increasing milepost.

B. Low mile post backwall GPS coordinates shall be detailed on plans, in degrees-minutes-seconds, or decimal format with precision to six (6) decimal places.

C. For bridges on curves, the girders, abutments, and piers shall be located with reference to chords.

D. Bridge shall be located to provide optimal railroad grade, profile, and alignment of structures and track.

VIII. PLAN PREPARATION AND SUBMITTALS

A. Preliminary Plans

1. An electronic copy of Type, Size and Location (TS&L) plans shall be submitted to CSX for review and acceptance. The TS&L plan shall show plan view, elevation and typical cross section of the proposed structure. CSX acceptance must be issued, in writing, before proceeding with design.
2. Furnish cross sections showing the CSX Clearance Envelope, topographic map with contours, and soil exploration data along with TS&L plans. CSX acceptance must be granted before proceeding with design.

B. CSX will assign a bridge designation when TS&L plans are reviewed and accepted. This bridge designation shall be shown on all drawings.

C. Construction Work Plans

1. CSX may require construction work plans to be submitted, particularly when work is being performed in the proximity of an active track, with potential to foul.
2. All construction work plans shall be submitted in accordance with Appendix: "Construction Submission Criteria".

D. Material Submissions

1. Structural steel shop drawings shall be provided for CSX review and acceptance, prior to ordering material. Welding procedures shall be submitted with the structural steel shop drawings.
2. Concrete mix designs shall be submitted for CSX review and acceptance, prior to ordering material.
3. Third party testing reports shall be provided to CSX for review and acceptance in a timely manner.
4. All other materials shall be provided in accordance with the plans. All materials shall be reviewed and approved by the Agency or its representative. Proposed changes are subject to review and acceptance by CSX. Approved material submissions shall be furnished to CSX for confirmation and project documentation.

E. Final Plans

1. Provide electronic set of final signed and sealed design plans and calculations for CSX acceptance. Final plans shall include a stress sheet with bending, shear, and axial design load stresses and capacities for all main members as well as Cooper E load ratings for both Normal and Maximum conditions at 60 mph, 40 mph, 25 mph, and 10 mph.

SUPERSTRUCTURE RATING TABLE																
SPAN	SHAPE	CONTROLLING MEMBER	A _w (in ²)	S _n (in ³)	F _y (ksi)	SPAN +/- (C-C)		DL	LL	I (60mph)	NORMAL RATING			MAXIMUM RATING		
											60mph	25mph	10mph	60mph	25mph	10mph
SPAN 3 (2 - DPG)	BUILT-UP 1913	DPG	35	3937	30	76'-11"	SHEAR (kips)	43	240	96	78	85	93	141	154	169
							MOMENT (k-ft.)	820	4042	1617	64	70	77	99	108	119
Span 4 (2 - DPG)	BUILT-UP 1924	DPG	48	7258	30	98'-11"	SHEAR (kips)	66	297	107	87	93	102	158	170	185
							MOMENT (k-ft.)	1624	6326	2266	77	83	91	120	129	140

2. Submit special provisions or special specifications for CSX acceptance.

3. Provide an electronic set of as-built plans to CSX upon completion of construction. All Changes shall be noted and clearly called out on a redlined set of as-built plans. All pages shall be clearly marked "AS-BUILT" and include the date of completion. AS-BUILT plans shall contain complete pile logs for all piles included in the final structure.

IX. CONSTRUCTION CONSIDERATIONS

A. After the construction contract is awarded, a copy of the contract shall be provided to CSX.

B. Maintenance of Railroad Traffic

1. It is essential that the construction be performed with minimum interference to rail traffic. Continuity of safe rail operations will be required for the duration of the project.

2. The Agency's Design Engineer should contact the CSX Public Project Manager in the preliminary design stage to determine railroad operational requirements. The most effective method of maintaining traffic is to temporarily reroute traffic around the construction site using detour tracks. Detour tracks will be required where feasible. If detour tracks cannot be provided, the new superstructure shall be constructed adjacent to final location and lifted or rolled into place. Construction plans shall show complete details of temporary bridges and/or lift-in or roll-in structure.

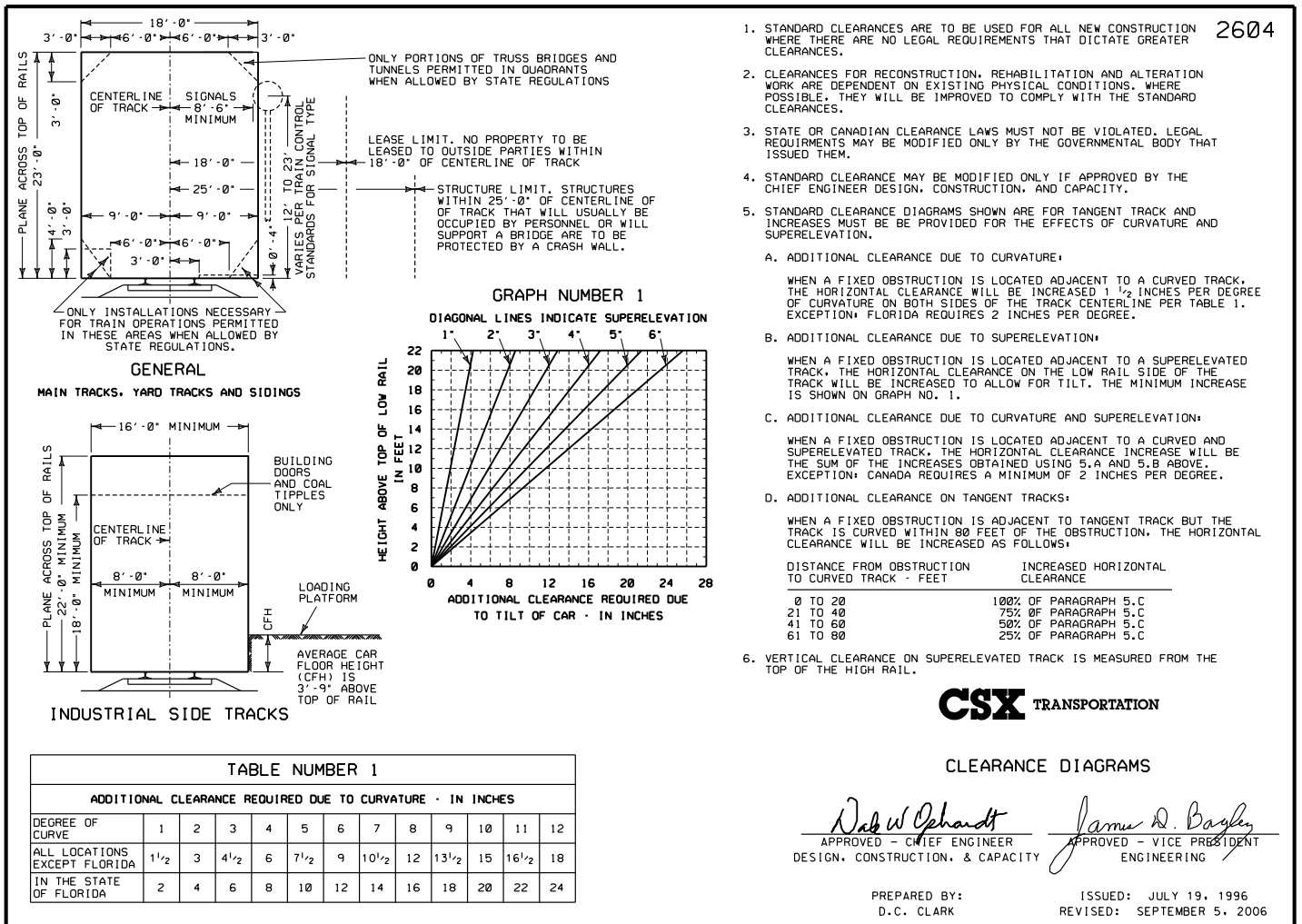
3. A detailed construction procedure for maintaining traffic shall be shown on the plans. When construction requires total interruption of rail traffic, an estimate of the time required will be shown in the procedure. This interval must be within the approved time frame furnished by the Public Project Manager.

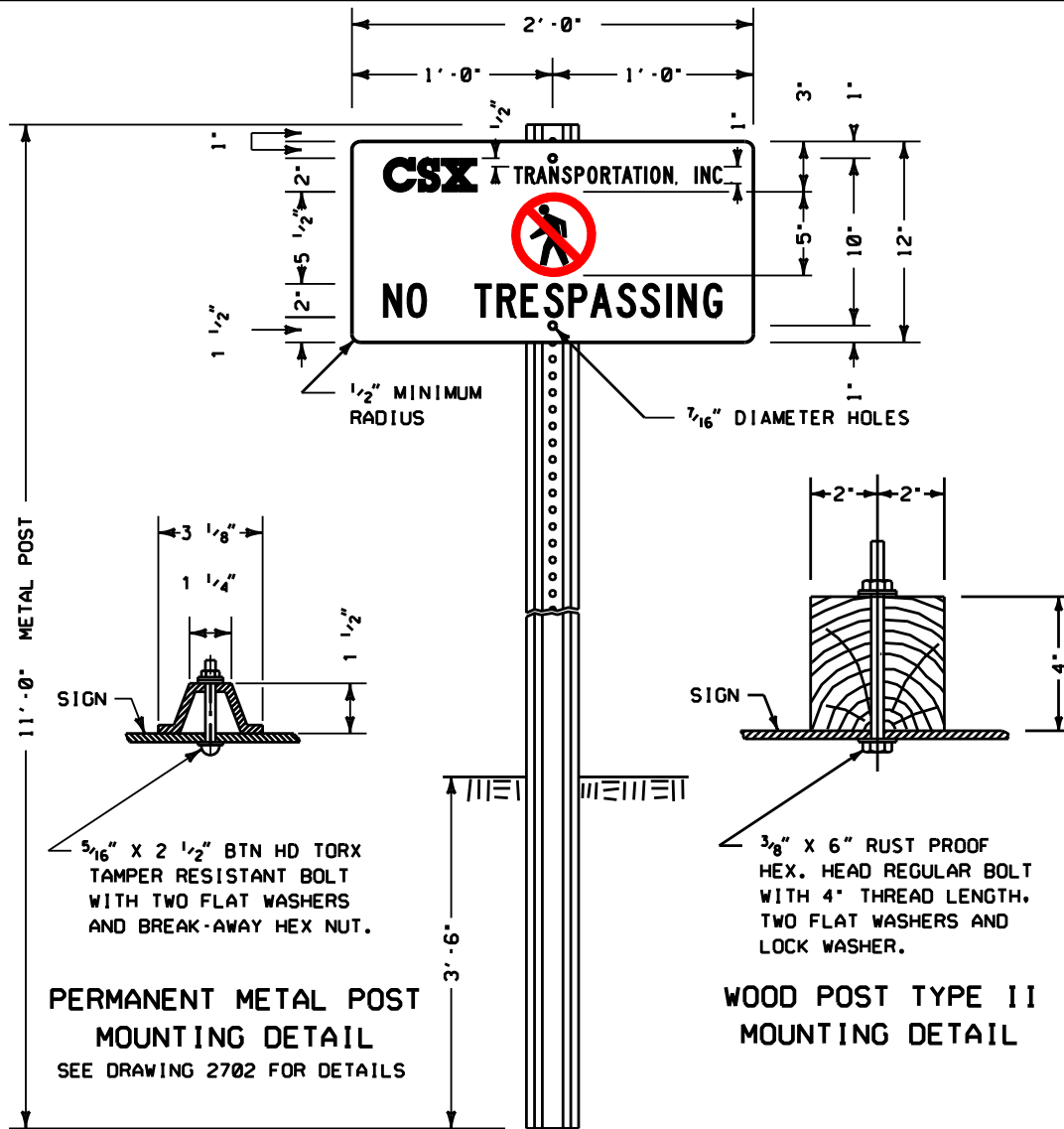
4. Prior to the start of construction, written approval from CSX for the construction procedure must be secured.

EXHIBIT A

Typical Sections and Details:

- CSX Standard 2604 – Clearance Diagrams
- CSX Standard 2703 – No Trespassing Sign
- CSX Standard 2710 – Milepost and Numeral Signs
- Typical Track Geometry and Clearances
- Steel Superstructure with Steel Deck
- Steel Superstructure with Concrete Deck
- Through Plate Girder
- Inspection Walkway System
- Steel Deck Drain Detail





SIGN BLADE: 0.080" ALUMINUM ALLOY 5052-H38 / 6061-T6 OR ALUMINUM/PLASTIC COMPOSITE MATERIAL 4MM THICK WITH ROUNDED CORNERS. HOLES TO BE 7/16" DIAMETER. BLADE TO BE DEGREASED AND ETCHED.

FACING: WHITE HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING 3930 MANUFACTURED BY 3M CORPORATION OR EQUIVALENT. APPLIED PER MANUFACTURER'S INSTRUCTIONS. THE SHEETING SHALL COMPLY ASTM D4956.

TEXT: BLACK SILKSCREEN, SCOTCHCAL OR EQUAL. CORPORATE SYMBOL TO BE CURRENT DESIGN. OTHER LETTERS SHALL CONFORM TO THE FEDERAL HIGHWAY ADMINISTRATION STANDARD ALPHABET, SERIES C. PEDESTRIAN PROHIBITED SYMBOL, 5" DIAMETER FEDERAL HIGHWAY ADMINISTRATION SIGN R9-3A, FIGURE - BLACK, CIRCLE AND DIAGONAL STRIPE - RED.

LOCATION: THE PLACEMENT OF SIGNS MUST BE IN COMPLIANCE WITH ANY STATE OR LOCAL LAWS THAT APPLY TO THEIR USE.

SET POST A MINIMUM OF 12'-0" (13'-0" IN PENNSYLVANIA) FROM CENTERLINE OF TRACK AND 5' TO 15' AHEAD OF THE BRIDGE BACKWALL.

USE AT ALL STRUCTURES OVER PUBLIC ROADWAYS, BRIDGES, AND LOCATIONS SPECIFIED IN THE TIMETABLE.

WHEN USED AT BRIDGES, PLACE A SIGN ON BOTH THE RIGHT AND LEFT SIDE OF THE TRACK AT EACH END OF THE STRUCTURE.

ORIENT SIGN SO THAT LETTERS ARE FACING AWAY FROM THE STRUCTURE.

WHEN USED ON RAILROAD PROPERTY AWAY FROM TRACKS, PLACE THE SIGN AT EDGE OF PROPERTY WITH THE LETTERS FACING AWAY FROM THE PROPERTY.

CSX TRANSPORTATION

NO TRESPASSING SIGN

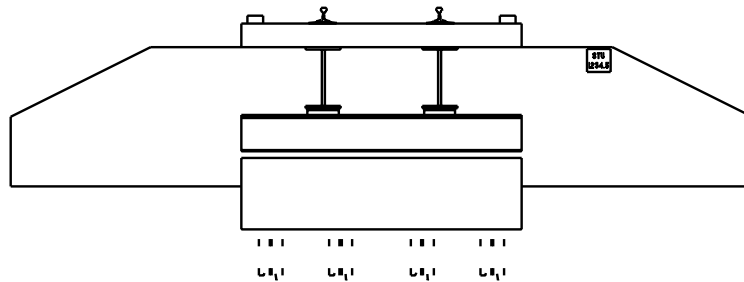
APPROVED - DIRECTOR
ENGINEERING STANDARDS

APPROVED - AVP
ENGINEERING

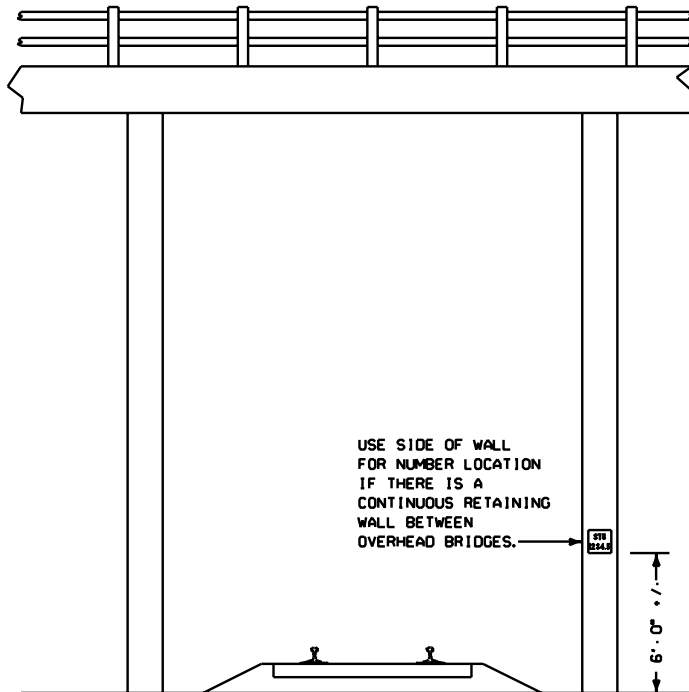
PREPARED BY:
J. E. BEYERL

ISSUED: APRIL 14, 2003
REVISED: OCTOBER 28, 2011

DESCRIPTION	UNITS	CLASS	ITEM
SIGN, NO TRESPASSING, ALUMINUM	EACH	014	8005800
SIGN, NO TRESPASSING, COMPOSITE	EACH	014	8005805
2 1/2" FASTENERS - TORX TAMPER RESISTANT	EACH	110	0007301
BIT INSERT FOR TORX TAMPER RESISTANT BOLT	EACH	451	0023038
SIGN POST, METAL PERMANENT	EACH	014	8004600
SIGN POST, WOOD TYPE II	EACH	049	3040611



BRIDGE SIGN LOCATION - BACKWALL



BRIDGE SIGN LOCATION - OVERHEAD BRIDGES

ALL BRIDGES AND TRESTLES ARE TO BE NUMBERED WITH THE MILEPOST PREFIX OF THE SUBDIVISION ON WHICH THE STRUCTURE IS LOCATED AND THE MILEPOST LOCATION TO THE NEAREST ONE-TENTH OF A MILE.

THE BRIDGE NUMBER IS TO BE PAINTED ON EACH BACKWALL ON THE RIGHT HAND SIDE OF THE STRUCTURE FOR A TRAIN APPROACHING THE STRUCTURE.

OVERHEAD STRUCTURES WILL HAVE THE BRIDGE NUMBER PAINTED ON THE PIER NEXT TO THE MAIN TRACK ON THE RIGHT HAND SIDE FOR A TRAIN APPROACHING THE STRUCTURE. IF THERE IS A CONTINUOUS RETAINING WALL BETWEEN ADJACENT OVERHEAD BRIDGES, THE BRIDGE NUMBER WILL BE PAINTED ON THE RETAINING WALL WHERE THE EDGE OF THE OVERHEAD BRIDGE CROSSES OVER THE TRACK.

THE BRIDGE NUMBER LOCATION ON THE STRUCTURE IS TO BE DETERMINED BY THE DESIGN OF THE STRUCTURE.

ON BACKWALLS, IF PRACTICABLE, THE LOCATION SELECTED SHOULD BE CLEARLY VISIBLE FROM TRAINS AND INSPECTION VEHICLES USING THE STRUCTURE.

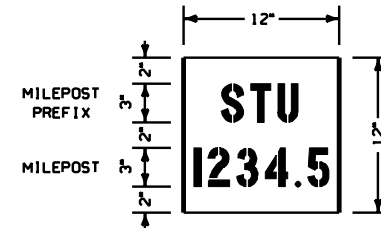
ON PIERS AND RETAINING WALLS, THE LOWER EDGE OF THE SIGN SHOULD BE ABOUT SIX FEET ABOVE GROUND LEVEL.

BRIDGE NUMBERS ARE TO BE 3" HIGH.

BRIDGE NUMBERS ARE TO BE PAINTED WITH BLACK LETTERS ON A WHITE BACKGROUND OR WHITE LETTERS ON A BLACK BACKGROUND DEPENDING ON WHICH COMBINATION WILL PROVIDE THE BEST LEGIBILITY WHEN APPLIED TO THE BRIDGE.

BRIDGE NUMBERS ARE TO CONFORM TO THE C. H. HANSEN GOTHIC STENCILS, OR EQUIVALENT. THE STENCILS MAY BE ORDERED USING

LETTERS, ITEM NUMBER 451 0033263, HANSEN SET NUMBER 10033
NUMBERS, ITEM NUMBER 451 0033303, HANSEN SET NUMBER 10013



BLACK LETTERS ON WHITE BACKGROUND.

TYPICAL BRIDGE SIGN

CSX TRANSPORTATION

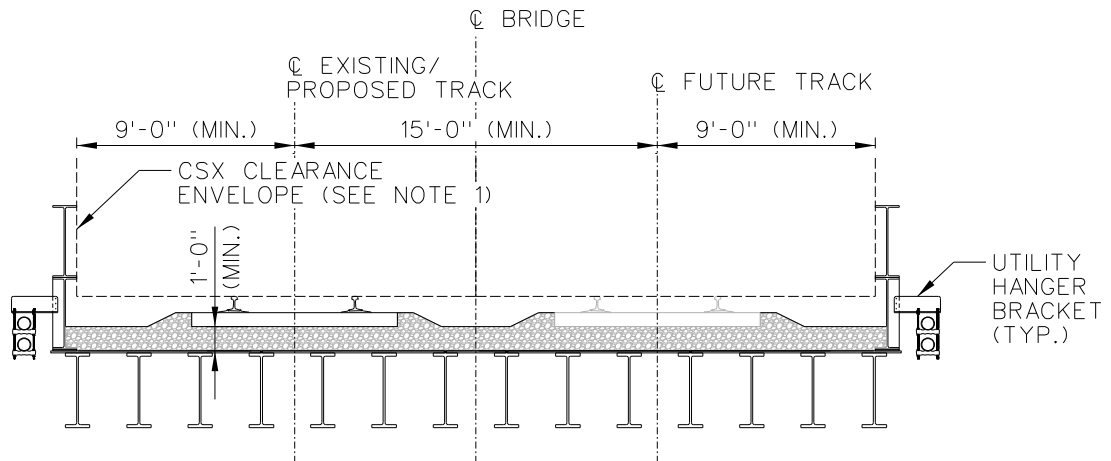
BRIDGE NUMBER SIGNS

SIGNED
REVIEWED -
ENGINEER STANDARDS AND TESTING

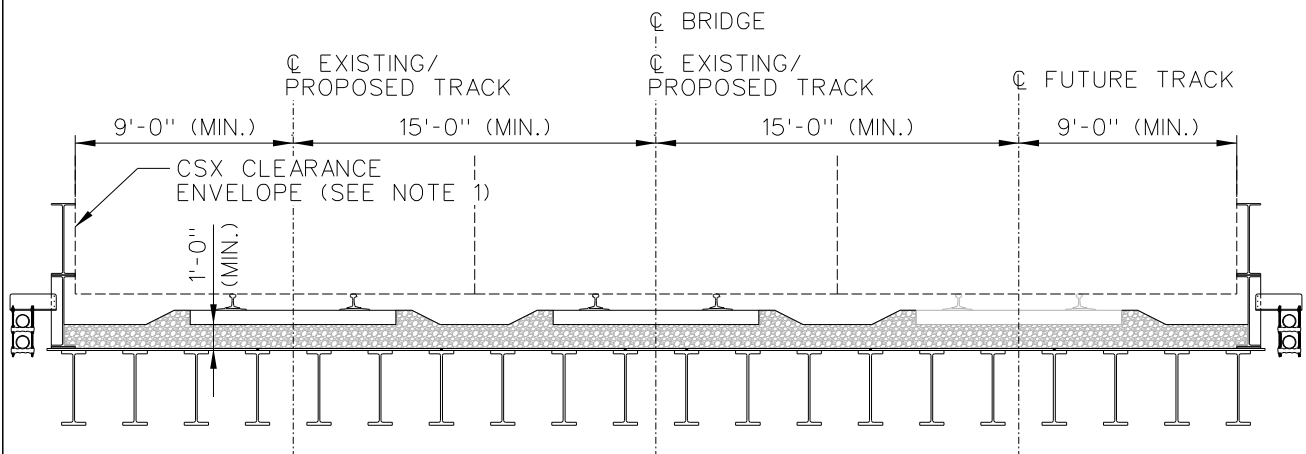
SIGNED
APPROVED -
ASSISTANT VICE PRESIDENT,
EQUIPMENT AND TRACK
SYSTEMS ENGINEERING

ISSUED, OCTOBER 30, 1998

REVISED, INITIAL ISSUE



UNDERGRADE BRIDGE - TYPICAL ONE TRACK SECTION
(DIAPHRAGMS/CROSS FRAMES NOT SHOWN FOR CLARITY)



UNDERGRADE BRIDGE - TYPICAL TWO TRACK SECTION

NOTES:

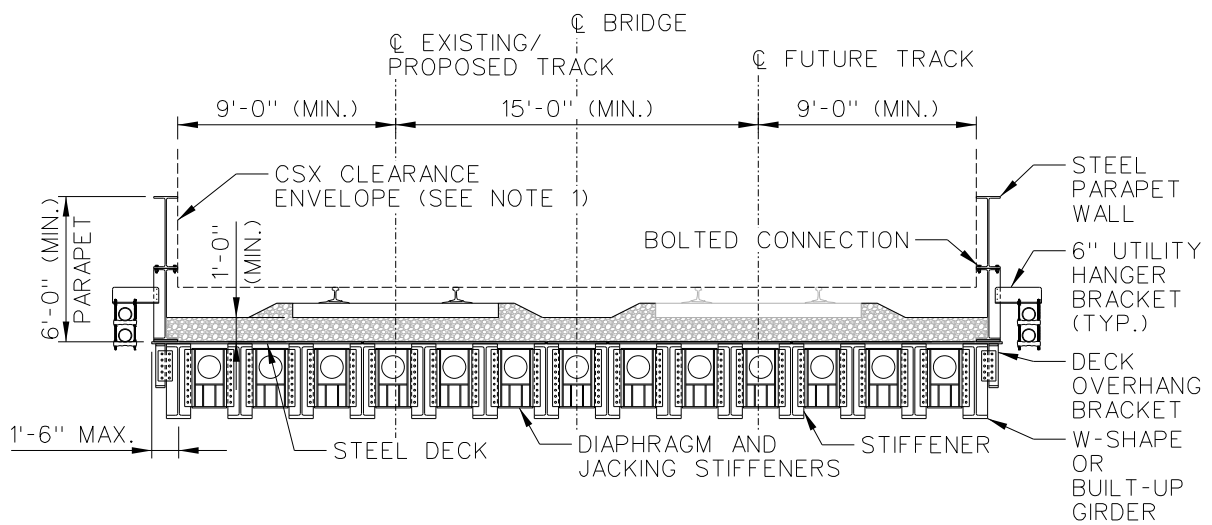
1. TANGENT TRACK SHOWN. INCREASES IN CLEARANCES MUST BE PROVIDED TO ACCOUNT FOR EFFECTS FROM CURVATURE AND SUPERELEVATION. REFER TO CSX STANDARD DRAWING 2604.



PUBLIC PROJECTS - UNDERGRADE BRIDGE DETAILS
TYPICAL TRACK GEOMETRY AND CLEARANCES
TYPICAL SECTION

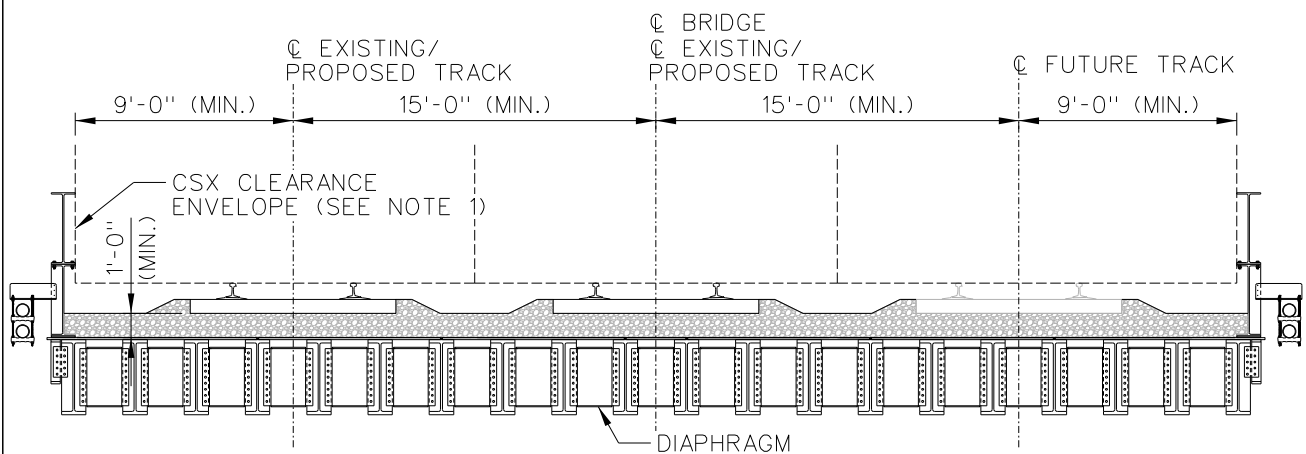
FOR REFERENCE ONLY

PUBLIC PROJECTS



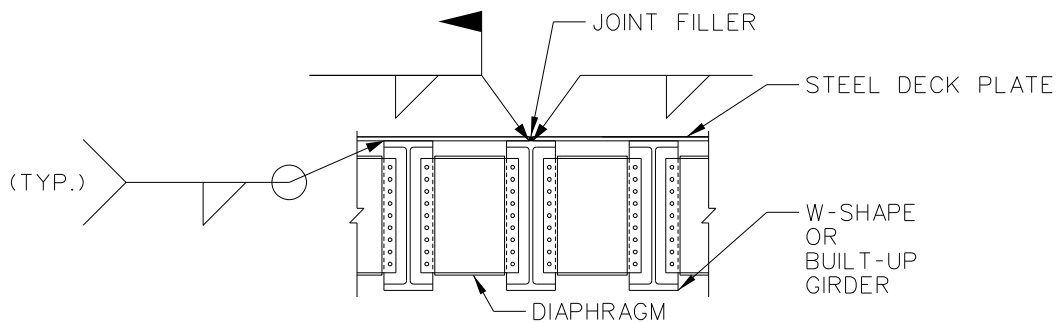
TYPICAL SECTION - ONE TRACK AT END DIAPHRAGM

(BEARING AND SUBSTRUCTURE NOT SHOWN FOR CLARITY)



TYPICAL SECTION - TWO TRACKS AT INTERMEDIATE DIAPHRAGM

(NOTES SIMILAR TO FIGURE ABOVE UNLESS NOTED OTHERWISE)



TYPICAL DECK WELD DETAIL

NOTES:

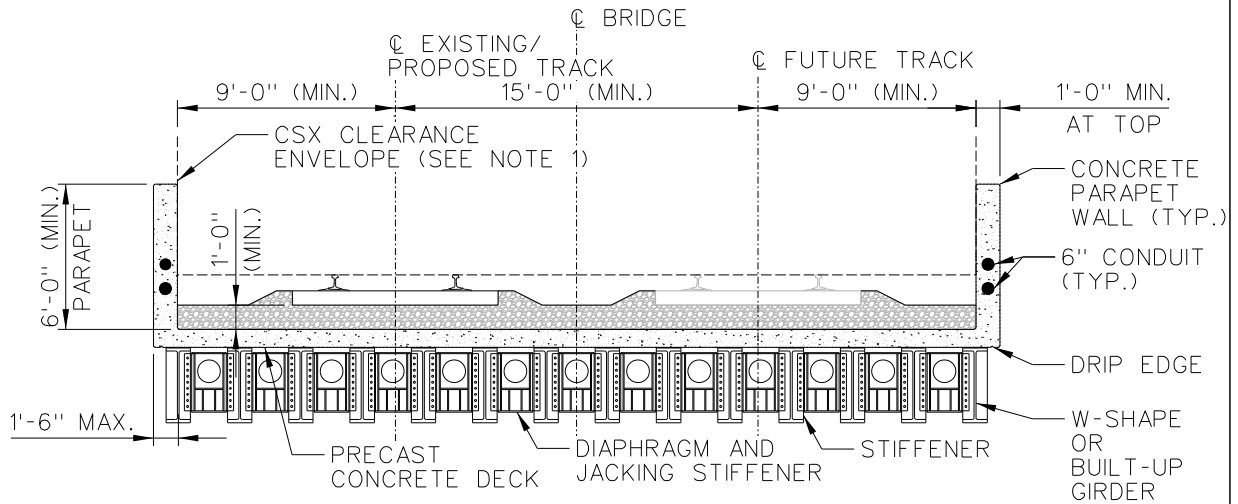
1. TANGENT TRACK SHOWN. INCREASES IN CLEARANCES MUST BE PROVIDED TO ACCOUNT FOR EFFECTS FROM CURVATURE AND SUPERELEVATION. REFER TO CSX STANDARD DRAWING 2604.

CSX

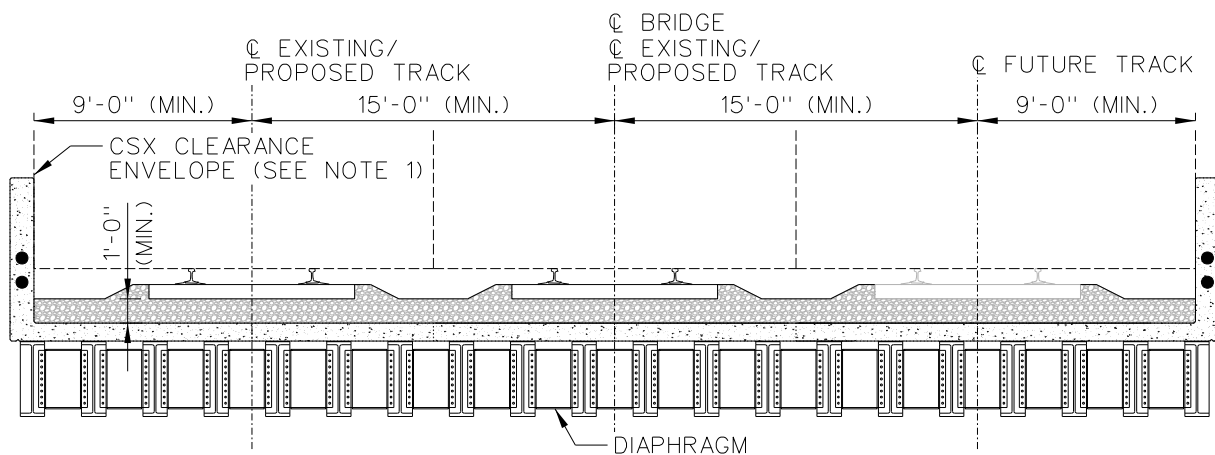
PUBLIC PROJECTS - UNDERGRADE BRIDGE DETAILS
STEEL SUPERSTRUCTURE WITH STEEL DECK
TYPICAL SECTION

FOR REFERENCE ONLY

PUBLIC PROJECTS



TYPICAL SECTION - ONE TRACK AT END DIAPHRAGM
(BEARING AND SUBSTRUCTURE NOT SHOWN FOR CLARITY)



TYPICAL SECTION - TWO TRACKS AT INTERMEDIATE DIAPHRAGM
(NOTES SIMILAR TO FIGURE ABOVE UNLESS NOTED OTHERWISE)

NOTES:

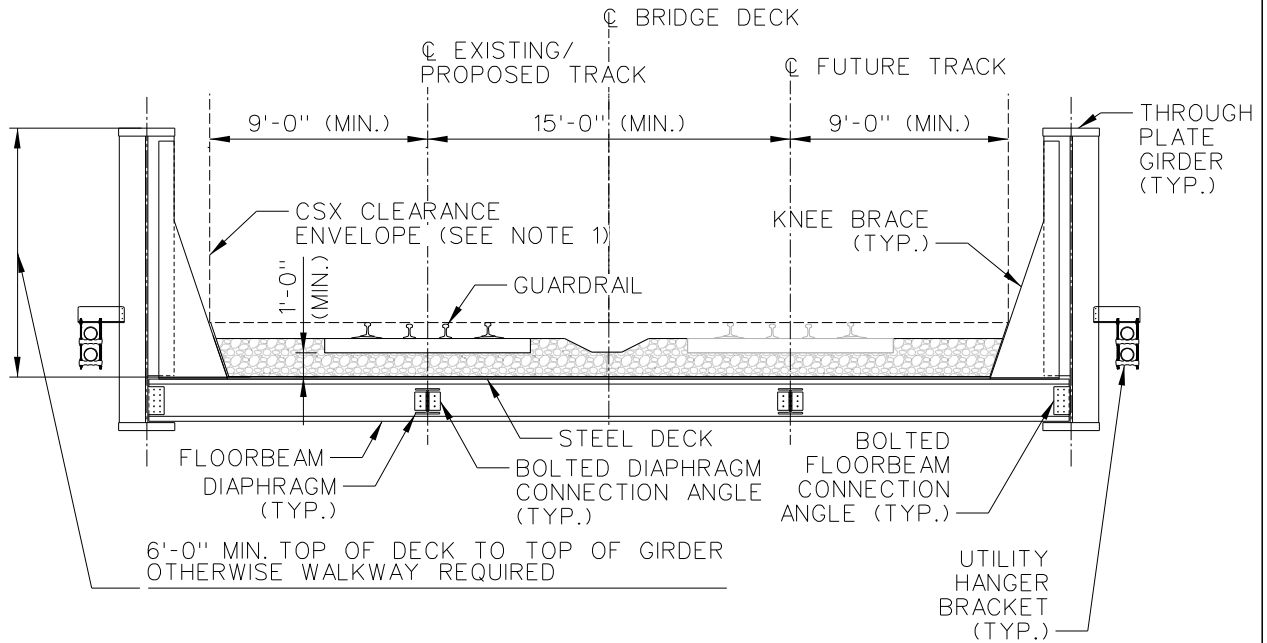
1. TANGENT TRACK SHOWN. INCREASES IN CLEARANCES MUST BE PROVIDED TO ACCOUNT FOR EFFECTS FROM CURVATURE AND SUPERELEVATION. REFER TO CSX STANDARD DRAWING 2604.

CSX

PUBLIC PROJECTS - UNDERGRADE BRIDGE DETAILS
STEEL SUPERSTRUCTURE WITH CONCRETE DECK
TYPICAL SECTION

FOR REFERENCE ONLY

PUBLIC PROJECTS



TYPICAL SECTION - ONE TRACK

NOTES:

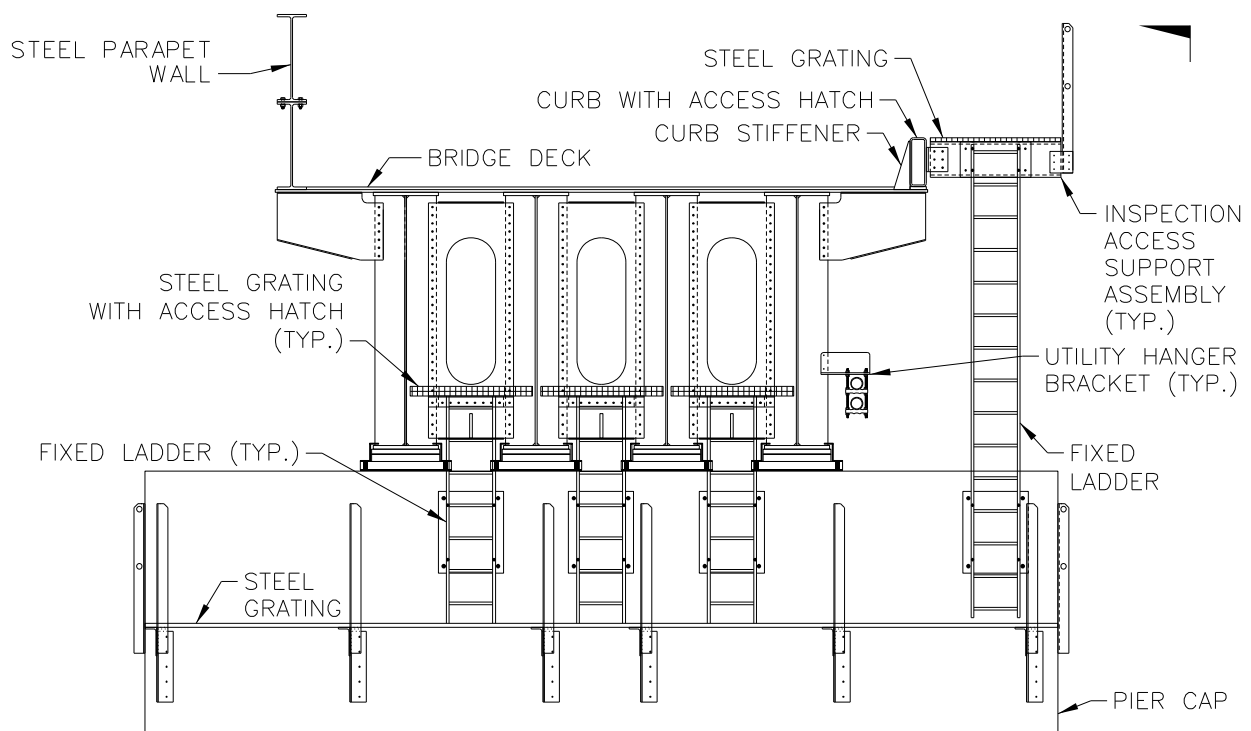
1. TANGENT TRACK SHOWN. INCREASES IN CLEARANCES MUST BE PROVIDED TO ACCOUNT FOR EFFECTS FROM CURVATURE AND SUPERELEVATION. REFER TO CSX STANDARD DRAWING 2604.



PUBLIC PROJECTS - UNDERGRADE BRIDGE DETAILS
THROUGH PLATE GIRDER
TYPICAL SECTION

FOR REFERENCE ONLY

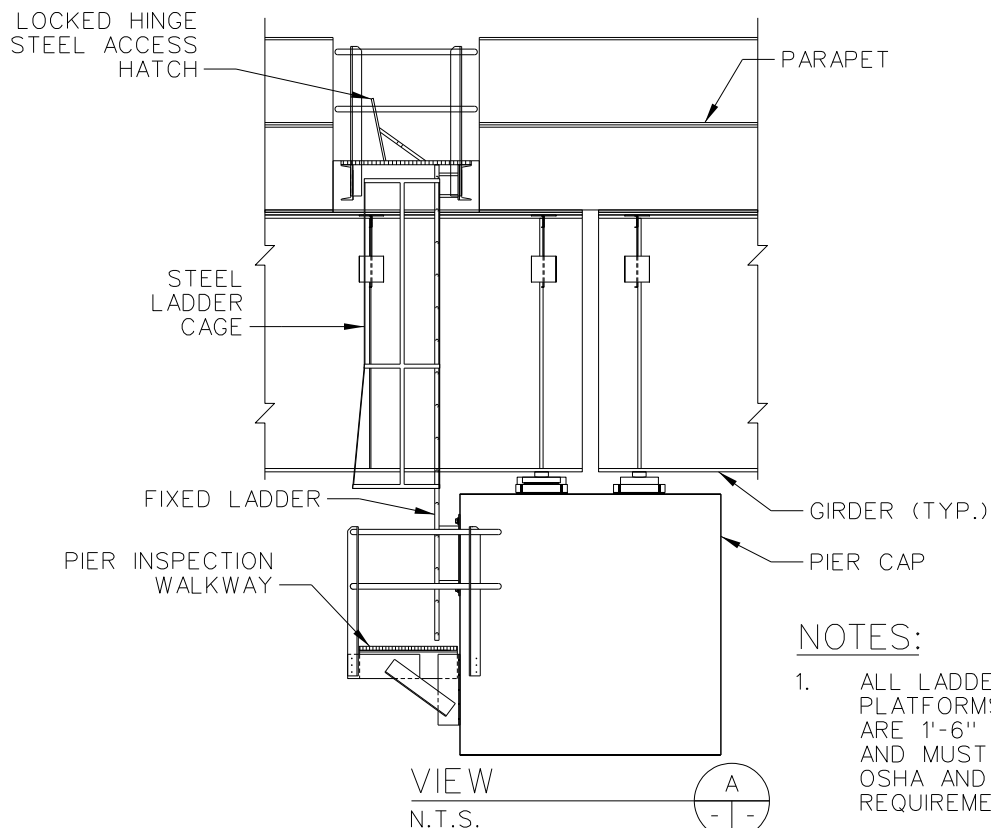
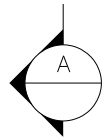
PUBLIC PROJECTS



SECTION

SCALE: N.T.S.

(SUBSTRUCTURE, HANDRAIL, AND STEEL LADDER CAGE NOT SHOWN FOR CLARITY)

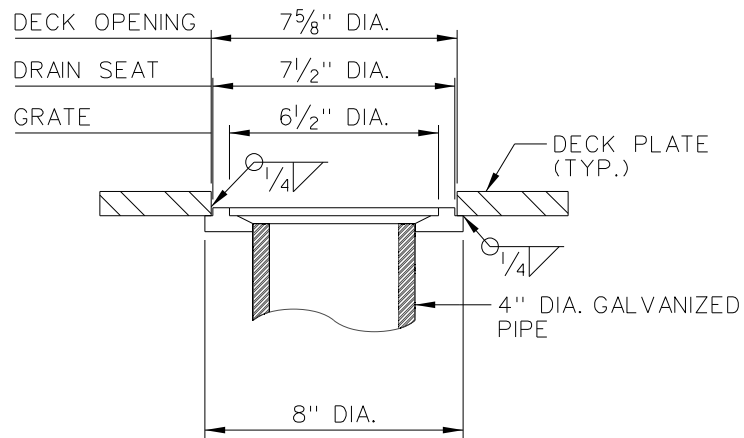
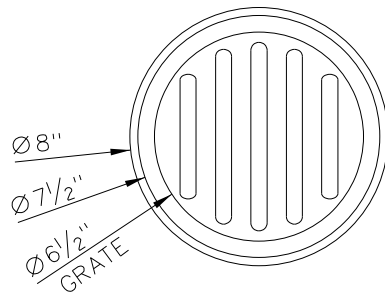


NOTES:

1. ALL LADDERS, INSPECTION PLATFORMS, AND HATCHES ARE 1'-6" OUT TO OUT AND MUST COMPLY WITH OSHA AND AREMA SAFETY REQUIREMENTS.

CSX

PUBLIC PROJECTS - UNDERGRADE BRIDGE DETAILS
INSPECTION WALKWAY SYSTEM



STEEL DECK DRAIN



PUBLIC PROJECTS - UNDERGRADE BRIDGE DETAILS
STEEL DECK DRAIN DETAIL

FOR REFERENCE ONLY

PUBLIC PROJECTS

APPENDIX

CSX TRANSPORTATION

TRAIL CONSTRUCTION AROUND CSX BRIDGES

(Non-Vehicular crossing over or under the railroad)

All trails impacting the railroad shall be designed in accordance with these Guidelines, the Manual of Uniform Traffic Control Devices (MUTCD), AASHTO code and any applicable sections of the AREMA MRE.

A. At Grade Crossing

1. CSX does not allow at grade trail crossings. Alternative plans should be considered to avoid crossing railroad tracks at grade.
2. At grade crossings immediately adjacent to an existing public roadway crossing with existing highway railroad warning devices may be considered. However, all costs associated with the installation of the new crossing surface and crossing warning device changes or relocation will be borne by the Applicant.
3. Scope of proposed crossing work will be determined at a joint diagnostic meeting between CSX and the Applicant.
4. The trail must conform to CSX and MUTCD requirements.

B. Trail Parallel to Track

1. CSX does not allow trails parallel to the track on CSX right-of-way and does not permit the use of CSX Access Roads for trail use.
2. CSX structures shall not be used to serve trail traffic or support a structure serving trail traffic.
3. Fences or barriers such as vegetation, ditches, and/or berms shall separate trails that are outside CSX right-of-way and running parallel to the track to stop trespassers from entering CSX right-of-way.

C. Undergrade Crossing (Railroad structure over trail)

CSX discourages the construction of new undergrade structures. Consider the use of existing structures to cross CSX tracks. If an undergrade structure is the only feasible structure type for the proposed site, a detailed type selection report must be submitted to justify its use. In accordance with Homeland Security requirements, some railroad sites and structures are off limits for trail use and crossing.

Undergrade trail crossings which also serve to convey water are not permitted.

1. Existing Undergrade Structures

- i. CSX may reject, at its discretion, the use of any existing undergrade structure for trail use.
- ii. Existing culvert pipe, box or arch structures, designed to convey water, are not permitted for trail crossing use.
- iii. An open deck structure shall be modified to a ballast deck or solid deck structure to maintain a safe crossing under a railroad structure. If modifying an existing open deck structure is not practical, provide a protective cover over the trail as described.

2. New Undergrade Crossing

- i. New undergrade structures shall be designed per the undergrade railroad bridge criteria presented in these guidelines.

- ii. All pipe and concrete box culverts shall be designed per CSX requirements and any applicable sections of the AREMA MRE.
- iii. Confined structures are discouraged. To improve safety and sight distance, all structures shall be tangent without curvature.
- iv. The clear width and height of pedestrian structures shall be subject to the project site and structure length. The line of sight, historical security data, and lighting shall be used for determining the required size of opening.
- v. Vertical Clearance shall not be less than 8'-0".

3. Canopy

A canopy will be installed under the existing or new undergrade CSX structure as follows:

- i. The minimum clearance between the top of the canopy and the underside of the bridge shall be 5 feet.
- ii. The trail in the vicinity of the undergrade bridge must be able to be closed and the canopy removed as necessary at the trail owner's expense, to allow CSX access to inspect and maintain the bridge. The trail must remain closed until the CSX work is completed and the canopy and fencing is restored. CSX will not be responsible for any damage to the portions of the canopy that occur due to CSX inspection, maintenance, operations or other work.
- iii. The canopy shall be adequately designed to sustain the impact of debris falling from the CSX bridge. Debris with potential to fall includes but is not limited to tie plates which are approximately 1'-6" x 8" x 1 1/2" and weigh approximately 36.5 pounds.
- iv. The canopy shall extend at least 15'-0" beyond the bridge fascia on either side of the bridge.

4. Drainage

The drainage pattern of the site before and after construction shall be analyzed. Adequate drainage provisions shall be incorporated into the plans and specifications. A detailed hydraulic report may be required subject to site condition. The hydraulic report must meet the CSX Hydraulic Criteria. The cost of the hydraulic report and any required associated reports shall be the responsibility of the applicant.

5. Fence

- i. Provide fencing along the trail to prevent trespassing near the CSX track area and facilities. The Applicant shall specify the appropriate fencing to contain the trail traffic within the trail, crossing CSX right-of-way. Fence limits are subject to each project site and must be determined on a case by case basis.
- ii. Fencing shall be located where it will not impede CSX's access to the bridge for inspection and shall be removed and replaced at the Applicant's expense when necessary for access by CSX.
- iii. All CSX right-of-way fencing, for trails adjacent to the CSX right-of-way, must be provided, installed outside CSX right-of-way and maintained by the Applicant.

iv. Gates must be provided to readily permit CSX access to the undergrade bridge areas from below the bridge. CSX to provide a lock.

6. Signs

i. All access to trails crossing CSX railroad track shall be protected with bollard posts and signs prohibiting non-authorized vehicular access.

ii. All advisory and regulatory signs shall be in compliance with MUTCD and AASHTO. "No Trespassing" signs shall be posted every 500'-0".

7. Plan Requirements

i. Plans shall show all clearances between the proposed trail and the bridge structure.

ii. Provide the closure procedure for periods when the trail will require closure in the vicinity of the undergrade bridge due to CSX inspection, maintenance, or other operations.

iii. Clearly show and label the CSX right of way lines on the plans.

iv. Show canopy clearances on the plans.

v. Provide details for fence and signage details to prevent trespassers from accessing the CSX right of way.

8. Construction Submittals

i. During construction, CSX will review all submittals relating to the installation of the trail components in relation to the bridge structure.

APPENDIX

CSX TRANSPORTATION

CONSTRUCTION SUBMISSION CRITERIA

INTRODUCTION

SECTION I: Definitions

SECTION II: Construction Submissions

SECTION III: Hoisting Operations

SECTION IV: Demolition Procedure

SECTION V: Erection Procedure

SECTION VI: Temporary Excavation and Shoring

SECTION VII: Track Monitoring

INTRODUCTION

The intent of this document is to guide outside agencies and their Contractors when performing work on, over, or with potential to impact CSX property (ROW). Work plans shall be submitted for review to the designated CSX Engineering Representative for all work which presents the potential to affect CSX property or operations; this document shall serve as a guide in preparing these work plans. All work shall be performed in a manner that does not adversely impact CSX operations or safety; as such, the requirements of this document shall be strictly adhered to, in addition to all other applicable standards associated with the construction. Applicable standards include, but are not limited to, CSX Standards and Special Provisions, CSX Insurance Requirements, CSX Pipeline Occupancy Criteria, as well as the governing local, county, state and federal requirements. It shall be noted that this document and all other CSX standards are subject to change without notice, and future revisions will be made available at the CSX website: www.csx.com.

I. DEFINITIONS

1. Agency – The project sponsor (i.e., State DOT, Local Agencies, Private Developer, etc.)
2. AREMA – American Railway Engineering and Maintenance-of-Way Association – the North American railroad industry standards group. The use of this term shall be in specific reference to the AREMA Manual for Railway Engineering.
3. Construction Submission – The Agency or its representative shall submit six (6) sets of plans, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All plans, specifications, and supporting calculations shall be signed/sealed by a Professional Engineer as defined below.
4. Controlled Demolition – Removal of an existing structure or subcomponents in a manner that positively prevents any debris or material from falling, impacting, or otherwise affecting CSX employees, equipment or property. Provisions shall be made to ensure that there is no impairment of railroad operations or CSX's ability to access its property at all times.
5. Contractor – The Agency's representative retained to perform the project work.
6. Engineer – CSX Engineering Representative or a GEC authorized to act on the behalf of CSX.
7. Flagman – A qualified CSX employee with the sole responsibility to direct or restrict movement of trains, at or through a specific location, to provide protection for workers.
8. GEC – General Engineering Consultant who has been authorized to act on the behalf of CSX.
9. Horizontal Clearance – Distance measured perpendicularly from centerline of any track to the nearest obstruction at any elevation between TOR and the maximum vertical clearance of the track.
10. Professional Engineer – An engineer who is licensed in State or Commonwealth in which the project is to occur. All plans, specifications, and supporting calculations shall be prepared by the Licensed Professional Engineer and shall bear his/her seal and signature.
11. Potential to Foul – Work having the possibility of impacting CSX property or operations; defined as one or more of the following:
 - a. Any activity where access onto CSX property is required.

b. Any activity where work is being performed on CSX ROW.

c. Any excavation work adjacent to CSX tracks or facilities, within the Theoretical Railroad Live Load Influence Zone, or where the active earth pressure zone extends within the CSX property limits.

d. The use of any equipment where, if tipped and laid flat in any direction (360 degrees) about its center pin, can encroach within twenty five feet (25'-0") of the nearest track centerline. This is based upon the proposed location of the equipment during use, and may be a function of the equipment boom length. Note that hoisting equipment with the potential to foul must satisfy the 150% factor of safety requirement for lifting capacities.

e. Any work where the scatter of debris, or other materials has the potential to encroach within twenty five feet (25'-0") of the nearest track centerline.

f. Any work where significant vibration forces may be induced upon the track structure or existing structures located under, over, or adjacent to the track structure.

g. Any other work which poses the potential to disrupt rail operations, threaten the safety of railroad employees, or otherwise negatively impact railroad property, as determined by CSX.

12. ROW – Right of Way; Refers to CSX Right-of-Way as well as all CSX property and facilities. This includes all aerial space within the property limits, and any underground facilities.

13. Submission Review Period - a minimum of thirty (30) days in advance of start of work. Up to thirty (30) days will be required for the initial review response. Up to an additional thirty (30) days may be required to review any/all subsequent submissions or resubmission.

14. Theoretical Railroad Live Load Influence Zone – A 1 horizontal to 1 vertical theoretical slope line starting at bottom corner of tie.

15. TOR – Top of Rail. This is the base point for clearance measurements. It refers to the crown (top) of the steel rail; the point where train wheels bear on the steel rails.

16. Track Structure – All load bearing elements which support the train. This includes, but is not limited to, the rail, ties, appurtenances, ballast, sub-ballast, embankment, retaining walls, and bridge structures.

17. Vertical Clearance – Distance measured from TOR to the lowest obstruction within six feet (6'-0") of the track centerline, in either direction.

II. GENERAL SUBMISSION REQUIREMENTS

A. A construction work plan is required to be submitted by the Agency or its Contractor, for review and acceptance, prior to accessing or performing any work with Potential to Foul.

B. The Agency or its representative shall submit six (6) sets of plans, specifications, supporting calculations, and detailed means and methods procedures for the specific proposed work activity.

C. Construction submissions shall include all information relevant to the work activity, and shall clearly and concisely explain the nature of the work, how it is being performed, and what measures are being taken to ensure that railroad property and operations are continuously maintained.

D. All construction plans shall include a map of the work site, depicting the CSX tracks, the CSX right of way, proposed means of access, proposed locations for equipment and material staging (dimensioned from nearest track centerline), as well as all other relevant project information. An elevation drawing may also be necessary in order to depict clearances or other components of the work.

E. Please note that CSX will not provide pricing to individual contractors involved in bidding projects. Bidding contractors shall request information from the agency and not CSX.

F. The Contractor shall install a geotextile fabric ballast protection system to prevent construction or demolition debris and fines from fouling ballast. The geotextile ballast protection system shall be installed and maintained by the Contractor to the satisfaction of the Engineer.

G. The Engineer shall be kept aware of the construction schedule. The Contractor shall provide timely communication to the Engineer when scheduling the work such that the Engineer may be present during the work. The Contractor's schedule shall not dictate the work plan review schedule, and flagging shall not be scheduled prior to receipt of an accepted work plan.

H. At any time during construction activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSX facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSX and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

I. Blasting will not be permitted to demolish a structure over or within CSX's right-of-way. When blasting off of CSX property but with Potential to Foul, vibration monitoring, track settlement surveying, and/or other protective measures may be required as determined by the Engineer.

J. Blasting is not permitted adjacent to CSX right-of-way without written approval from the Chief Engineer, CSX.

K. Mechanical and chemical means of rock removal must be explored before blasting is considered. If written permission for the use of explosives is granted, the Agency or Contractor must submit a work plan satisfying the following requirements:

1. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Agency or Contractor.
2. Electronic detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
3. No blasting shall be done without the presence of an authorized representative of CSX. Advance notice to the Engineer is required to arrange for the presence of an authorized CSX representative and any flagging that CSX may require.

4. Agency or Contractor must have at the project site adequate equipment, labor and materials, and allow sufficient time, to clean up debris resulting from the blasting and correct any misalignment of tracks or other damage to CSX property resulting from the blasting. Any corrective measures required must be performed as directed by the Engineer at the Agency's or Contractor's expense without any delay to trains. If Agency's or Contractor's actions result in the delay of any trains including passenger trains, the Agency or Contractor shall bear the entire cost thereof.

5. The Agency or Contractor may not store explosives on CSX property.

6. At any time during blasting activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSX facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSX and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

III. HOISTING OPERATIONS

A. All proposed hoisting operations with Potential to Foul shall be submitted in accordance with the following:

1. A plan view drawing shall depict the work site, the CSX track(s), the proposed location(s) of the lifting equipment, as well as the proposed locations for picking, any intermediate staging, and setting the load(s). All locations shall be dimensioned from centerline of the nearest track. Crane locations shall also be dimensioned from a stationary point at the work site for field confirmation.

2. Computations showing the anticipated weight of all picks. Computations shall be made based upon the field-verified plans of the existing structure. Pick weights shall account for the weight of concrete rubble or other materials attached to the component being removed; this includes the weight of subsequent rigging devices/components. Rigging components shall be sized for the subsequent pick weight.

3. All lifting equipment, rigging devices, and other load bearing elements shall have a rated (safe lifting) capacity that is greater than or equal to 150% of the load it is carrying, as a factor of safety. Supporting calculations shall be furnished to verify the minimum capacity requirement is maintained for the duration of the hoisting operation.

4. Dynamic hoisting operations are prohibited when carrying a load with the Potential to Foul. Cranes or other lifting equipment shall remain stationary during lifting. (i.e., no moving picks).

5. For lifting equipment, the manufacturer's capacity charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted.

6. A schematic rigging diagram must be provided to clearly call out each rigging component from crane hook to the material being hoisted. Copies of catalog or information sheets shall be provided to verify rigging weights and capacities.

7. For built-up rigging devices, the contractor shall submit the following:

i. Details of the device, calling out material types, sizes, connections and other properties.

ii. Load test certification documents and/or design computations bearing the seal and signature of a Professional Engineer. Load test shall be performed in the configuration of its intended use as part of the subject demolition procedure.

iii. Copies of the latest inspection reports of the rigging device. The device shall be inspected within one (1) calendar year of the proposed date for use.

8. A detail shall be provided showing the crane outrigger setup, including dimensions from adjacent slopes or facilities. The detail shall indicate requirements for bearing surface preparation, including material requirements and compaction efforts. As a minimum, outriggers and/or tracks shall bear on mats, positioned on level material with adequate bearing capacity.

9. A complete written narrative that describes the sequence of events, indicating the order of lifts and any repositioning or re-hitching of the crane(s).

IV. DEMOLITION PROCEDURE

A. The Agency or its Contractor shall submit a detailed procedure for a controlled demolition of any structure on, over, or adjacent to the ROW. The controlled demolition procedure must be approved by the Engineer prior to beginning work on the project.

B. Existing Condition of structure being demolished:

1. The Contractor shall submit as-built plans for the structure(s) being demolished

2. If as-built plans are unavailable, the Contractor shall perform an investigation of the structure, including any foundations, substructures, etc. The field measurements are to be made under the supervision of the Professional Engineer submitting the demolition procedure. Findings shall be submitted as part of the demolition means and methods submittal for review by the Engineer.

3. Any proposed method for temporary stabilization of the structure during the demolition shall be based on the existing plans or investigative findings, and submitted as part of the demolition means and methods for review by the Engineer.

C. Demolition work plans shall include a schematic plan depicting the proposed locations of the following, at various stages of the demolition:

1. All cranes and equipment, calling out the operating radii.

2. All proposed access and staging locations with all dimensions referenced from the center line of the nearest track

3. Proposed locations for stockpiling material or locations for truck loading

4. The location, with relevant dimensions, of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions.

5. Note that no crane or equipment may be set on the CSX rails or track structure and no material may be dropped on CSX property.

D. Demolition submittal shall also include the following information:

1. All hoisting details, as dictated by Section III of this document.
2. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical subtasks (i.e., torch/saw cutting various portions of the superstructure or substructure, dismantling splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to CSX operations may be assessed and eliminated or minimized.
3. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.
4. Design and supporting calculations shall be prepared, signed, and sealed by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track in the proximity of temporary bents or shoring towers, when located within twelve feet (12'-0") from the centerline of the track. The guardrail will be installed by CSX forces, at the expense of the Agency or its contractor.

E. Girders or girder systems shall be stable at all times during demolition. Temporary bracing shall be provided at the piers, abutments, or other locations to resist overturning and/or buckling of the member(s). The agency shall submit a design and details of the proposed temporary bracing system, for review by the Engineer. Lateral wind forces for the temporary conditions shall be considered in accordance with AREMA, Chapter 8, Section 28.6.2. The minimum lateral wind pressure shall be fifteen pounds per square foot (15 psf).

F. Existing, obsolete, bridge piers shall be removed to a minimum of three feet (3'-0") below the finished grade, final ditch line invert, or as directed by the Engineer.

G. A minimum quantity of twenty five (25) tons of CSX approved granite track ballast may be required to be furnished and stockpiled on site by the Contractor, or as directed by the Engineer.

H. The use of acetylene gas is prohibited for use on or over CSX property. Torch cutting shall be performed utilizing other materials such as propane.

I. CSX's tracks, signals, structures, and other facilities shall be protected from damage during demolition of existing structure or replacement of deck slab.

J. Demolition Debris Shield

1. On-track or ground-level debris shields (such as crane mats) are prohibited for use by CSX.
2. Demolition Debris Shield shall be installed prior to the demolition of the bridge deck or other relevant portions of the structure. The demolition debris shield shall be erected from the underside of the bridge over the track area to catch all falling debris. The debris shield shall not be the primary means of debris containment.
 - i. The demolition debris shield design and supporting calculations, all signed/sealed by a Professional Engineer, shall be submitted for review and acceptance.
 - ii. The demolition debris shield shall have a minimum design load of 50 pounds per square foot (50 psf) plus the weight of the equipment, debris, personnel, and all other loads.

- iii. The Contractor shall verify the maximum particle size and quantity of the demolition debris generated during the procedure does not exceed the shield design loads. Shield design shall account for loads induced by particle impact; however the demolition procedure shall be such that impact forces are minimized. The debris shield shall not be the primary means of debris containment.
- iv. The Contractor shall include installation/removal means and methods for the demolition debris shield as part of the proposed Controlled Demolition procedure submission.
- v. The demolition debris shield shall provide twenty three feet (23'-0") minimum vertical clearance, or maintain the existing vertical clearance if the existing clearance is less than twenty three feet (23'-0").
- vi. Horizontal clearance to the centerline of the track should not be reduced unless approved by the Engineer.
- vii. The Contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Engineer.

K. Vertical Demolition Debris Shield

- 1. This type of shield may be required for substructure removals in close proximity to CSX track and other facilities, as determined by the Engineer.
- 2. The Agency or its Contractor shall submit detailed plans with detailed calculations, prepared, signed, and sealed by a Professional Engineer, of the protection shield.

V. ERECTION PROCEDURE

- A. The Agency or its Contractor shall submit a detailed procedure for erection of a structure with Potential to Foul. The erection procedure must be approved by the Engineer prior to beginning work on the project.
- B. Erection work plans shall include a schematic plan depicting the following, at all stages of the construction:
 - 1. All proposed locations of all cranes and equipment, calling out the operating radii.
 - 2. All proposed access and staging locations with all dimensions referenced from the center line of the nearest track.
 - 3. All proposed locations for stockpiling material or locations for truck loading.
 - 4. The location, with relevant dimensions, of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions.
- C. No crane or equipment may be set on the CSX rails or track structure and no material may be dropped on CSX property.
- D. For erection of a structure over the tracks, the following information shall be submitted for review and acceptance by the Engineer, at least thirty (30) days prior to erection:
 - 1. As-built beam seat elevations – field surveyed upon completion of pier/abutment construction.
 - 2. Current Top of Rail (TOR) elevations – field measured at the time of as-built elevation collection.
 - 3. Computations verifying the anticipated minimum vertical clearance in the final condition which accounts for all deflection and camber, based upon the current TOR and as-built beam seat elevations. The anticipated minimum

vertical clearance shall be greater than or equal to that which is indicated by the approved plans. Vertical clearance (see definitions) is measured from TOR to the lowest point on the overhead structure at any point within six feet (6'-0") from centerline of the track. Calculations shall be signed and sealed by a Professional Engineer.

- E. Girders or girder systems shall be stable at all times during erection. No crane may unhook prior to stabilizing the beam or girder.
 - 1. Lateral wind forces for the temporary conditions shall be considered in accordance with AREMA, Chapter 8, Section 28.6.2. The minimum lateral wind pressure shall be fifteen pounds per square foot (15 psf).
 - 2. Temporary bracing shall be provided at the piers, abutments, or other locations to resist overturning and/or buckling of the member(s). The agency shall submit a design and details of the proposed temporary bracing system, for review by the Engineer.
 - 3. Temporary bracing shall not be removed until sufficient lateral bracing or diaphragm members have been installed to establish a stable condition. Supporting calculations, furnished by the Professional Engineer, shall confirm the stable condition.
- F. Erection procedure submissions shall also include the following information:
 - 1. All hoisting details, as dictated by Section III of this document.
 - 2. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical subtasks (i.e., performing aerial splices, installing temporary bracing, installation of diaphragm members, etc.) shall be furnished so that the potential impact(s) to CSX operations may be assessed and eliminated or minimized.
 - 3. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.
 - 4. A guardrail will be required to be installed in a track in the proximity of temporary bents or shoring towers, when located within twelve feet (12'-0") from the centerline of the track. The guardrail will be installed by CSX forces, at the expense of the Agency or its Contractor.
 - 5. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review.

VI. TEMPORARY EXCAVATION AND SHORING

- A. The Agency or its Contractor shall submit a detailed design and procedure for the installation of a sheeting/shoring system adjacent to the tracks. Shoring protection shall be provided when excavating with Potential to Foul, or as otherwise determined by CSX. Shoring shall be provided in accordance with the AREMA, except as noted below.
- B. Shoring may not be required if all of the following conditions are satisfied:
 - 1. The excavation does not encroach within the Theoretical Live Load Influence Zone. Please refer to Figure 1.
 - 2. The track structure is situated on level ground, or in a cut section, and on stable soil.
 - 3. The excavation does not adversely impact the stability of a CSX facility (i.e., signal bungalow, drainage facility, undergrade bridge, building, etc), or the stability of any structure on, over, or adjacent to CSX property with potential to foul.
 - 4. Shoring is not required by any governing federal, state, local or other construction code.

C. Shoring is required when excavating the toe of an embankment. Excavation of any embankment which supports an active CSX track structure without shoring will not be permitted.

D. Trench boxes are not an acceptable means of shoring. Trench boxes are prohibited for use on CSX property or within the Theoretical Railroad Live Load Influence Zone.

E. Shoring shall be a cofferdam-type, which completely encloses the excavation. However, where justified by site or work conditions, partial cofferdams with open sides away from the track may be permissible, as determined by the Engineer.

F. Cofferdams shall be constructed using interlocking steel sheet piles, or when approved by the Engineer, steel soldier piles with timber lagging. Wales and struts shall be included when dictated by the design.

G. The use of tiebacks can be permissible for temporary shoring systems, when conditions warrant. Tiebacks shall have a minimum clear cover of 6'-0", measured from the bottom of the rail. Upon completion of the work, tiebacks shall be grouted, cut off, and remain in place.

H. All shoring systems on, or adjacent to CSX right-of-way, shall be equipped with railings or other fall protection, compliant with the governing federal, state or local requirements. Area around pits shall be graded to eliminate all potential tripping hazards.

I. Interlocking steel sheet piles shall be used for shoring systems qualifying one or more of the following conditions:

1. Within 18'-0" of the nearest track centerline
2. Within the live load influence zone
3. Within slopes supporting the track structure
4. As otherwise deemed necessary by the Engineer.

J. Sheet piles qualifying for one or more of the requirements listed in Section VI.I (above) of this document shall not be removed. Sheet piles shall be left in place and cut off a minimum of 3'-0" below the finished grade, the ditch line invert, or as otherwise directed by the Engineer. The ground shall be backfilled and compacted immediately after sheet pile is cut off.

K. The following design considerations shall be considered when preparing the shoring design package:

1. Shoring shall be designed to resist a vertical live load surcharge of 1,880 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, eight feet six inches (8'-6") wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in AREMA Manual for Railway Engineering, Chapter 8, Part 20.
2. Allowable stresses in materials shall be in accordance with AREMA Chapter 7, 8, and 15.3.
3. A minimum horizontal clearance of ten feet (10'-0") from centerline of the track to face of nearest point of shoring shall be maintained, provided a twelve feet (12'-0") roadbed is maintained with a temporary walkway and handrail system.

4. For temporary shoring systems with Potential to Foul, piles shall be plumb under full dead load. Maximum deflection at the top of wall, under full live load, shall be as follows:

- i. One-half (1/2) inch for walls within twelve feet (12'-0") of track centerline (Measured from centerline of the nearest track to the nearest point of the supporting structure).
- ii. One (1) inch for walls located greater than twelve feet (12'-0") from track centerline

L. Shoring work plans shall be submitted in accordance with Section II of this document, as well as the following additional requirements:

- 1. The work plan shall include detailed drawings of the shoring systems calling out the sizes of all structural members, details of all connections. Both plan and elevation drawings shall be provided, calling out dimensions from the face of shoring relative to the nearest track centerline. The elevation drawing shall also show the height of shoring, and track elevation in relation to bottom of excavation.
- 2. Full design calculations for the shoring system shall be furnished.
- 3. A procedure for cutting off the sheet pile, backfilling and restoring the embankment.

VII. TRACK MONITORING

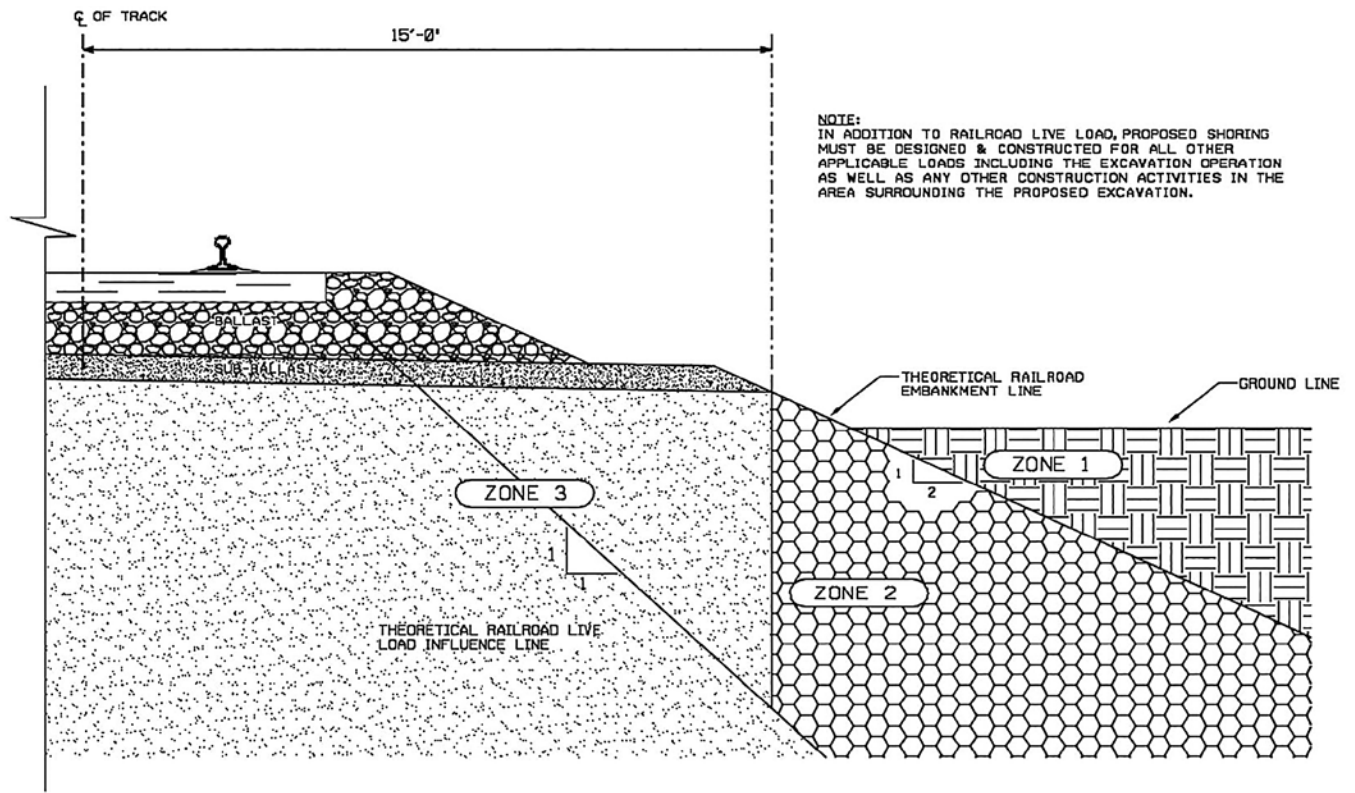
A. When work being performed has the potential to disrupt the track structure, a work plan must be submitted detailing a track monitoring program which will serve to monitor and detect both horizontal and vertical movement of the CSX track and roadbed.

B. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. CSX reserves to the right to modify the survey locations and monitoring frequency as necessary during the project.

C. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Engineer for analysis.

D. If any movement has occurred as determined by the Engineer, CSX will be immediately notified. CSX, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by CSX or performed by CSX including the monitoring of corrective action of the contractor will be at project expense.

FIGURE 1: Theoretical Live Load Influence Zone



NORMAL REQUIREMENTS FOR SHORING ADJACENT TO TRACK



ZONE 1 - EXCAVATIONS ABOVE AND OUTSIDE OF THE THEORETICAL RAILROAD EMBANKMENT LINE - DO NOT NORMALLY REQUIRE SHORING TO PROTECT RAILROAD ROADBED, SHORING MAY BE REQUIRED FOR OTHER REASONS.



ZONE 2 - EXCAVATIONS WHOSE BOTTOMS EXTEND INTO ZONE 2 REQUIRE SHORING, BUT THE SHORING MAY NORMALLY BE PULLED AFTER THE EXCAVATION HAS BEEN BACKFILLED.



ZONE 3 - EXCAVATIONS WHOSE BOTTOMS EXTEND INTO ZONE 3 WILL NORMALLY REQUIRE THE SHORING TO BE LEFT IN PLACE AND CUT-OFF 3' BELOW BASE OF RAIL. SHORING MUST BE DESIGNED FOR COOPER E80 LIVE LOAD

APPENDIX

CSX TRANSPORTATION

DRAINAGE CRITERIA

INTRODUCTION

SECTION I: Definitions

SECTION II: CSX General Design Requirements

SECTION III: Plans

SECTION IV: Calculations & Reports

SECTION V: Construction Specifications

INTRODUCTION

CSX owns its right-of-way for the primary purpose of operating a railroad. All drainage occupancies shall therefore be designed and constructed so that rail operations and facilities are not interfered with, interrupted, or endangered. In addition, the proposed facility shall be located to minimize encumbrance to the right-of-way so that the railroad will have unrestricted use of its property for current and future operations. No drainage shall be directed towards CSX Right of Way.

The CSX Design & Construction Standard Specifications for Pipelines, last revised June 5, 2018 shall serve as the overarching authority for recommended practice in providing sufficient drainage and protective measures for projects on CSX property. The intent of this document is to provide criteria which supplements, modifies and/or supersedes the applicable sections of the AREMA Manual when designing a project which can affect drainage on or about the CSX ROW. Additionally, these requirements help guide an outside party through the necessary procedures for interacting with CSX and delivering an acceptable design.

I. DEFINITIONS

1. Agency – The project sponsor (i.e., State DOT, Local Agencies, Private Developer, etc.)
2. AREMA – American Railway Engineering and Maintenance-of-Way Association – the North American railroad industry standards group. The use of this term shall be in specific reference to the AREMA Manual for Railway Engineering.
3. Construction Submission – The Agency or its representative shall submit electronic plans and 1 hard copy, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All plans, specifications, and supporting calculations shall be signed/sealed by a Professional Engineer as defined below.
4. Controlled Demolition – Removal of an existing structure or subcomponents in a manner that positively prevents any debris or material from falling, impacting, or otherwise affecting CSX employees, equipment or property. Provisions shall be made to ensure that there is no impairment of railroad operations or CSX's ability to access its property at all times.
5. Contractor – The Agency's representative retained to perform the project work.
6. Engineer – CSX Engineering Representative or a GEC authorized to act on the behalf of CSX.
7. Flagman – A qualified CSX employee with the sole responsibility to direct or restrict movement of trains, at or through a specific location, to provide protection for workers.
8. GEC – General Engineering Consultant who has been authorized to act on the behalf of CSX. GECs perform preliminary engineering, construction inspection, and monitoring under the direction of the CSX Engineering personnel. GEC personnel also perform day-to-day administration of certain types of projects.
9. Horizontal Clearance – Distance measured perpendicularly from centerline of any track to the nearest obstruction at any elevation between TOR and the maximum vertical clearance of the track.
10. Professional Engineer – An engineer who is licensed in State or Commonwealth in which the project is to occur. All plans, specifications, and supporting calculations shall be prepared by the Professional Engineer and shall bear his seal and signature.

11. Potential to Encroach – Work having the possibility of impacting CSX property or operations; defined as one or more of the following:

- a. Any activity where access onto CSX property is required.
- b. Any activity where work is being performed on CSX ROW.
- c. Any excavation work adjacent to CSX tracks or facilities, within the Theoretical Railroad Live Load Influence Zone, or where the active earth pressure zone extends within the CSX property limits.
- d. The use of any equipment where, if tipped and laid flat in any direction (360 degrees) about its center pin, can encroach within twenty five feet (25'-0") of the nearest track centerline. This is based upon the proposed location of the equipment during use, and may be a function of the equipment boom length. Note that hoisting equipment with the potential to foul must satisfy the 150% factor of safety requirement for lifting capacities.
- e. Any work where the scatter of debris or other materials has the potential to encroach within twenty five feet (25'-0") of the nearest track centerline.
- f. Any work where significant vibration forces may be induced upon the track structure or existing structures located under, over, or adjacent to the track structure.
- g. Any other work which poses the potential to disrupt rail operations, threaten the safety of railroad employees, or otherwise negatively impact railroad property, as determined by CSX.

12. ROW – Right of Way; Refers to CSX Right-of-Way as well as all CSX property and facilities. This includes all aerial space within the property limits, and any underground facilities.

13. Submission Review Period - A minimum of 30 days will be required for the initial review response. Up to an additional 30 days may be required to review any/all subsequent submissions or resubmission.

14. Theoretical Railroad Live Load Influence Zone – A 1 horizontal to 1 vertical theoretical slope line starting at bottom corner of tie.

15. TOR – Top of Rail. This is the base point for clearance measurements. It refers to the crown (top) of the steel rail; the point where train wheels bear on the steel rails. Use the higher of the two rails when track is superelevated.

16. Track Structure – All load bearing elements which support the train. This includes, but is not limited to, the rail, ties, appurtenances, ballast, sub-ballast, embankment, retaining walls, and bridge structures.

17. Vertical Clearance – Distance measured from TOR to the lowest obstruction, within six feet (6'-0") of the track centerline, in either direction.

II. CSX GENERAL DESIGN REQUIREMENTS

A. Refer to CSX's Design & Construction Standard Specifications for Pipeline Occupancies, last dated June 5, 2018, for the design requirements for all pipes and drainage structures under the railroad.

B. All pipes, ditches, and other structures carrying surface drainage on CSX property and/or under CSX track(s) shall be designed to carry the run-off from the 100-year, 24-hour design storm without ponding of water against the roadbed.

C. Pipe(s) used to carry surface drainage on CSX's right-of-way shall have a minimum diameter of 36 inches (36").

D. When calculating the capacity of existing or proposed drainage structures, under CSX's track(s), the headwater calculation at the structure shall not be greater than one (1):

$$HW/D \leq 1.$$

E. Rate and quantity of storm water runoff from any proposed development shall not exceed the rate and quantity of runoff prior to development. This standard shall be maintained for all design storms up to the 100-year storm event.

F. Pipes (casing or carrier) placed under CSX tracks shall not be less than 5.5 (5½'-0") feet from base of rail to top of pipe at its shallowest point.

G. Pipelines laid longitudinally on CSX's right-of-way, 50 feet (50'-0") or less from centerline of track shall be buried not less than 4 feet (4'-0") from ground surface to top of pipe. Where the pipeline is laid more than 50 feet (50'-0") from centerline of track, the minimum cover shall be at least 3 feet (3'-0").

H. Erosion prevention methods shall be used to protect railroad ditches and other drainage facilities during construction on and adjacent to CSX's right-of-way.

I. Permanent erosion and sediment pollution control facilities shall be designed for the 100-year storm. Provide calculations and details of any riprap outlet protection and channel linings as needed within CSX right-of-way.

J. Pipes and culverts within the live load influence shall conform to current AREMA Recommendations and ASTM Specifications. All such structures shall be designed to carry Cooper's E-80 loading with diesel impact. Refer to CSX's Design & Construction Standard Specifications for Pipeline Occupancies approved material types and specifications.

K. CSX right-of-way shall not be utilized for retention, detention or settling basins. Also, the railroad embankment must not be used as any part of a detention pond structure.

L. Track roadbed fills shall not be used as dams or levees for retention of runoff.

M. Temporary sediment basins/traps shall not be constructed against track roadbed fill.

N. Formal approval of the proposed design, by the appropriate governmental agency having jurisdiction, shall be submitted to CSX for their review and acceptance.

O. Pipes and culverts are not to be located within the limits of a turnout or nor closer than 45 feet (45'-0") to any railroad bridge, building or any other important structure.

P. When excavation for a pipeline or other structure will be within the theoretical railroad embankment line of an adjacent track, interlocking steel sheet piling will be required to protect the track(s). Trench Boxes are prohibited for use on CSX within the Theoretical Railroad Live Load Influence Zone. Please refer to the CSX Transportation, Construction Submission Criteria for further details regarding sheeting.

Q. Blasting is not permitted on or adjacent to CSX right-of-way without prior written approval from the Chief Engineer – Design & Construction.

R. Crossing of tracks at grade by equipment and personnel is prohibited except by prior arrangement with and as directed by, CSX.

S. Temporary Track Supports may be required when jacking, boring or tunneling method of installation is used, and depending upon the size and location of the drainage crossing. The Agency's contractor shall furnish and supply the CSX approved track supports, with the installation and removal performed by CSX employees. The Agency shall reimburse CSX for all costs associated with the installation and removal of the track supports.

T. Plans submitted to CSX for approval shall be prepared by a Professional Engineer and should indicate design, suitable topographic plan, and outline of total drainage area.

U. If the drainage is to discharge into an existing drainage channel on CSX's right-of-way and/or through a drainage structure under CSX's track(s), the computations must include the hydraulic analysis of any existing ditch and/or structure.

V. Extension of pipes, culverts and other drainage structures previously installed under CSX owned track shall be made with culvert or drainage structure having the same size, shape, and dimensions, as the existing pipe. In no case shall the existing drainage structure be extended so that the hydraulic capacity is decreased or obstructed. In some cases, it may be necessary to extend existing outlets with pipe or culvert of a larger size. Details of connections to mismatched culverts shall be submitted for CSX approval.

W. Agency may be required to provide corrective measures to alleviate an existing drainage problem within CSX property which may be affected by the proposed development. It shall be the responsibility of the Agency to obtain all drainage easements and permits. CSX shall be indemnified and held harmless of any liability.

X. Agency is to provide information on groundwater recharge if infiltration is proposed adjacent to CSX property. Soils testing and certification by a registered professional engineer shall be required.

Y. Emergency spillways discharging onto CSX property are to be designed and constructed so that the basin berm is protected against erosion.

Z. Energy dissipating devices are to be placed at all outlets discharging to CSX property.

AA. Concrete end walls shall be placed at outlets discharging to CSX property. All concrete outlet pipes on CSX property must be equipped with a trash rack.

BB. Under no conditions shall any person be allowed to modify, alter or change a previously approved storm water management (SWM) facility discharging to CSX property unless an approved alternate facility is approved by CSX.

CC. Design of the drainage system, including alterations of the existing drainage system on CSX right-of-way, is the responsibility of the Agency. Drainage shall not be diverted, directed toward CSX, or increased in quantity without prior approval and agreement with CSX.

DD. Supporting calculations must be provided for all proposed drainage and storm water management facilities that discharge onto or impact CSX property.

EE. Occupancies shall be designed, and their construction shall be accomplished, so that adequate and uninterrupted drainage of CSX's rights-of way is maintained.

FF. If, in the course of construction, it may be necessary to block a ditch, pipe, or other drainage facility, temporary pipes, ditches, or other proposed drainage facilities shall be installed to maintain adequate drainage, as approved by CSX. Upon completion of the Project, the temporary facilities shall be removed and the permanent facilities restored.

GG. Temporary and permanent erosion control and sedimentation (E&S) devices must be provided to prevent the flow of sediment onto and adjacent to CSX property.

HH. The design shall take into account and provide upstream areas within the entire watershed in computing discharge, sizing of pipes, inlets, and other structures.

II. When applicable, Agency is to provide maintenance and operation of E&S/Storm water facilities.

III. PLANS

A. Plans shall include the following, but not limited to:

1. Existing property boundaries, easements, etc.
2. Existing drainage features and topography
3. Existing utility locations
4. Existing structures, tracks, roads, features, etc.
5. Existing topography including wetlands and all environmental features
6. Delineate & Dimension proposed property acquisition or property easements
7. Dimension distances from all temporary and proposed E&S and storm water management facilities to CSX's property line and/or easement
8. Dimension distances from all temporary and proposed E&S and storm water management facilities to CSX's tracks
9. Dimension all temporary and proposed encroachments within CSX's property
10. Show existing contours
11. Provide TOR elevations
12. Provide proposed contours, site grading and drainage facilities
13. Provide proposed improvements, including easements and property lines and limit of disturbance
14. Details for all temporary and proposed drainage structures, SWM and E&S Best Management Practices (BMP) devices

15. Detail proposed E&S, SWM, drainage collection & conveyance systems (pipes, ditches, etc.)

i. Provide location, size, slope & type of pipe.

ii. Ditch cross sections

iii. Invert elevations

iv. Grate and rim elevations

16. If applicable, identify the 100-year floodplain if project is within a specified flood zone.

17. Provide E&S Plans in compliance with all State and Local requirements.

18. Seal and signature of a Professional Engineer who is licensed in the Commonwealth, District, Province, or State in which the project is to occur.

IV. CALCULATIONS & REPORTS

A. Design Calculations:

1. Pre and post development Drainage Area Maps

i. Provide soils boundary lines & soil types

ii. Delineate drainage areas

iii. Time of Concentration (Tc) flow path

iv. Provide weighted CN and c-values (as applicable to design method)

2. Pre-development 100-year runoff volume and flows for all facilities draining to or on CSX ROW

3. Post-development 100-year runoff volume and flows for all facilities draining to or on to CSX ROW

i. Verify no increase in rate or quantity of runoff to CSX property from Pre-Development conditions

ii. Provide hydraulic analysis (depth and velocity calculations) for all facilities draining to or on CSX ROW (existing and proposed) and verify sufficient capacity for proposed flow is provided.

4. Design of proposed collection & conveyance systems (pipes, ditches, etc.)

i. CSX requires capacity for a 100-year, 24 hour storm

ii. CSX requires a minimum diameter of 36-inches for pipes within CSX ROW

5. Provide all temporary and permanent E&S and SWM BMP calculations

6. Seal and signature of a Professional Engineer who is licensed in the Commonwealth, District, Province, or State in which the project is to occur.

B. Project narrative/summary describing proposed improvements, drainage design, SWM and E&S methodologies, site soil and geological conditions (if known), flooding characteristics (if applicable) and State and Local requirements used to produce designs.

C. Recommended: Photographs of the site and adjacent CSX property, as well as discharge locations and drainage facilities on CSX property to receive runoff from the proposed development.

V. CONSTRUCTION SPECIFICATIONS

A. Construction shall be in accordance to the CSX Design & Construction Standard Specifications for Pipeline Occupancies, last revised June 5, 2018 or latest revision, under the Construction Requirements section.

B. All work on or near CSX property shall be conducted in accordance with CSX safety rules and regulations. Specifically all Agency's employees and Contractors, while on CSX property, shall be required to wear a hard hat, safety glasses with side shields, 6" lace up boots with a distinct heel, shirts with sleeves, and long pants; additional personal protective equipment may be required based on certain operations. The Contractor and its employees shall comply with the CSX safety rules at all times while occupying CSX's property. Operations will be subject to CSX inspection at any and all times. All personnel operating equipment must be qualified on it to perform task at hand.

C. For the installation of temporary or permanent shoring systems, including but not limited to soldier piles and lagging, and interlocked steel sheeting on or adjacent to CSX's right-of-way, the contractor may be required to submit a detailed track monitoring program for CSX's approval prior to performing any work near CSX's right-of-way. Please refer to CSX Transportation, Construction Submission Criteria for additional information.

D. When water is known or expected to be encountered all plans and specifications must be submitted to the Engineer for approval before the process begins. Pumps of sufficient capacity to handle the flow shall be maintained at the site, provided the contractor has received approval from CSX to operate them. Pumps in operation shall be constantly attended on a 24-hour basis until, in the sole judgment of CSX, the operation can be safely halted. When dewatering, a process for monitoring for any settlement of track or structures must be in place.

E. If any track movement has occurred as determined by the Engineer, CSX will be immediately notified. CSX, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by CSX or performed by CSX including the monitoring of corrective action of the contractor will be at project expense.

F. Installation by the open cut method is not approved under CSX's mainline tracks, tracks carrying heavy tonnage or tracks carrying passenger trains. Also, open cut shall not be used within the limits of a highway/railroad grade crossing or its approaches, 25 feet (25'-0") either side of traveled way, where possible.

APPENDIX

CSX TRANSPORTATION

SOIL AND WATER MANAGEMENT POLICY

Any CSX environmental costs associated with a public project shall be borne by the Agency.

Public projects that generate soils from CSX property must adhere to CSX's soil management policies. CSX requires soils generated from its property to either be properly disposed in a CSX approved disposal facility or reused on CSX property. The management of soils generated from CSX property should be planned for and properly permitted (if applicable) prior to initiating any work on CSX property.

- Soil Reuse: CSX Environmental Department must review and approve reuse of soil on CSX property.
- Soil Disposal: If the soil cannot be reused on CSX property, it must be properly disposed at a CSX approved disposal facility. CSX prohibits any contractor from taking soils for off property reuse. CSX Environmental Department will handle waste characterization and profiling into an approved disposal facility. CSX prohibits any environmental sampling on its property unless granted through a written Environmental Right of Entry or approved in writing by the CSX Environmental Department. For access or right-of-entry issues for outside parties (Right-of-Entry) on CSX property please see: <https://www.csx.com/index.cfm/customers/value-added-services/property-real-estate/>. All analytical analyses must be completed at a CSX approved laboratory.

If Agency has arrangements with a disposal facility not approved by CSX, Agency can request CSX to evaluate the disposal facility. Request to evaluate alternate disposal facilities should take place prior to work being initiated on CSX property. Contact the CSX Manager Environmental Programs at (904) 366-4174 for assistance.

- If dewatering is planned for a public project, CSX Environmental Department must review and approve the dewatering plan prior to work being initiated on CSX property. CSX prohibits the discharge of water onto its property without prior approval. CSX prohibits environmental sampling of groundwater or surface water unless granted through a written Environmental Right of Entry or approved in writing by the CSX Environmental Department. Contact the Manager Environmental Programs at (904) 359-4833 for assistance.

All waste must be removed from the project site in a timely manner. It is the policy of CSX that all materials discarded by or on behalf of CSX will be managed in accordance with local, state and federal regulations as well as CSX's best management practices and sustainability goals. To ensure that these goals are achieved, CSX has mechanisms in place to monitor waste management activities, capture the information necessary to ensure 100% compliance with local, state and federal requirements 100% of the time, and track progress in the CSX sustainability program. These mechanisms also allow CSX to complete reporting requirements to federal and state regulatory agencies and document CSX's progress toward its sustainability goals.

Prior to disposal, recycling, or reuse, a CSX authorization number for transportation and disposal of all waste types (i.e. – hazardous, non-hazardous, special, etc.) must be obtained from the CSX Manager Environmental Programs and included on the disposal manifest or Bill of Lading (BOL). Promptly forward completed hazardous waste, non-hazardous waste, special waste manifests, BOLs, analytical, and profiles to the CSX Project Manager with copies to CSX's Manager Environmental Programs to wastedisposal@csx.com.

Containment system, clean up and disposal of all paint and other material removed from a bridge: The clean-up and disposal of material from the surface preparation for painting and the actual painting must comply with all appropriate regulations and CSX's policies and procedures. The materials removed during the surface preparation must not impact the surrounding area including ground, water, or air impacts. Materials must not be stored on CSX property.

A list of the CSX approved laboratories and disposal/recycling facilities can be obtained from the Manager Environmental Programs at wastedisposal@csx.com.

CSX