

PROJECT SPECIFICATIONS

2024 161 Bike Trail Bridge Painting Project

ST. CLAIR COUNTY, ILLINOIS

May 2024



ST. CLAIR COUNTY TRANSIT DISTRICT

NOTICE TO BIDDERS

The St. Clair County Transit District, St. Clair County, Illinois, will receive sealed bids for **2024 161 Bike Trail Bridge Painting Project** until **10:30 A.M.**, on **May 14, 2024**, at the office of the St. Clair County Transit District. All bids will be publicly opened and read aloud at **10:35 A.M., May 14, 2024**. **The sealed bids must be delivered to the St. Clair County Transit office before 10:30 A.M., during regular business hours.** The Contract Documents, including Plans and Specifications, are on file at the office of the St. Clair County Transit District at 27 North Illinois Street, Belleville, Illinois, 62220.

The proposed project consists of cleaning and painting the structural steel beams, or portions thereof, of the bridge carrying the MetroBikeLink over IL Route 161 (SN 082-7003) and any other work necessary to complete the project as described. All work shall be performed in accordance with the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, edition in effect at the time of the bid.

IDOT Prequalification in Category 25 - Painting and Cleaning is required for all bidders.

No less than the prevailing rate of wages, as determined in accordance with the Illinois Prevailing Wage Act, shall be paid to all laborers, operators, teamsters, masons, plumbers, and any workers employed in construction on this project.

Each bidder must deposit with his bid, security in the amount of not less than five percent (5%) of the bidder's total bid price, such security being an acceptable bid bond, certified check, or cashier's check. The successful bidder will be required to furnish a satisfactory Performance Bond in the full amount of the bid.

Contractors must register their email with the St. Clair County Transit District by emailing Tony Erwin at terwin@scctd.org. Bids will not be accepted or opened which have been received from any bidder who is not a bid document holder of record.

All questions shall be forwarded to Tony Erwin by email at terwin@scctd.org.

ST. CLAIR COUNTY TRANSIT DISTRICT

PROPOSAL

2024 161 Bike Trail Bridge Painting Project

ST. CLAIR COUNTY TRANSIT DISTRICT

To: The Chairman and Board
St. Clair County Transit District

The undersigned, having familiarized (himself/itself/themselves) with the local conditions affecting the cost of the work and with the Contract Documents, including the Notice to Bidders, General Conditions, Special Provisions, Specifications for Workmanship and Materials, Proposal, Form of Contract, Form of Bonds, etc., and with the plans and addenda on file in the Office of the St. Clair County Transit District, hereby proposes to perform all work required to be performed and to provide and furnish all of the labor, materials, necessary tools, expendable equipment, and all utility and transportation services necessary to perform and complete in a workmanlike manner all work required in connection with the **2024 161 Bike Trail Bridge Painting Project** for the St. Clair County Transit District, all in accordance with the Plans and Specifications, including:

ADDENDA NUMBER

DATE

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

issued thereto and acknowledged herein, for the unit prices given in the following
SCHEDULE OF QUANTITIES AND BID UNIT PRICES:

PROPOSAL

2024 161 Bike Trail Bridge Painting Project

SCHEDULE OF QUANTITIES AND BID UNIT PRICES

Item	Description	Unit	Quantity	Unit Price	Total
1	Mobilization	L.S.	1		
2	Cleaning & Painting Steel Bridge #1	L.S.	1		
3	Containment & Disposal of Non-Lead Paint Cleaning Residues	L.S.	1		
4	Railroad Protective Liability Insurance	L.S.	1		
				Total	

PROPOSAL

If awarded this contract, the undersigned agrees to commence work within ten (10) days after award of the contract or as otherwise directed, and to complete the work as outlined in the Working Days special provision of the **2024 161 Bike Trail Bridge Painting Project** specifications.

Accompanying this proposal is a (certified check), (cashier's check), (bid bond), in the amount of _____ dollars (\$ _____), payable to the St. Clair County Transit District, which it is agreed will be forfeited to the St. Clair County Transit District if the undersigned fails to execute the contract.

BIDDER - COMPANY NAME

ADDRESS

CITY / STATE / ZIP

BY:

TITLE DATE

PROPOSAL

NON-COLLUSION AFFIDAVIT

The bidder, by its officers and their authorized agents or representatives present at the time of filing this bid, being duly sworn on their oaths, say that neither they nor any of them have in any way, directly or indirectly, entered into any arrangement or agreement with any other bidder, nor with any public officer of the ST. CLAIR COUNTY TRANSIT DISTRICT whereby such affiant or affiants, or either of them, has paid or is to pay to such other bidder or public officer any sum of money; nor has given or is to give such other bidder or public officer anything of value whatever, or such affiant or affiants; or either of them, has not, directly or indirectly, entered into any arrangement or agreement with any other bidder or bidders, which tends to or does lessen or destroy free competition in the letting of the Contract sought for by the attached bids; nor any inducement of any form or character, other than that which appears upon the face of the bid, will be suggested, offered, paid or delivered to any person whomsoever to influence the acceptance of the said bid or awarding of the Contract; nor has this bidder entered into any agreement or understanding of any kind whatsoever, with any person, in any way or manner, for any of the proceeds of the contract sought by this bid.

_____ BY: _____
BIDDER - COMPANY NAME

_____ TITLE _____ DATE _____
ADDRESS

CITY / STATE / ZIP

Subscribed and sworn to before me this _____ day of _____, 2024.

NOTARY PUBLIC

My commission expires: _____

NOTE: Bidders should not add any conditions or qualifying statements to this bid, as otherwise the bid may be declared irregular as being not responsive to the Advertisement for Bids.

PROPOSAL

BID BOND

WE, _____, as PRINCIPAL, and _____, as SURETY with authority to do business in Illinois, are held and firmly bound unto the ST. CLAIR COUNTY TRANSIT DISTRICT in the penal sum of Five Percent (5%) of the total bid price lawful money of the United States. We bind ourselves jointly and severally, and our joint and several heirs, executors, administrators, successors, and assigns, firmly by these presents, this _____ day of _____, 2021, to pay to the ST. CLAIR COUNTY TRANSIT DISTRICT this sum under the conditions of this instrument.

WHEREAS the condition of the foregoing obligation is such that, the said PRINCIPAL is submitting a written proposal to the ST. CLAIR COUNTY TRANSIT DISTRICT for **2024 161 Bike Trail Bridge Painting Project**.

THEREFORE, if the proposal is accepted and a contract awarded to the PRINCIPAL by the ST. CLAIR COUNTY TRANSIT DISTRICT for the aforementioned improvement, and the PRINCIPAL shall within ten (10) days after receipt of the notice of award enter into a formal contract and furnish evidence of the required insurance coverage, all as required by the project specifications, then this obligation shall become void; otherwise, it shall remain in full force and effect.

IN THE EVENT the ST. CLAIR COUNTY TRANSIT DISTRICT determines that the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the ST. CLAIR COUNTY TRANSIT DISTRICT shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____, 2024.

(SEAL) PRINCIPAL

PRINCIPAL - COMPANY NAME

ADDRESS

CITY / STATE / ZIP

ATTEST: _____

BY: _____

TITLE DATE

TITLE DATE

(SEAL) SURETY

SURETY - COMPANY NAME

BY:

ATTORNEY-IN-FACT DATE

Subscribed and sworn to before me this _____ day of _____, 2024.

NOTARY PUBLIC

My commission expires: _____

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2024

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction
(Adopted 1-1-22) (Revised 1-1-24)

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Check Sheet for Recurring Special Provisions

Local Public Agency	County	Section Number
St. Clair County Transit District	St. Clair	2024 161 Bike Trail Bridge Painting Project

Check this box for lettings prior to 01/01/2024.

The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Recurring Special Provisions

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Local Public Agency

County

Section Number

St. Clair County Transit District

St. Clair

2024 161 Bike Trail Bridge
Painting Project

The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

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SPECIAL PROVISIONS

2024 161 Bike Trail Bridge Painting Project

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", latest edition in effect on the date of the invitation for bids, as adopted by the Illinois Department of Transportation (IDOT) and the Supplemental Specifications and Recurring Special Provisions adopted therewith, and the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways" latest edition in effect on the date of the invitation for bids, shall apply to and govern the construction of the above designated project. In case of conflict with any part, or parts, of said specifications, these special provisions shall take precedence over the Standard Specifications and inserted special provisions.

All references to Department and Engineer in the "Standard Specifications for Road and Bridge Construction" shall be defined as the St. Clair County Transit District or their authorized representative.

PROJECT LOCATION: The project is located at the structure carrying MetroBikeLink over IL Route 161 (SN 082-7003), 0.5 mile east of Greenmount Road in Belleville, IL.

DESCRIPTION OF WORK: The proposed project consists of cleaning and painting the structural steel beams, or portions thereof, of the bridge carrying the MetroBikeLink over IL Route 161 (SN 082-7003) and any other work necessary to complete the project as described.

1. The Contractor shall clean and paint the exterior surfaces and bottoms of flanges of the outer beams of spans 1 & 2 between splice 2 and the South abutment, as shown in the attached structural details.
2. Cleaning of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures." The areas to be painted shall be cleaned per Power Tool Cleaning – Modified SP 3. The existing top layer (blue urethane) shall be removed to expose the underlying layer of white epoxy. The white epoxy layer shall be abraded prior to application of the painting system.
3. The cleaned areas shall be painted according to the requirements for System 2 – PS/EM/U. The color of the final finish coat shall be SWIC Blue Pantone PMS-286. The blue urethane shall be evenly applied to layer and blend with the adjacent surfaces not being repaired.
4. If a working platform is used, the Contractor shall submit calculations and drawings, signed and sealed by a structural engineer licensed in the State of Illinois, that assure the structural integrity of the bridge under the live and dead

loads imposed, including the design wind loading. Costs will be included in the pay item "Containment and Disposal of Non-Lead Paint Cleaning Residues."

5. Existing structural details for SN 082-7003 are located within these Special Provisions.

GENERAL: The Contractor shall furnish all labor, materials, and equipment to complete the work as described in accordance with these special provisions and the applicable sections of the IDOT Standard Specifications for Road and Bridge Construction.

EXAMINATION OF SITE: The Contractor shall be responsible for completing any necessary site inspections prior to submitting a bid on this project. Upon receipt of a bid, it shall be assumed that the Contractor is fully familiar with the project site and the work to be completed.

PREQUALIFICATION: The Contractor shall be prequalified through IDOT for work specified under Category 25 – Painting and Cleaning.

CONTRACT ADMINISTRATOR: The St. Clair County Transit District or its authorized representative will be the assigned Contract Administrator of this contract. This individual will be the point of contact for the Contractor regarding any issues or concerns relating to the contract. The Contract Administrator will also be responsible for scheduling site visits with the Contractor, reviewing sites for completion, enforcement of contract provisions and the receipt of invoices as provided by the Contractor. The Contractor will be provided contact information for the Contract Administrator upon award of the contract and will be subsequently notified should the administrator change during the life of the contract.

PROJECT COORDINATION: A mandatory pre-construction meeting shall be scheduled within one week of contract ratification between the Contractor and the St. Clair County Transit District. All work will be scheduled through the St. Clair County Transit District Director of Facilities. Contractor must present a preliminary workschedule at the pre-construction meeting. The St. Clair County Transit District will have progress meetings, if necessary, which shall be held at the St. Clair County Transit District Office.

PERMITTING: The Contractor shall be required to obtain any necessary permits to complete the project prior to beginning work. In the event permits are required, the St. Clair County Transit District will reimburse the Contractor for the costs to obtain any necessary permits. It is anticipated that authorization will be required from the Illinois Department of Transportation and the Bi-State Development Agency/Metro for work within the respective rights-of-way.

- A. **IDOT REQUIREMENTS:** Prior to beginning work activities, the Contractor will be required to obtain authorization from the Illinois Department of Transportation for work within their right-of-way. The Contractor shall complete and submit form BSPE 725 to:

Ms. RuAnna Stumpf
IDOT D8 Permits Unit Chief
1102 Eastport Plaza Drive
Collinsville, IL 62234
Phone (618) 346-3280
Email ruanna.stumpf@illinois.gov

- B. **METRO REQUIREMENTS:** Work performed adjacent to Metro tracks shall be done in accordance with the details in the plans, Metro Standard Operating Procedure (SOP) 101.17 – Policy and Procedure for Work Performed on Metro R.O.W., including attached exhibits, and as directed by the Engineer.

The need for a flagger will be identified by Metro’s permit process, and the use approved by the Engineer, prior to completing the work. If a flagger is required, the Contractor will be reimbursed by the St. Clair County Transit District for the hourly wage associated with providing flagging for the project, including up to 1 hour per day for picking up and dropping off the flagging kit to the Metro facility.

Contractor employees are required to attend a four (4) hour training session provided by Metro in order to access or occupy Metro right-of-way.

Metro contact for initiation of required activities is:

Mr. David Still
Metro St. Louis
700 South Ewing Ave.
St. Louis, MO 63103
Phone (314) 575-1236
Email dxstill@metrostlouis.org

INVOICES: The St. Clair County Transit District will pay all Contractor submitted invoices on a monthly basis. The St. Clair County Transit District will have 72 hours to inspect the project site before any submitted invoice is processed for payment. Under no circumstances will the Contract Administrator be authorized to pre-pay for work prior to completion or for the partial completion of work. Invoice templates shall follow the standard AIA form. The Contract Administrator can provide a template upon request. If the Contractor elects to use their own invoice, then said invoice shall include the following features: invoice number, invoice date, individual listing of project site with corresponding cost and account reference along with the date the work was completed. Invoices shall be emailed to the St. Clair County Transit District Office via email provided to the Contractor. All invoices submitted shall be paid **Net 30**.

RETAINAGE: To further assure timely completion of the work, restoration, and clean-up of the project site, 10% of the payment due to the Contractor shall be retained until the project is successfully completed and all punch list items are adequately addressed.

PROJECT LABOR AGREEMENT (PLA) AND PREVAILING WAGES: A PLA shall be required for this project and no less than the prevailing rate of wages, as determined in accordance with the Illinois Prevailing Wage Act, shall be paid to all laborers, operators, teamsters, masons, plumbers, and any workmen employed in the accomplishment of this project. On site wage interviews may be conducted periodically to assure compliance with the prevailing wage rates. **At the time of each payment request, the Contractor must submit copies of weekly payrolls as proof of compliance with prevailing wage rates. Payment will not be made without submittal of this documentation and full compliance with the prevailing wage rates.** For additional information, please visit the Illinois Department of Labor's Web Site at <https://www2.illinois.gov/idol>.

TRAFFIC CONTROL PLAN: Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the National Manual on Uniform Traffic Control Devices for Streets and Highways, Illinois Supplement to the National Manual on Uniform Traffic Control Devices, these Special Provisions, and any special details and Highway Standards contained herein.

Special attention is called to Articles 107.09 and 107.14 of the Standard Specifications for Road and Bridge Construction and the following highway standards relating to traffic control:

- 701101
- 701106
- 701602
- 701701
- 701901

In addition, the following Special Provision(s) will also govern traffic control for this project:

- Vehicle and Equipment Warning Lights
- Work Zone Traffic Control Devices

DISPOSAL OF MATERIALS: All materials for disposal shall be removed from the site and properly disposed of at locations provided by the Contractor. The cost for doing this work shall be included in the bid prices and no additional compensation will be allowed.

EQUIPMENT AND MATERIAL STORAGE: The Contractor is responsible for securing his own project storage site which shall not be located on IDOT or MetroLink right-of-way, or YMCA property, without the consent of the respective owner.

UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES: It is the Contractor's responsibility to determine the existence and location of all underground facilities, structures, and utilities and to protect them from damage during construction and disconnection.

PROTECTION OF EXISTING FACILITIES: The Contractor shall maintain and protect all existing facilities, both on-site and off-site, including but not limited to utilities, roadways, trees, tree limbs, landscaping, lawns, and buildings which are not scheduled for removal or replacement under this project. The Contractor shall provide any required sheeting, shoring, covering or other means and methods to protect existing facilities. The

Contractor shall bear all costs and make all arrangements to repair or replace, any existing facility, both on-site and off-site, damaged as a result of construction, which is not scheduled for removal or replacement as part of this project.

INDEMNIFICATION: To the fullest extent permitted by laws and regulations, the Contractor shall indemnify and hold harmless the St. Clair County Transit District, their agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of the St. Clair County Transit District's architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by laws and regulations regardless of the negligence of any such party.

In any and all claims against the St. Clair County Transit District or any of their consultants, agents, or employees by any employee of the Contractor, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph A shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any such subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor shall not extend to the liability of the St. Clair County Transit District or their consultants, agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs, or specifications.

SAFETY AND PROTECTION: The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the project. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

- All employees on the project and other persons and organizations who may be affected thereby; and
- All work, materials, and equipment to be incorporated therein, whether in storage on or off the site; and
- Other property at the site adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with all applicable Laws and Regulations of any public body

having jurisdiction for the safety of persons and property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of underground facilities and utility owners when prosecution of the work may affect them and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts either of them may be liable, shall be remedied by the Contractor (except damage or loss attributable to the fault of drawings or specifications or to the acts or omissions of the St. Clair County Transit District or anyone employed therein or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor). The Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the Work is completed and the St. Clair County Transit District has issued a notice to the Contractor that the work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

The Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent, unless otherwise designated in writing by the Contractor to the St. Clair County Transit District.

In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, the Contractor, without special instructions or authorization from the St. Clair County Transit District, is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give the St. Clair County Transit District prompt, written notice if the Contractor believes that any significant changes in the work or variations from the contract documents have been caused thereby. If the St. Clair County Transit District determines that a change in the contract documents is required because of the action taken in response to an emergency, a work directive change or change order will be issued to document the consequences of the changes or variations.

CONFLICTS WITH PERSONNEL: Should a conflict between personnel of the Contractor and the St. Clair County Transit District escalate to the point that it hinders progress of the work and cannot be settled amicably, the Contractor personnel involved in the conflict shall be removed from the project. A personnel conflict shall not give cause for the Contractor to terminate this contract nor to pull employees from the active work site.

Need to include copies of the IDOT Index of Supplemental Specifications and Recurring Special Provisions along with the check sheets with appropriate boxes marked.

CLEANING AND PAINTING EXISTING STEEL STRUCTURES

Effective: October 2, 2001

Revised: April 15, 2022

Description. This work shall consist of the preparation of all designated metal surfaces by the method(s) specified on the plans. This work also includes the painting of those designated surfaces. This work also includes caulking locations designated on the plans and painting with the paint system(s) specified on the plans. The Contractor shall furnish all materials, equipment, labor, and other essentials necessary to accomplish this work and all other work described herein and as directed by the Engineer.

Materials. All materials to be used on an individual structure shall be produced by the same manufacturer.

The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material, except for the penetrating sealer, shall be tested and assigned a MISTIC approval number before use. The specified colors shall be produced in the coating manufacturer's facility. Tinting of the coating after it leaves the manufacturer's facility is not allowed.

The paint materials shall meet the following requirements of the Standard Specification and as noted below:

<u>Item</u>	<u>Article</u>
(a) Waterborne Acrylic	1008.04
(b) Aluminum Epoxy Mastic	1008.03
(c) Organic Zinc Rich Primer	1008.05
(d) Epoxy/ Aliphatic Urethane	1008.05
(e) Penetrating Sealer (Note 1)	
(f) Moisture Cured Zinc Rich Urethane Primer (Note 2)	
(g) Moisture Cured Aromatic/Aliphatic Urethane (Note 2)	
(h) Moisture Cured Penetrating Sealer (Note 3)	
(i) Caulk (Polyurethane Joint Sealant)	1050.04

Note 1: The Epoxy Penetrating Sealer shall be a cross-linked multi component sealer. The sealer shall have the following properties:

- (a) The volume solids shall be 98 percent (plus or minus 2 percent).
- (b) Shall be clear or slightly tinted color.

Note 2: These material requirements shall be according to the Special Provision for the Moisture Cured Urethane Paint System.

Note 3: The Moisture Cured Penetrating Sealer manufacturer's certification will be required.

Submittals. The Contractor shall submit for Engineer review and acceptance, the following plans and information for completing the work. The submittals shall be provided within 30 days of execution of the contract unless given written permission by the Engineer to submit them at a later date. Work cannot proceed until the submittals are accepted by the Engineer. Details for each of the plans are presented within the body of this specification.

- a) Contractor/Personnel Qualifications. Evidence of Contractor qualifications and the names and qualifications/experience/training of the personnel managing and implementing the Quality Control program and conducting the quality control tests, and certifications for the CAS (Coating Application Specialists) on SSPC-QP1 and QP2 projects.
- b) Quality Control (QC) Program. The QC Program shall identify the following; the instrumentation that will be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and painting quality as a result of quality control findings. The program shall incorporate at a minimum, the IDOT Quality Control Daily Report form, or a Contractor form (paper or electronic) that provides equivalent information.
- c) Inspection Access Plan. The inspection access plan for use by Contractor QC personnel for ongoing inspections and by the Engineer during Quality Assurance (QA) observations.
- d) Surface Preparation/Painting Plan. The surface preparation/painting plan shall include the methods of surface preparation and type of equipment to be utilized for washing, hand/power tool cleaning, removal of rust, mill scale, paint or foreign matter, abrasive blast or water jetting, and remediation of chloride. If detergents, additives, or inhibitors are incorporated into the water, the Contractor shall include the names of the materials and Safety Data Sheets (SDS). The Contractor shall identify the solvents proposed for solvent cleaning together with SDS.

If cleaning and painting over existing galvanized surfaces are specified, the plan shall address surface preparation, painting, and touch up/repair of the galvanized surfaces.

The plan shall also include the methods of coating application and equipment to be utilized.

If the Contractor proposes to heat or dehumidify the containment, the methods and equipment proposed for use shall be included in the Plan for the Engineer's consideration.

- e) Paint Manufacturer Certifications and Letters. When a sealer is used, the Contractor shall provide the manufacturer's certification of compliance with IDOT testing requirements listed under "Materials" above. A certification regarding the compatibility of the sealer with the specified paint system shall also be included.

When rust inhibitors are used, the Contractor shall provide a letter from the coating manufacturer indicating that the inhibitor is compatible with, and will not adversely affect the performance of the coating system.

If the use of a chemical soluble salt remover is proposed by the Contractor, provide a letter from the coating manufacturer indicating that the material will not adversely affect the performance of the coating system.

The paint manufacturer's most recent application and thinning instructions, SDS and product data sheets shall be provided, with specific attention drawn to storage temperatures, and the temperatures of the material, surface and ambient air at the time of application.

A letter or written instructions from the coating manufacturer shall be provided indicating the length of time that each coat must be protected from cold or inclement weather (e.g., exposure to rain) during its drying period, the maximum recoat time for each coat, and the steps necessary to prepare each coat for overcoating if the maximum recoat time is exceeded.

- f) Abrasives. Abrasives to be used for abrasive blast cleaning, including SDS. For expendable abrasives, the Contractor shall provide certification from the abrasive supplier that the abrasive meets the requirements of SSPC-AB1. For steel grit abrasives, the certification shall indicate that the abrasive meets the requirements of SSPC-AB3.
- g) Protective Coverings. Plan for containing or controlling paint debris (droplets, spills, overspray, etc.). Any tarpaulins or protective coverings proposed for use shall be fire retardant. For submittal requirements involving the containment used to remove lead paint, the Contractor shall refer to Special Provision for Containment and Disposal of Lead Paint Cleaning Residues.
- h) Progress Schedule. Progress schedule shall be submitted per Article 108.02 and shall identify all major work items (e.g., installation of rigging/containment, surface preparation, and coating application).

When the Engineer accepts the submittals, the Contractor will receive written notification. The Contractor shall not begin any paint removal work until the Engineer has accepted the submittals. The Contractor shall not construe Engineer acceptance of the submittals to imply approval of any particular method or sequence for conducting the work, or for addressing health and safety concerns. Acceptance of the programs does not relieve the Contractor from the responsibility to conduct the work according to the requirements of Federal, State, or Local regulations and this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor remains solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.

Contractor Qualifications. Unless indicated otherwise on the contract plans, for non lead abatement projects, the painting Contractor shall possess current SSPC–QP1 certification. Unless indicated otherwise on the plans, for lead abatement projects the Contractor shall also possess current SSPC-QP2 certification. The Contractor shall maintain certified status throughout the duration of the painting work under the contract. The Department reserves the right to accept Contractors documented to be currently enrolled in the SSPC-QP7, Painting Contractor Introductory Program, Category 2, in lieu of the QP certifications noted above.

Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections. The Contractor shall implement the submitted and accepted QC Program to ensure that the work accomplished complies with these specifications. The designated Quality Control inspector shall be onsite full time during any operations that affect the quality of the coating system (e.g., surface preparation and chloride remediation, coating mixing and application, and evaluations between coats and upon project completion). The Contractor shall use the IDOT Quality Control Daily Report form to record the results of quality control tests. Alternative forms (paper or electronic) will be allowed provided they furnish equivalent documentation as the IDOT form, and they are accepted as part of the QC Program submittal. The completed reports shall be turned into the Engineer before work resumes the following day. The Engineer or designated representative will sign the report. The signature is an acknowledgment that the report has been received, but should not be construed as an agreement that any of the information documented therein is accurate.

Contractor QC inspections shall include, but not be limited to the following:

- Suitability of protective coverings and the means employed to control project debris and paint spills, overspray, etc.
- Ambient conditions
- Surface preparation (solvent cleaning, pressure washing including chalk tests, hand/power tool or abrasive blast cleaning, etc.)
- Chloride remediation
- Coating application (specified materials, mixing, thinning, and wet/dry film thickness)
- Recoat times and cleanliness between coats
- Coating continuity and coverage (freedom from runs, sags, overspray, dryspray, pinholes, shadow-through, skips, misses, etc.)

The personnel managing the Contractor's QC Program shall possess a minimum classification of Society of Protective Coatings (SSPC) BCI certified, National Association of Corrosion Engineers (NACE) Coating Inspector Level 2 - Certified, and shall provide evidence of successful inspection of 3 bridge projects of similar or greater complexity and scope that have been completed in the last 2 years. Copies of the certification and experience shall be provided. References for experience shall be provided and shall include the name, address, and telephone number of a contact person employed by the bridge owner.

The personnel performing the QC tests shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided. The QC personnel shall not perform hands on surface preparation or painting activities. Painters shall perform wet film thickness measurements, with QC personnel conducting random spot checks of the wet film. The Contractor shall not replace the QC personnel assigned to the project without advance notice to the Engineer, and acceptance of the replacement(s), by the Engineer.

The Contractor shall supply all necessary equipment with current calibration certifications to perform the QC inspections. Equipment shall include the following at a minimum:

- Sling psychrometer or digital psychrometer for the measurement of dew point and relative humidity, together with all necessary weather bureau tables or psychrometric charts. In the event of a conflict between readings with the sling psychrometer and the digital psychrometer, the readings with the sling psychrometer shall prevail.
- Surface temperature thermometer
- SSPC Visual Standards VIS 1, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning; SSPC-VIS 3, Visual Standard for Power and Hand-Tool Cleaned Steel; SSPC-VIS 4, Guide and Reference Photographs for Steel Prepared by Water Jetting, and/or SSPC-VIS 5, Guide and Reference Photographs for Steel Prepared by Wet Abrasive Blast Cleaning, as applicable.
- Test equipment for determining abrasive cleanliness (oil content and water-soluble contaminants) according to SSPC abrasive specifications AB1, AB2, and AB3.
- Commercially available putty knife of a minimum thickness of 40 mils (1mm) and a width between 1 and 3 in. (25 and 75 mm). Note that the putty knife is only required for projects in which the existing coating is being feathered and tested with a dull putty knife.
- Testex Press-O-Film Replica Tape and Micrometer compliant with Method C of ASTM D4417, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel, or digital profile depth micrometer compliant with ASTM D4417, Method B. In the event of a conflict between measurements with the two instruments on abrasive blast cleaned steel, the results with the Testex Tape shall prevail. Note that for measuring the profile of steel power tool cleaned to SSPC-SP15, Commercial Grade Power Tool Cleaning, the digital profile depth micrometer shall be used.
- Bresle Cell Kits or CHLOR*TEST kits for chloride determinations, or equivalent
- Wet Film Thickness Gage
- Blotter paper for compressed air cleanliness checks
- Type 2 Electronic Dry Film Thickness Gage per SSPC - PA2, Procedure for Determining Conformance to Dry Coating Thickness Requirements
- Standards for verifying the accuracy of the dry film thickness gage
- Light meter for measuring light intensity during paint removal, painting, and inspection activities
- All applicable ASTM and SSPC Standards used for the work (reference list attached)

The accuracy of the instruments shall be verified by the Contractor's personnel according to the equipment manufacturer's recommendations and the Contractor's QC Program. All inspection equipment shall be made available to the Engineer for QA observations on an as needed basis.

Hold Point Notification. Specific inspection items throughout this specification are designated as Hold Points. Unless other arrangements are made at the project site, the Contractor shall provide the Engineer with a minimum 4-hour notification before a Hold Point inspection will be reached. If the 4-hour notification is provided and the Work is ready for inspection at that time, the Engineer will conduct the necessary observations. If the Work is not ready at the appointed time, unless other arrangements are made, an additional 4-hour notification is required. Permission to proceed beyond a Hold Point without a QA inspection will be granted solely at the discretion of the Engineer, and only on a case by case basis.

Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all phases of the work. The presence or activity of Engineer observations in no way relieves the Contractor of the responsibility to provide all necessary daily QC inspections of his/her own and to comply with all requirements of this Specification.

The Engineer has the right to reject any work that was performed without adequate provision for QA observations.

Inspection Access and Lighting. The Contractor shall facilitate the Engineer's observations as required, including allowing ample time to view the work. The Contractor shall furnish, erect and move scaffolding or other mechanical equipment to permit close observation of all surfaces to be cleaned and painted. This equipment shall be provided during all phases of the work. Examples of acceptable access structures include:

- Mechanical lifting equipment, such as, scissor trucks, hydraulic booms, etc.
- Platforms suspended from the structure comprised of trusses or other stiff supporting members and including rails and kick boards.
- Simple catenary supports are permitted only if independent lifelines for attaching a fall arrest system according to Occupational Safety and Health Administration (OSHA) regulations are provided.

When the surface to be inspected is more than 6 ft. (1.8 m) above the ground or water surface, and fall prevention is not provided (e.g., guardrails are not provided), the Contractor shall provide the Engineer with a safety harness and a lifeline according to OSHA regulations. The lifeline and attachment shall not direct the fall into oncoming traffic. The Contractor shall provide a method of attaching the lifeline to the structure independent of the inspection facility or any support of the platform. When the inspection facility (e.g., platform) is more than 2 1/2 ft. (800 mm) above the ground, the Contractor shall provide an approved means of access onto the platform.

The Contractor shall provide artificial lighting in areas both inside and outside the containment where natural light is inadequate, as determined by the Engineer, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 30 foot-candles (325 LUX). Illumination for cleaning and painting, including the working platforms, access and entryways shall be at least 20 foot-candles (215 LUX). General work area illumination outside the containment shall be employed at the discretion of the Engineer and shall be at least 5 foot-

candles. The exterior lighting system shall be designed and operated so as to avoid glare that interferes with traffic, workers, and inspection personnel.

Surface Preparation and Painting Equipment. All cleaning and painting equipment shall include gages capable of accurately measuring fluid and air pressures and shall have valves capable of regulating the flow of air, water or paint as recommended by the equipment manufacturer. The equipment shall be maintained in proper working order.

Diesel or gasoline powered equipment shall be positioned or vented in a manner to prevent deposition of combustion contaminants on any part of the structure.

Hand tools, power tools, pressure washing, water jetting, abrasive blast cleaning equipment, brushes, rollers, and spray equipment shall be of suitable size and capacity to perform the work required by this specification. All power tools shall be equipped with vacuums and High Efficiency Particulate Air (HEPA) filtration. Appropriate filters, traps and dryers shall be provided for the compressed air used for abrasive blast cleaning and conventional spray application. Paint pots shall be equipped with air operated continuous mixing devices unless prohibited by the coating manufacturer.

Test Sections. Prior to surface preparation, the Contractor shall prepare a test section(s) on each structure to be painted in a location(s) which the Engineer considers to be representative of the existing surface condition and steel type for the structure as a whole. More than one test section may be needed to represent the various design configurations of the structure. The purpose of the test section(s) is to demonstrate the use of the tools and degree of cleaning required (cleanliness and profile) for each method of surface preparation that will be used on the project. Each test section shall be approximately 10 sq. ft. (0.93 sq m). The test section(s) shall be prepared using the same equipment, materials and procedures as the production operations. The Contractor shall prepare the test section(s) to the specified level of cleaning according to the appropriate SSPC visual standards, modified as necessary to comply with the requirements of this specification. The written requirements of the specification prevail in the event of a conflict with the SSPC visual standards. Only after the test section(s) have been approved shall the Contractor proceed with surface preparation operations. Additional compensation will not be allowed the Contractor for preparation of the test section(s).

For the production cleaning operations, the specifications and written definitions, the test section(s), and the SSPC visual standards shall be used in that order for determining compliance with the contractual requirements.

Protective Coverings and Damage. All portions of the structure that could be damaged by the surface preparation and painting operations (e.g., utilities), including any sound paint that is allowed to remain according to the contract documents, shall be protected by covering or shielding. Tarpaulins drop cloths, or other approved materials shall be employed. The Contractor shall comply with the provisions of the Illinois Environmental Protection Act. Paint drips, spills, and overspray are not permitted to escape into the air or onto any other surfaces or surrounding property not intended to be painted. Containment shall be used to control paint drips, spills, and overspray, and shall be dropped and all equipment secured when sustained

wind speeds of 40 mph (64 kph) or greater occur, unless the containment design necessitates action at lower wind speeds. The contractor shall evaluate project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a plan for containing or controlling paint debris (droplets, spills, overspray, etc.) to the Engineer for acceptance prior to starting the work. Acceptance by the Engineer shall not relieve the Contractor of their ultimate responsibility for controlling paint debris from escaping the work zone.

When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing. When removing coatings containing lead the containment and disposal of the residues shall be as specified in the Special Provision for Containment and Disposal of Lead Paint Cleaning Residues contained elsewhere in this Contract. When removing coatings not containing lead the containment and disposal of the residues shall be as specified in the Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues contained elsewhere in this Contract.

The Contractor shall be responsible for any damage caused to persons, vehicles, or property, except as indemnified by the Response Action Contractor Indemnification Act. Whenever the intended purposes of the controls or protective devices used by the Contractor are not being accomplished, work shall be immediately suspended until corrections are made. Damage to vehicles or property shall be repaired by the Contractor at the Contractor's expense. Painted surfaces damaged by any Contractor's operation shall be repaired, removed and/or repainted, as directed by the Engineer, at the Contractor's expense.

Weather Conditions. Surfaces to be painted after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to insure that dust, dirt, or moisture do not come in contact with surfaces cleaned or painted that day.

- a) The surface temperature shall be at least 5°F (3°C) above the dew point during final surface preparation operations. The manufacturers' published literature shall be followed for specific temperature, dew point, and humidity restrictions during the application of each coat.
- b) If the Contractor proposes to control the weather conditions inside containment, proposed methods and equipment for heating and/or dehumidification shall be included in the work plans for the Engineer's consideration. Only indirect fired heating equipment shall be used to prevent the introduction of moisture and carbon monoxide into the containment. The heating unit(s) shall be ventilated to the outside of the containment. Any heating/dehumidification proposals accepted by the Engineer shall be implemented at no additional cost to the department.
- c) Cleaning and painting shall be done between April 15 and October 31 unless authorized otherwise by the Engineer in writing.

The Contractor shall monitor temperature, dew point, and relative humidity every 4 hours during surface preparation and coating application in the specific areas where the work is being performed. The frequency of monitoring shall increase if weather conditions are changing. If the weather conditions after application and during drying are forecast to be outside the acceptable limits established by the coating manufacturer, coating application shall not proceed. If the weather conditions are forecast to be borderline relative to the limits established by the manufacturer, monitoring shall continue at a minimum of 4-hour intervals throughout the drying period. The Engineer has the right to reject any work that was performed, or drying that took place, under unfavorable weather conditions. Rejected work shall be removed, recleaned, and repainted at the Contractor's expense.

Compressed Air Cleanliness. Prior to using compressed air for abrasive blast cleaning, blowing down the surfaces, and painting with conventional spray, the Contractor shall verify that the compressed air is free of moisture and oil contamination according to the requirements of ASTM D 4285. The tests shall be conducted at least one time each shift for each compressor system in operation. If air contamination is evident, the Contractor shall change filters, clean traps, add moisture separators or filters, or make other adjustments as necessary to achieve clean, dry air. The Contractor shall also examine the work performed since the last acceptable test for evidence of defects or contamination caused by the compressed air. Effected work shall be repaired at the Contractor's expense.

Low Pressure Water Cleaning and Solvent Cleaning (HOLD POINT). The Contractor shall notify the Engineer 24 hours in advance of beginning surface preparation operations.

- a) Water Cleaning of Lead Containing Coatings Prior to Overcoating. Prior to initiating any mechanical cleaning such as hand/power tool cleaning on surfaces that are painted with lead, all surfaces to be prepared and painted, and the tops of pier and abutment caps shall be washed. Washing is not required if the surfaces will be prepared by water jetting.

Washing shall involve the use of potable water at a minimum of 1000 psi (7 MPa) and less than 5000 psi (34 MPa) according to "Low Pressure Water Cleaning" of SSPC-SP WJ-4. There are no restrictions on the presence of flash rusting of bare steel after cleaning. Paint spray equipment shall not be used to perform the water cleaning. The cleaning shall be performed in such a manner as to remove dust, dirt, chalk, insect and animal nests, bird droppings, loose coating, loose mill scale, loose rust and other corrosion products, and other foreign matter. Water cleaning shall be supplemented with scrubbing as necessary to remove the surface contaminants. . The water, debris, and any loose paint removed by water cleaning shall be collected for proper disposal. The washing shall be completed no more than 2 weeks prior to surface preparation.

If detergents or other additives are added to the water, the detergents/additives shall be included in the submittals and not used until accepted by the Engineer. When detergents or additives are used, the surface shall be rinsed with potable water before the detergent water dries.

After washing has been accepted by the Engineer, all traces of asphaltic cement, oil, grease, diesel fuel deposits, and other soluble contaminants which remain on the steel surfaces to be painted shall be removed by solvent cleaning according to SSPC – SP1, supplemented with scraping (e.g., to remove large deposits of asphaltic cement) as required. The solvent(s) used for cleaning shall be compatible with the existing coating system. The Contractor shall identify the proposed solvent(s) in the submittals. If the existing coating is softened, wrinkled, or shows other signs of attack from the solvents, the Contractor shall immediately discontinue their use. The name and composition of replacement solvents, together with MSDS, shall be submitted for Engineer acceptance prior to use.

Under no circumstances shall subsequent hand/power tool cleaning or abrasive blast cleaning be performed in areas containing surface contaminants or in areas where the Engineer has not accepted the washing and solvent cleaning. Surfaces prepared by hand/power tool cleaning or abrasive blast cleaning without approval of the washing and solvent cleaning may be rejected by the Engineer. Rejected surfaces shall be recleaned with both solvent and the specified mechanical means at the Contractor's expense.

After all washing and mechanical cleaning are completed, representative areas of the existing coating shall be tested to verify that the surface is free of chalk and other loose surface debris or foreign matter. The testing shall be performed according to ASTM D4214. Cleaning shall continue until a chalk rating of 6 or better is achieved in every case.

- b) Water Cleaning of Non-Lead Coatings Prior to Overcoating. Thoroughly clean the surfaces according to the steps defined above for "Water Cleaning of Lead Containing Coatings Prior to Overcoating." The wash water does not need to be collected, but paint chips, insect and animal nests, bird droppings and other foreign matter shall be collected for proper disposal. If the shop primer is inorganic zinc, the chalk rating does not apply. All other provisions are applicable.
- c) Water Cleaning/Debris Removal Prior to Total Coating Removal. When total coating removal is specified, water cleaning of the surface prior to coating removal is not required by this specification and is at the option of the Contractor. If the Contractor chooses to use water cleaning, the above provisions for water cleaning of lead and non-lead coatings apply as applicable, including collection and disposal of the waste.

Whether or not the surfaces are pre-cleaned using water, the tops of the pier caps and abutments shall be cleaned free of dirt, paint chips, insect and animal nests, bird droppings and other foreign matter and the debris collected for proper disposal. Cleaning can be accomplished by wet or dry methods.

Prior to mechanical cleaning, oil, grease, and other soluble contaminants on bare steel or rusted surfaces shall be removed by solvent cleaning according to SSPC-SP1.

- d) **Water Cleaning Between Coats.** When foreign matter has accumulated on a newly applied coat, washing and scrubbing shall be performed prior to the application of subsequent coats. The water does not need to be collected unless it contacts existing lead containing coatings.

Laminar and Stratified Rust. All laminar and stratified rust that has formed on the existing steel surfaces shall be removed. Pack rust formed along the perimeter of mating surfaces of connected plates or shapes of structural steel shall be removed to the extent feasible without mechanically detaching the mating surface. When caulking is specified, all rust shall be removed to a surface depth as directed by the Engineer to accommodate the approved sealant. Any pack rust remaining after cleaning the mating surfaces shall be tight and intact when examined using a dull putty knife. The tools used to remove these corrosion products shall be identified in the submittals and accepted by the Engineer. If the surface preparation or removal of rust results in nicks or gouges in the steel, the work shall be suspended, and the damaged areas repaired to the satisfaction of the Engineer, at the Contractor's expense. The Contractor shall also demonstrate that he/she has made the necessary adjustments to prevent a reoccurrence of the damage prior to resuming work. If surface preparation reveals holes or section loss, or creates holes in the steel, the Contractor shall notify the Engineer. Whenever possible, the Department will require that the primer be applied to preserve the area, and allow work to proceed, with repairs and touch up performed at a later date.

Surface Preparation (HOLD POINT). One or more of the following methods of surface preparation shall be used as specified on the plans. When a method of surface preparation is specified, it applies to the entire surface, including areas that may be concealed by the containment connection points. In each case, as part of the surface preparation process, soluble salts shall be remediated as specified under "Soluble Salt Remediation." The Contractor shall also note that the surface of the steel beneath the existing coating system may contain corrosion and/or mill scale. Removal of said corrosion and/or mill scale, when specified, shall be considered included in this work and no extra compensation will be allowed.

When a particular cleaning method is specified for use in distinct zones on the bridge, the cleaning shall extend into the existing surrounding paint until a sound border is achieved. The edge of the existing paint is considered to be sound and intact after cleaning if it cannot be lifted by probing the edge with a dull putty knife. The sound paint shall be feathered for a minimum of 1 1/2 in. (40 mm) to achieve a smooth transition between the prepared steel and the existing coatings. Sanders with vacuum attachments, which have been approved by the Engineer, shall be used as necessary to accomplish the feathering.

- a) **Limited Access Areas:** A best effort with the specified methods of cleaning shall be performed in limited access areas such as the backsides of rivets inside built up box members. The equipment being used for the majority of the cleaning may need to be supplemented with other commercially available equipment, such as angle nozzles, to properly clean the limited access areas. The acceptability of the best effort cleaning in these areas is at the sole discretion of the Engineer.

- b) **Near-White Metal Blast Cleaning:** This surface preparation shall be accomplished according to the requirements of Near-White Metal Blast Cleaning SSPC-SP 10. Unless otherwise specified in the contract, the designated surfaces shall be prepared by dry abrasive blast cleaning, wet abrasive blast cleaning, or water jetting with abrasive injection. A Near-White Metal Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining.

Random staining shall be limited to no more than 5 percent of each 9 sq. in. (58 sq. cm) of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. With the exception of crevices as defined below, surface discoloration is considered to be a residue that must be removed, rather than a stain, if it possesses enough mass or thickness that it can be removed as a powder or in chips when scraped with a pocketknife.

A surface profile shall be created on the steel as defined later under "Surface Profile."

At the discretion of the Engineer, after a best effort cleaning, slight traces of existing coating may be permitted to remain within crevices such as those created between the steel and rivets or bolts/washers/nuts, and between plates. When traces of coating are permitted to remain, the coating shall be tightly bonded when examined by probing with a dull putty knife. The traces of coating shall be confined to the bottom portion of the crevices only, and shall not extend onto the surrounding steel or plate or onto the outer surface of the rivets or bolts. Pitted steel is excluded from exemption considerations and shall be cleaned according to SSPC-SP10.

If hackles or slivers are visible on the steel surface after cleaning, the Contractor shall remove them by grinding followed by reblast cleaning. At the discretion of the Engineer, the use of power tools to clean the localized areas after grinding, and to establish a surface profile acceptable to the coating manufacturer, can be used in lieu of blast cleaning.

If the surfaces are prepared using wet abrasive methods, attention shall be paid to tightly configured areas to assure that the preparation is thorough. After surface preparation is completed, the surfaces, surrounding steel, and containment materials/scaffolding shall be rinsed to remove abrasive dust and debris. Potable water shall be used for all operations. An inhibitor shall be added to the supply water and/or rinse water to prevent flash rusting. With the submittals, the Contractor shall provide a sample of the proposed inhibitor together with a letter from the coating manufacturer indicating that the inhibitor is suitable for use with their products and that the life of the coating system will not be reduced due to the use of the inhibitor. The surfaces shall be allowed to completely dry before the application of any coating.

- c) **Commercial Grade Power Tool Cleaning:** This surface preparation shall be accomplished according to the requirements of SSPC-SP15. The designated surfaces shall be completely cleaned with power tools. A Commercial Grade Power Tool Cleaned

surface, when viewed without magnification, is free of all visible oil, grease, dirt, rust, coating, oxides, mill scale, corrosion products, and other foreign matter, except for staining. In previously pitted areas, slight residues of rust and paint may also be left in the bottoms of pits.

Random staining shall be limited to no more than 33 percent of each 9 sq. in. (58 sq. cm) of surface area. Allowable staining may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Surface discoloration is considered to be a residue that must be removed, rather than a stain, if it possesses enough mass or thickness that it can be removed as a powder or in chips when scraped with a pocketknife.

A surface profile shall be created on the steel as defined later under "Surface Profile."

At the Contractor's option, Near-White Metal Blast Cleaning may be substituted for Power Tool Cleaning – Commercial Grade, as long as containment systems appropriate for abrasive blast cleaning are utilized and there is no additional cost to the Department.

- d) Power Tool Cleaning – Modified SP3: This surface preparation shall be accomplished according to the requirements of SSPC-SP3, Power Tool Cleaning except as modified as follows. The designated surfaces shall be cleaned with power tools. A power tool cleaned surface shall be free of all loose rust, loose mill scale, loose and peeling paint, and loose rust that is bleeding through and/or penetrating the coating. All locations of visible corrosion and rust bleed, exposed or lifting mill scale, and lifting or loose paint shall be prepared using the power tools, even if the material is tight.

Upon completion of the cleaning, rust, rust bleed, mill scale and surrounding paint are permitted to remain if they can not be lifted using a dull putty knife.

- e) Power Tool Cleaning of Shop Coated Steel: When shop-coated steel requires one or more coats to be applied in the field, the surface of the shop coating shall be cleaned as specified under "Water Cleaning of Non-Lead Coatings Prior to Overcoating." If the damage is to a fully applied shop system, water cleaning is not required unless stipulated in the contract. Damaged areas of shop coating shall be spot cleaned according to Power Tool Cleaning - Modified SSPC-SP3. If the damage extends to the substrate, spot cleaning shall be according to SSPC-SP15. The edges of the coating surrounding all spot repairs shall be feathered.

- f) Galvanized Surfaces: If galvanized surfaces are specified to be painted, they shall be prepared by brush-off blast cleaning in accordance with SSPC-SP 16 or by using proprietary solutions that are specifically designed to clean and etch (superficially roughen) the galvanized steel for painting. If cleaning and etching solutions are selected, the Contractor shall submit the manufacturer's technical product literature and SDS for Engineer's review and written acceptance prior to use.

Abrasives. Unless otherwise specified in the contract, when abrasive blast cleaning is specified, it shall be performed using either expendable abrasives (other than silica sand) or recyclable steel grit abrasives. Expendable abrasives shall be used one time and disposed of. Abrasive suppliers shall certify that the expendable abrasives meet the requirements of SSPC-AB1 and that recyclable steel grit abrasives meet SSPC-AB3. Tests to confirm the cleanliness of new abrasives (oil and water-soluble contamination) shall be performed by the Contractor according to the requirements and frequencies of SSPC-AB1 and SSPC-AB3, as applicable. On a daily basis, the Contractor shall verify that recycled abrasives are free of oil and water-soluble contamination by conducting the tests specified in SSPC-AB2.

All surfaces prepared with abrasives not meeting the SSPC-AB1, AB2, or AB3 requirements, as applicable, shall be solvent cleaned or low-pressure water cleaned as directed by the Engineer, and reblast cleaned at the Contractor's expense.

Surface Profile (HOLD POINT). The abrasives used for blast cleaning shall have a gradation such that the abrasive will produce a uniform surface profile of 1.5 to 4.5 mils (38 to 114 microns). If the profile requirements of the coating manufacturer are more restrictive, advise the Engineer and comply with the more restrictive requirements. For recycled abrasives, an appropriate operating mix shall be maintained in order to control the profile within these limits.

The surface profile for SSPC-SP15 power tool cleaned surfaces shall be within the range specified by the coating manufacturer, but not less than 2.0 mils (50 microns).

The surface profile produced by abrasive blast cleaning shall be determined by replica tape or digital profile depth micrometer according to SSPC-PA 17 at the beginning of the work, and each day that surface preparation is performed. Areas having unacceptable profile measurements shall be further tested to determine the limits of the deficient area. When replica tape is used, it shall be attached to the daily report. In the event of a conflict between measurements taken with the replica tape and digital profile depth micrometer, the measurements with the replica tape shall prevail.

The surface profile produced by power tools to SSPC-SP15, shall be measured using the digital profile depth micrometer only. Replica tape shall not be used.

When unacceptable profiles are produced, work shall be suspended. The Contractor shall submit a plan for the necessary adjustments to ensure that the correct surface profile is achieved on all surfaces. The Contractor shall not resume work until the new profile is verified by the QA observations, and the Engineer confirms, in writing, that the profile is acceptable.

Soluble Salt Remediation (HOLD POINT). The Contractor shall implement surface preparation procedures and processes that will remove chloride from the surfaces to levels below 7 micrograms per square centimeter. Surfaces that may be contaminated with chloride include, but are not limited to, expansion joints and all areas that are subject to roadway splash or run off such as fascia beams and stringers. Surfaces shall be tested for chlorides at a frequency of five tests per bearing line or fascia beam, with tests performed on both the beams and diaphragms/cross-frames at expansion joints.

Methods of chloride removal may include, but are not limited to, hand washing, steam cleaning, or pressure washing with or without the addition of a chemical soluble salt remover as approved by the coating manufacturer, and scrubbing before or after initial paint removal. The Contractor may also elect to clean the steel and allow it to rust overnight followed by recleaning, or by utilizing blends of fine and coarse abrasives during blast cleaning, wet abrasive/water jetting methods of preparation, or combinations of the above. If steam or water cleaning methods of chloride removal are utilized over surfaces where the coating has been completely removed, and the water does not contact any lead containing coatings, the water does not have to be collected. The Contractor shall provide the proposed procedures for chloride remediation in the Surface Preparation/Painting Plan.

Upon completion of the chloride remediation steps, the Contractor shall use cell methods of field chloride extraction and test procedures (e.g., silver dichromate) accepted by the Engineer, to test representative surfaces that were previously rusted (e.g., pitted steel) for the presence of remaining chlorides. Remaining chloride levels shall be no greater than $7\mu\text{g}/\text{sq cm}$ as read directly from the surface without any multiplier applied to the results. The testing must be performed, and the results must be acceptable, prior to painting each day.

A minimum of 5 tests per 1000 sq. ft. (93 sq m) or fraction thereof completed in a given day, shall be conducted at project start up. If results greater than $7\mu\text{g}/\text{sq cm}$ are detected, the surfaces shall be recleaned and retested at the same frequency. If acceptable results are achieved on three consecutive days in which testing is conducted, the test frequency may be reduced to 1 test per 1000 sq. ft. (93 sq. m) prepared each day provided the chloride remediation process remains unchanged. If unacceptable results are encountered, or the methods of chloride remediation are changed, the Contractor shall resume testing at a frequency of 5 tests per 1000 sq. ft. (93 sq. m).

Following successful chloride testing the chloride test areas shall be cleaned. SSPC-SP15, Commercial Grade Power Tool Cleaning can be used to clean the test locations when the specified degree of cleaning is SSPC-SP10.

Surface Condition Prior to Painting (HOLD POINT). Prepared surfaces shall meet the requirements of the respective degrees of cleaning immediately prior to painting, and shall be painted before rusting appears on the surface. If rust appears or bare steel remains unpainted for more than 12 hours, the affected area shall be prepared again at the expense of the Contractor.

All loose paint and surface preparation cleaning residue on bridge steel surfaces, scaffolding and platforms, containment materials, and tops of abutments and pier caps shall be removed prior to painting. When lead paint is being disturbed, cleaning shall be accomplished by HEPA vacuuming unless it is conducted within a containment that is designed with a ventilation system capable of collecting the airborne dust and debris created by sweeping and blowing with compressed air.

The quality of surface preparation and cleaning of surface dust and debris must be accepted by the Engineer prior to painting. The Engineer has the right to reject any work that was performed without adequate provision for QA observations to accept the degree of cleaning. Rejected coating work shall be removed and replaced at the Contractor's expense.

General Paint Requirements. Paint storage, mixing, and application shall be accomplished according to these specifications and as specified in the paint manufacturer's written instructions and product data sheets for the paint system used. In the event of a conflict between these specifications and the coating manufacturers' instructions and data sheets, the Contractor shall advise the Engineer and comply with the Engineer's written resolution. Until a resolution is provided, the most restrictive conditions shall apply.

Unless noted otherwise, if a new concrete deck or repair to an existing deck is required, painting shall be done after the deck is placed and the forms have been removed.

- a) **Paint Storage and Mixing.** All Paint shall be stored according to the manufacturer's published instructions, including handling, temperatures, and warming as required prior to mixing. All coatings shall be supplied in sealed containers bearing the manufacturers name, product designation, batch number and mixing/thinning instructions. Leaking containers shall not be used.

The Contractor shall only use batches of material that have an IDOT MISTIC approval number. For multi-component materials, the batch number from one component is tested with specific batch numbers from the other component(s). Only the same batch number combinations that were tested and approved shall be mixed together for use.

Mixing shall be according to the manufacturer's instructions. Thinning shall be performed using thinner provided by the manufacturer, and only to the extent allowed by the manufacturer's written instructions. In no case shall thinning be permitted that would cause the coating to exceed the local Volatile Organic Compound (VOC) emission restrictions. For multiple component paints, only complete kits shall be mixed and used. Partial mixing is not allowed.

The ingredients in the containers of paint shall be thoroughly mixed by mechanical power mixers according to the manufacturer's instructions, in the original containers before use or mixing with other containers of paint. The paint shall be mixed in a manner that will break up all lumps, completely disperse pigment and result in a uniform composition. Paint shall be carefully examined after mixing for uniformity and to verify that no unmixed pigment remains on the bottom of the container. Excessive skinning or partial hardening due to improper or prolonged storage will be cause for rejection of the paint, even though it may have been previously inspected and accepted and the container may have been unopened.

Multiple component coatings shall be discarded after the expiration of the pot life. Single component paint shall not remain in spray pots, paint buckets, etc. overnight. It shall be stored in a covered container and remixed before use.

The Engineer reserves the right to sample field paint (individual components and/or the mixed material) and have it analyzed. If the paint does not meet the product requirements due to excessive thinning or because of other field problems, the coating shall be removed from that section of the structure and replaced as directed by the Engineer.

- b) Application Methods. Unless prohibited by the coating manufacturer's written instructions, paint may be applied by spray methods, rollers, or brushes. If applied with conventional or airless spray methods, paint shall be applied in a uniform layer with overlapping at the edges of the spray pattern.

The painters shall monitor the wet film thickness of each coat during application. The wet film thickness shall be calculated based on the solids by volume of the material and the amount of thinner added. When the new coating is applied over an existing system, routine QC inspections of the wet film thickness shall be performed in addition to the painter's checks in order to establish that a proper film build is being applied.

When brushes or rollers are used to apply the coating, additional applications may be required to achieve the specified thickness per layer.

- c) Field Touch Up of Shop-Coated Steel. After cleaning, rusted and damaged areas of shop-primed inorganic zinc shall be touched up using epoxy mastic. Damaged areas of shop-applied intermediate shall be touched-up using the same intermediate specified for painting the existing structure. Following touch up, the remaining coats (intermediate and finish, or finish only, depending on the number of coats applied in the shop) shall be the same materials specified for painting the existing structure. When inorganic zinc has been used as the shop primer, a mist coat of the intermediate coat shall be applied before the application of the full intermediate coat in order to prevent pinholing and bubbling.
- d) Recoating and Film Continuity (HOLD POINT for each coat). Paint shall be considered dry for recoating according to the time/temperature/humidity criteria provided in the manufacturer's instructions and when an additional coat can be applied without the development of film irregularities; such as lifting, wrinkling, or loss of adhesion of the under coat. The coating shall be considered to be too cured for recoating based on the maximum recoat times stipulated by the coating manufacturer. If the maximum recoat times are exceeded, written instructions from the manufacturer for preparing the surface to receive the next coat shall be provided to the Engineer. Surface preparation and application shall not proceed until the recommendations are accepted by the Engineer in writing. If surfaces are contaminated, washing shall be accomplished prior to intermediate and final coats. Wash water does not have to be collected unless the water contacts existing lead containing coatings.

Painting shall be done in a neat and workmanlike manner. Each coat of paint shall be applied as a continuous film of uniform thickness free of defects including, but not limited

to, runs, sags, overspray, dryspray, pinholes, voids, skips, misses, and shadow-through. Defects such as runs and sags shall be brushed out immediately during application. Dry spray on the surface of previous coats shall be removed prior to the application of the next coat.

Paint Systems. The paint system(s) from the list below shall be applied as specified.

The paint manufacturer's relative humidity, dew point, and material, surface, and ambient temperature restrictions shall be provided with the submittals and shall be strictly followed. Written recommendations from the paint manufacturer for the length of time each coat must be protected from cold or inclement weather (e.g., exposure to rain), during the drying period shall be included in the submittals. Upon acceptance by the Engineer, these times shall be used to govern the duration that protection must be maintained during drying.

Where stripe coats are indicated, the Contractor shall apply an additional coat to edges, rivets, bolts, crevices, welds, and similar surface irregularities. The stripe coat shall be applied by brush or spray, but if applied by spray, it shall be followed immediately by brushing to thoroughly work the coating into or on the irregular surfaces, and shall extend onto the surrounding steel a minimum of 1 in. (25 mm) in all directions. The purpose of the stripe coat is to assure complete coverage of crevices and to build additional thickness on edges and surface irregularities. If the use of the brush on edges pulls the coating away, brushing of edges can be eliminated, provided the additional coverage is achieved by spray. Measurement of stripe coat thickness is not required, but the Contractor shall visually confirm that the stripe coats are providing the required coverage.

The stripe coat may be applied as part of the application of the full coat unless prohibited by the coating manufacturer. If applied as part of the application process of the full coat, the stripe coat shall be allowed to dry for a minimum of 10 minutes in order to allow Contractor QC personnel to verify that the coat was applied. If a wet-on-wet stripe coat is prohibited by the coating manufacturer or brush or roller application of the full coat pulls the underlying stripe coat, the stripe coat shall dry according to the manufacturers' recommended drying times prior to the application of the full coat. In the case of the prime coat, the full coat can also be applied first to protect the steel, followed by the stripe coat after the full coat has dried.

The thicknesses of each coat as specified below shall be measured according to SSPC-PA2, using Coating Thickness Restriction Level 3 (spot measurements 80% of the minimum and 120% of the maximum, provided the entire area complies with the specified ranges).

- a) System 1 – OZ/E/U – for Bare Steel: System 1 shall consist of the application of a full coat of organic (epoxy) zinc-rich primer, a full intermediate coat of epoxy, and a full finish coat of aliphatic urethane. Stripe coats of the prime and finish coats shall be applied. The film thicknesses of the full coats shall be as follows:
 - One full coat of organic zinc-rich primer between 3.5 and 5.0 mils (90 and 125 microns) dry film thickness. The prime coat shall be tinted to a color that contrasts with the steel surface.

- One full intermediate coat of epoxy between 3.0 and 6.0 mils (75 and 150 microns) dry film thickness. The intermediate coat shall be a contrasting color to both the first coat and finish coat.
- One full finish coat of aliphatic urethane between 2.5 and 4.0 mils (65 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 9.0 and 15.0 mils (225 and 375 microns).

- b) System 2 – PS/EM/U – for Overcoating an Existing System: System 2 shall consist of the application of a full coat of epoxy penetrating sealer, a spot intermediate coat of aluminum epoxy mastic and a stripe and full finish coat of aliphatic urethane.

A full coat of epoxy penetrating sealer shall be applied to all surfaces following surface preparation. A spot intermediate coat shall consist of the application of one coat of the aluminum epoxy mastic on all areas where rust is evident and areas where the old paint has been removed, feathered and/or damaged prior to, during or after the cleaning and surface preparation operations. After the spot intermediate, a stripe coat and full finish coat of aliphatic urethane shall be applied. The film thicknesses shall be as follows:

- One full coat of epoxy penetrating sealer between 1.0 and 2.0 mils (25 and 50 microns) dry film thickness.
- One spot coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The color shall contrast with the finish coat.
- One full finish coat of aliphatic urethane between 2.5 and 4.0 mils (65 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of the stripe coat, shall be between 8.5 and 13.0 mils (215 and 325 microns). The existing coating thickness to remain under the overcoat must be verified in order to obtain accurate total dry film thickness measurements.

- c) System 3 – EM/EM/AC – for Bare Steel: System 3 shall consist of the application of two full coats of aluminum epoxy mastic and a full finish coat of waterborne acrylic. Stripe coats for first coat of epoxy mastic and the finish coat shall be applied. The film thicknesses of the full coats shall be as follows:

- One full coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The first coat of aluminum epoxy mastic shall be tinted a contrasting color with the blast cleaned surface and the second coat.

- One full intermediate coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The intermediate coat shall be a contrasting color to the first coat and the finish coat.
- A full finish coat of waterborne acrylic between 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 12.0 and 18.0 mils (360 and 450 microns).

- d) System 4 – PS/EM/AC – for Overcoating an Existing System: System 4 shall consist of the application of a full coat of epoxy penetrating sealer, a spot intermediate coat of aluminum epoxy mastic and a stripe and full finish coat of waterborne acrylic.

A full coat of epoxy penetrating sealer shall be applied to all surfaces following surface preparation. A spot intermediate coat shall consist of the application of one coat of the aluminum epoxy mastic on all areas where rust is evident and areas where the old paint has been removed, feathered and/or damaged prior to, during or after the cleaning and surface preparation operations. After the spot intermediate, a stripe coat and full finish coat of waterborne acrylic shall be applied. The film thicknesses shall be as follows:

- One full coat of epoxy penetrating sealer between 1.0 and 2.0 mils (25 and 50 microns) dry film thickness.
- One spot coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The color shall contrast with the finish coat.
- One full finish coat of waterborne acrylic between 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of the stripe coat, shall be between 8.0 and 13.0 mils (200 and 325 microns). The existing coating thickness to remain under the overcoat must be verified in order to obtain accurate total dry film thickness measurements.

- e) System 5 – MCU – for Bare Steel: System 5 shall consist of the application of a full coat of moisture cure urethane (MCU) zinc primer, a full coat of MCU intermediate, and a full coat of MCU finish. Stripe coats of the prime and finish coats shall be applied. The Contractor shall comply with the manufacturer's requirements for drying times between the application of the stripe coats and the full coats. The film thicknesses of the full coats shall be as follows:

- One full coat of MCU zinc primer between 3.0 and 5.0 mils (75 and 125 microns) dry film thickness. The prime coat shall be tinted to a color that contrasts with the steel surface.

- One full MCU intermediate coat between 3.0 and 4.0 mils (75 and 100 microns) dry film thickness. The intermediate coat shall be a contrasting color to both the first coat and finish coat.
- One full MCU finish coat between 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 8.0 and 13.0 mils (200 and 325 microns).

- f) System 6 – MCU – for Overcoating an Existing System: System 6 shall consist of the application of a full coat of moisture cure urethane (MCU) penetrating sealer, a spot coat of MCU intermediate, and a stripe and full coat of MCU finish.

A full coat of MCU penetrating sealer shall be applied to all surfaces following surface preparation. A spot intermediate coat shall consist of the application of one coat of MCU intermediate on all areas where rust is evident and areas where the old paint has been removed, feathered and/or damaged prior to, during or after the cleaning and surface preparation operations. After the spot intermediate, a stripe coat and full coat of MCU finish shall be applied. The Contractor shall comply with the manufacturer's requirements for drying time between the application of the stripe coat and the full finish coat. The film thicknesses shall be as follows:

- One full coat of MCU sealer between 1.0 and 2.0 mils (25 and 50 microns) dry film thickness.
- One full MCU intermediate coat between 3.0 and 4.0 mils (75 and 100 microns) dry film thickness. The color shall contrast with the finish coat.
- One full MCU finish coat 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 6.0 and 10.0 mils (150 and 250 microns). The existing coating thickness to remain under the overcoat must be verified in order to obtain accurate total dry film thickness measurements.

Application of Paint System over Galvanizing: If galvanized surfaces are present and specified to be painted, the Contractor shall apply one of the following as designated on the plans:

- A 2-coat system consisting of a full aluminum epoxy mastic coat and a full waterborne acrylic finish coat from System 3. If red rust is visible, rusted areas shall be spot primed with aluminum epoxy mastic prior to the application of the full coat of aluminum epoxy mastic.

- A 2-coat system consisting of a full epoxy coat and a full urethane coat from System 1. If red rust is visible, rusted areas shall be spot primed with organic zinc prior to the application of the full coat of epoxy.

Surface Preparation and Painting of Galvanized Fasteners: The Contractor shall prepare all fasteners (i.e., galvanized nuts, bolts, etc.) by power tool cleaning in accordance with SSPC-SP 2 or SSPC-SP3 to remove loose material. Following hand/power tool cleaning and prior to painting, the surfaces shall be solvent cleaned according to SSPC-SP 1. Slight stains of torqueing compound dye may remain after cleaning provided the dye is not transferred to a cloth after vigorous rubbing is acceptable. If any dye is transferred to a cloth after vigorous rubbing, additional cleaning is required.

The fasteners shall be coated with one coat of an aluminum epoxy mastic meeting the requirements of Article 1008.03 and the same acrylic or urethane topcoat specified above for use on galvanized members.

Repair of Damage to New Coating System and Areas Concealed by Containment. The Contractor shall repair all damage to the newly installed coating system and areas concealed by the containment/protective covering attachment points, at no cost to the Department. The process for completing the repairs shall be included in the submittals. If the damage extends to the substrate and the original preparation involved abrasive blast cleaning, the damaged areas shall be prepared to SSPC-SP15 Power Tool Cleaning - Commercial Grade. If the original preparation was other than blast cleaning or the damage does not extend to the substrate, the loose, fractured paint shall be cleaned to Power Tool Cleaning – Modified SP3.

The surrounding coating at each repair location shall be feathered for a minimum distance of 1 1/2 in. (40 mm) to achieve a smooth transition between the prepared areas and the existing coating.

If the bare steel is exposed, all coats shall be applied to the prepared area. For damaged galvanizing, the first coat shall be aluminum epoxy mastic. If only the intermediate and finish coats are damaged, the intermediate and finish shall be applied. If only the finish coat is damaged, the finish shall be applied.

Special Instructions.

- a) At the completion of the work, the Contractor shall stencil the painting date and the paint code on the bridge. The letters shall be capitals, not less than 2 in. (50 mm) and not more than 3 in. (75 mm) in height.

The stencil shall contain the following wording "PAINTED BY (insert the name of the Contractor)" and shall show the month and year in which the painting was completed, followed by the appropriate code for the coating material applied, all stenciled on successive lines:

CODE U (for field applied System 3 or System 4).

CODE Z (for field applied System 1 or System 2).

CODE AA (for field applied System 5 or System 6).

This information shall be stenciled on the cover plate of a truss end post near the top of the railing, or on the outside face of an outside stringer near both ends of the bridge facing traffic, or at some equally visible surface near the end of the bridge, as designated by the Engineer.

- b) All surfaces painted inadvertently shall be cleaned immediately.
- c) Caulking complex structures. Pack rust shall be removed prior to the application of the approved sealant as per the Laminar and Stratified Rust article of this special provision. Chloride shall be remediated as specified elsewhere in this provision. The caulk shall be compatible with the approved paint system, and applied in accordance with the paint manufacturers recommendations as described in the Contractors submittal

The following coatings shall be applied prior to the application of the caulk. Stripe coat of organic zinc primer, full coat of organic zinc primer, intermediate epoxy stripe coat, full coat of epoxy intermediate, full coat of urethane finish. Apply caulk after the urethane has dried for top coating. After the caulk has been applied it shall be allowed to dry to coat according the manufacturer's written recommendations and a stripe coat of urethane applied to all areas of caulking.

Alternatively, as directed by the Engineer, apply the caulking after the intermediate coat has dried for overcoating. After the caulking has dried according to the manufacturer's written recommendations, apply the urethane finish over the caulking and intermediate coat.

1. All vertical, diagonal and horizontal lapping members shall be caulked along the top and sides. The bottom shall remain open for drainage.
2. Locations where pack rust was removed leaving a gap between two steel surfaces shall also be caulked. Locations greater than ¼ inch in depth shall be filled with a closed cell backer rod in accordance with the caulking manufacturer's instructions prior to the application of the caulk.

It is understood and agreed that the cost of all work outlined above, unless otherwise specified, has been included in the bid, and no extra compensation will be allowed.

Basis of Payment. This work shall be paid for at the contract Lump Sum price for CLEANING AND PAINTING STEEL BRIDGE, at the designated location, or for CLEANING AND PAINTING the structure or portions thereof described. Payment will not be authorized until all requirements for surface preparation and painting have been fulfilled as described in this specification,

including the preparation and submittal of all QC documentation. Payment will also not be authorized for non-conforming work until the discrepancy is resolved in writing.

Appendix 1 – Reference List

The Contractor shall maintain the following regulations and references on site for the duration of the project:

- Illinois Environmental Protection Act
- ASTM D 4214, Standard Test Method for Evaluating Degree of Chalking of Exterior Paint Films
- ASTM D 4285, Standard Test Method for Indicating Oil or Water in Compressed Air
- ASTM D4417, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
- SSPC-AB 1, Mineral and Slag Abrasives
- SSPC-AB 2, Cleanliness of Recycled Ferrous Metallic Abrasives
- SSPC-AB 3, Ferrous Metallic Abrasive
- SSPC-PA 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements
- SSPC-PA 17, Procedure for Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements
- SSPC-QP 1, Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Structures)
- SSPC-QP 2, Standard Procedure for Evaluating the Qualifications of Painting Contractors to Remove Hazardous Paint
- SSPC-SP 1, Solvent Cleaning
- SSPC-SP 2, Hand Tool Cleaning
- SSPC-SP 3, Power Tool Cleaning
- SSPC-SP 10/NACE No. 2, Near White Metal Blast Cleaning
- SSPC-SP WJ-4, Waterjet Cleaning of Metals – Light Cleaning
- SSPC-SP 15, Commercial Grade Power Tool Cleaning
- SSPC-SP 16, Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals
- SSPC-VIS 1, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning
- SSPC-VIS 3, Visual Standard for Power- and Hand-Tool Cleaned Steel
- SSPC-VIS 4, Guide and Reference Photographs for Steel Cleaned by Water Jetting
- SSPC-VIS 5, Guide and Reference Photographs for Steel Prepared by Wet Abrasive Blast Cleaning
- The paint manufacturer's application instructions, MSDS and product data sheets

CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES

Effective: November 25, 2004

Revised: April 22, 2016

Description. This work shall consist of the containment, collection, temporary storage, transportation and disposal of waste from non-lead paint removal projects. Waste requiring containment and control includes, but is not limited to, old paint, spent abrasives, corrosion products, mill scale, dirt, dust, grease, oil, and salts.

General. This specification provides the requirements for the control of paint removal waste when the existing coatings do not contain lead. If the coatings contain lead, use specification "Containment and Disposal of Lead Paint Cleaning Residues." The Contractor shall take reasonable and appropriate precautions to protect the public from the inhalation or ingestion of dust and debris from their paint removal and clean up operations and is responsible for the clean-up of all spills of waste at no additional cost to the Department.

The Contractor shall comply with the requirements of this Specification and all applicable Federal, State, and Local laws, codes, and regulations, including, but not limited to the regulations of the United States Environmental Protection Agency (USEPA), Occupational Safety and Health Administration (OSHA), and Illinois Environmental Protection Agency (IEPA). The Contractor shall comply with all applicable regulations even if the regulation is not specifically referenced herein. If a Federal, State, or Local regulation is more restrictive than the requirements of this Specification, the more restrictive requirements shall prevail.

Submittals. The Contractor shall submit for Engineer review and acceptance, the following drawings and plans for accomplishing the work. The submittals shall be provided within 30 days of execution of the contract unless given written permission by the Engineer to submit them at a later date. Work cannot proceed until the submittals are accepted by the Engineer. Details for each of the plans are presented within the body of this specification.

- a) Containment Plans. The containment plans shall include drawings, equipment specifications, and calculations (e.g., wind load). The plans shall include copies of the manufacturer's specifications for the containment materials and equipment that will be used to accomplish containment and ventilation.

When required by the contract plans, the containment submittal shall provide calculations that assure the structural integrity of the bridge when it supports the containment and the calculations and drawings shall be signed and sealed by a Structural Engineer licensed in the state of Illinois.

When working over the railroad or navigable waterways, the Department will notify the respective agencies that work is being planned. Unless otherwise noted in the plans, the Contractor is responsible for follow up contact with the agencies, and shall provide evidence that the railroad, Coast Guard, Corps of Engineers, and other applicable agencies are satisfied with the clearance provided and other safety measures that are proposed.

- b) Waste Management Plan. The Waste Management Plan shall address all aspects of handling, storage, testing, hauling and disposal of all project waste, including waste water. Include the names, addresses, and a contact person for the proposed licensed waste haulers and disposal facilities. Submit the name and qualifications of the laboratory proposed for Toxicity Characteristic Leaching Procedure (TCLP) analysis.
- c) Contingency Plan. The Contractor shall prepare a contingency plan for emergencies including fire, accident, failure of power, failure of supplied air system or any other event that may require modification of standard operating procedures. The plan shall include specific procedures to ensure safe egress and proper medical attention in the event of an emergency.

When the Engineer accepts the submittals, the Contractor will receive written notification. The Contractor shall not begin any work until the Engineer has accepted the submittals. The Contractor shall not construe Engineer acceptance of the submittals to imply approval of any particular method or sequence for conducting the work, or for addressing health and safety concerns. Acceptance of the plans does not relieve the Contractor from the responsibility to conduct the work according to the requirements of Federal, State, or Local regulations, this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor remains solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.

Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections of all environmental control and waste handling aspects of the project to verify compliance with these specification requirements and the accepted drawings and plans. Contractor QC inspections shall include, but not be limited to the following:

- Proper installation and continued performance of the containment system(s) in accordance with the approved drawings.
- Visual inspections of emissions into the air and verification that the cause(s) for any unacceptable emissions is corrected.
- Visual inspections of spills or deposits of contaminated materials into the water or onto the ground, pavement, soil, or slope protection. Included is verification that proper cleanup is undertaken and that the cause(s) of unacceptable releases is corrected.
- Proper implementation of the waste management plan including laboratory analysis and providing the results to the Engineer within the time frames specified herein.
- Proper implementation of the contingency plans for emergencies.

Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all of the QC monitoring inspections that are undertaken. The presence or activity of Engineer observations in no way relieves the Contractor of the responsibility to provide all necessary daily QC inspections of its own and to comply with all requirements of this Specification.

Containment Requirements. The Contractor shall install and maintain containment systems surrounding the work for the purpose of controlling emissions of dust and debris according to the requirements of this specification. Working platforms and containment materials that are

used shall be firm and stable and platforms shall be designed to support the workers, inspectors, spent surface preparation media (e.g., abrasives), and equipment during all phases of surface preparation and painting. Platforms, cables, and other supporting structures shall be designed according to OSHA regulations. If the containment needs to be attached to the structure, the containment shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.

The containment shall be dropped in the event of sustained winds of 40 mph (64 kph) or greater and all materials and equipment secured.

The Contractor shall provide drawings showing the containment system and indicating the method(s) of supporting the working platforms and containment materials to each other and to the bridge.

When directed in the contract plans, the Contractor shall submit calculations and drawings, signed and sealed by a Structural Engineer licensed in the state of Illinois, that assure the structural integrity of the bridge under the live and dead loads imposed, including the design wind loading.

When working over railroads, the Contractor shall provide evidence that the proposed clearance and the safety provisions that will be in place (e.g., flagman) are acceptable to the railroad. In the case of work over navigable waters, the Contractor shall provide evidence that the proposed clearance and provisions for installing or moving the containment out of navigation lanes is acceptable to authorities such as the Coast Guard and Army Corps of Engineers. The Contractor shall include plans for assuring that navigation lighting is not obscured, or if it is obscured, that temporary lighting is acceptable to the appropriate authorities (e.g., Coast Guard) and will be utilized.

Engineer review and acceptance of the drawings and calculations shall not relieve the Contractor from the responsibility for the safety of the working platforms and containment. After the work platforms and containment materials are erected additional measures may be needed to ensure worker safety according to OSHA regulations. The Contractor shall institute such measures at no additional cost to the Department.

Containment for the cleaning operation of this contract is defined as follows:

- The containment system shall confine emissions of dust and debris to the property line.
- The containment systems shall comply with the specified SSPC Guide 6 classifications, as applicable, as presented in Table 1 for the method of paint removal utilized.

The Contractor shall take appropriate action to avoid personnel injury or damage to the structure from the installation and use of the containment system. If the Engineer determines that there is the potential for structural damage caused by the installed containment system, the Contractor shall take appropriate action to correct the situation.

The containment systems shall also meet the following requirements:

a) Dry Abrasive Blast Cleaning - (SSPC Class 2A)

The enclosure shall be designed, installed, and maintained to sustain maximum anticipated wind forces. Flapping edges of containment materials are prohibited and the integrity of all containment materials shall be maintained for the duration of the project. When the location of the work on the bridge, or over lane closures permit, the blast enclosure shall extend a minimum of 3 ft (1 m) beyond the limits of surface preparation to allow the workers to blast away from, rather than into the seam between the containment and the structure.

b) Vacuum Blast Cleaning

Vacuum blasting equipment shall be fully automatic and capable of cleaning and recycling the abrasive. The system shall be designed to deliver cleaned, recycled blasting abrasives and provide a closed system containment during blasting. The removed coating, mill scale, and corrosion shall be separated from the abrasive, and stored for disposal. No additional containment is required but escaping abrasive, paint chips, and debris shall be cleaned from the work area at the end of each day.

c) Power Tool Cleaning (SSPC-Class 3P)

The Contractor shall use containment materials (e.g., tarpaulins) to capture removed paint chips, rust, mill scale and other debris.

d) Vacuum-Shrouded Power Tool Cleaning/Hand Tool Cleaning

The Contractor shall utilize hand tools or power tools equipped with vacuums and High Efficiency Particulate Air (HEPA) filters. No additional containment is required but escaping and paint chips and debris shall be cleaned from the work area at the end of each day.

e) Water Jetting or Wet Abrasive Blast Cleaning for the Removal of Paint (SSPC Class 4W)

Water jetting or wet abrasive blast cleaning for the purpose of removing paint and surface debris shall be conducted within a containment designed, installed, and maintained in order to capture paint chips and debris. Collection of the water is not required. Mesh containment materials that capture paint chips and debris while allowing the water to pass through shall have openings a maximum of 25 mils (625 microns) in greatest dimension.

f) Water Washing

Water washing of the bridge for the purpose of removing chalk, dirt, grease, oil, bird nests, and other surface debris can be performed without additional containment provided paint chips and removed debris are removed and collected prior to washing or are cleaned from

the site after cleaning is completed each day. At the Contractor's option, SSPC Class 4W permeable containment materials described above under "Water Jetting or Wet Abrasive Blast Cleaning for the Removal of Paint" can be used to collect the debris while the washing is underway.

Environmental Controls

- a) Cleanliness of ground and water. At the end of each workday at a minimum, the work area outside of containment, including any ground tarpaulins that are used, shall be inspected to verify that paint removal debris (e.g., paint chips, abrasives, rust, etc.) is not present. If debris is observed, it shall be removed by hand, shoveling, sweeping, or vacuuming.

Upon project completion, the ground and water in and around the project site are considered to have been properly cleaned if paint chips, paint removal media (e.g., spent abrasives), fuel, materials of construction, litter, or other project debris have been removed, even if the material being cleaned was a pre-existing condition.

- b) Visible Emissions. Emissions of dust and debris from the project shall not extend beyond the property line. If unacceptable visible emissions or releases beyond the property line are observed, the Contractor shall immediately shut down the emission-producing operations, clean up the debris, and change work practices, modify the containment, or take other appropriate corrective action as needed to prevent similar releases from occurring in the future.

Hygiene Facilities/Protective Clothing. The Contractor shall provide clean lavatory and hand washing facilities according to OSHA regulations and make them available to IDOT project personnel.

The Contractor shall provide IDOT project personnel with all required protective clothing and equipment, including disposal or cleaning. Clothing and equipment includes but is not limited to disposable coveralls with hood, booties, disposable surgical gloves, hearing protection, and safety glasses. The protective clothing and equipment shall be provided and maintained on the job site for the exclusive, continuous and simultaneous use by the IDOT personnel. This equipment shall be suitable to allow inspection access to any area in which work is being performed.

Site Emergencies.

- a) Stop Work. The Contractor shall stop work at any time the conditions are not within specifications and take the appropriate corrective action. The stoppage will continue until conditions have been corrected. Standby time and cost required for corrective action is at the Contractor's expense. The occurrence of the following events shall be reported in writing to IDOT and shall require the Contractor to automatically stop paint removal and initiate clean up activities.

- Break in containment barriers.
- Visible emissions in excess of the specification tolerances.

- Serious injury within the containment area.
- Fire or safety emergency
- Respiratory system failure
- Power failure

b) Contingency Plans and Arrangements. The Engineer will refer to the contingency plan for site specific instructions in the case of emergencies.

The Contractor shall prepare a contingency plan for emergencies including fire, accident, failure of power, failure of supplied air system or any other event that may require modification of standard operating procedures during paint removal and painting processes. The plan shall include specific procedures to ensure safe egress and proper medical attention in the event of an emergency. The Contractor shall post the telephone numbers and locations of emergency services including fire, ambulance, doctor, hospital, police, power company and telephone company.

A two-way radio, or equal, as approved by the Engineer, capable of summoning emergency assistance shall be available at each bridge during the time the Contractor's personnel are at the bridge site under this contract. The following emergency response equipment described in the contingency plan (generic form attached) shall be available during this time as well: an appropriate portable fire extinguisher, a 55 gal (208 L) drum, a 5 gal (19 L) pail, a long handled shovel, absorbent material (one bag).

A copy of the contingency plan shall be maintained at each bridge during cleaning operations and during the time the Contractor's personnel are at the bridge site under this contract. The Contractor shall designate the emergency coordinator(s) required who shall be responsible for the activities described.

An example of a contingency plan is included at the end of this Special Provision.

Collection, Temporary Storage, Transportation and Disposal of Waste.

All surface preparation/paint residues shall be collected daily and deposited in all-weather containers supplied by the Contractor as temporary storage. The storage area shall be secure to prevent unauthorized entry or tampering with the containers. Acceptable measures include storage within a fully enclosed (e.g., fenced in) and locked area, within a temporary building, or implementing other reasonable means to reduce the possibility of vandalism or exposure of the waste to the public or the environment (e.g., chains and locks to secure the covers of roll-off boxes). Waste shall not be stored outside of the containers.

No residues shall remain on uncontained surfaces overnight. Waste materials shall not be removed through floor drains or by throwing them over the side of the bridge. Flammable materials shall not be stored around or under any bridge structures.

The Contractor shall have each waste stream sampled for each project and tested by TCLP and according to EPA and disposal company requirements. The Engineer shall be notified in advance when the samples will be collected. The samples shall be collected and shipped for

testing within the first week of the project, with the results due back to the Engineer within 10 days. Testing shall be considered included in the pay item for "Containment and Disposal of Non-Lead Paint Cleaning Residues." Copies of the test results shall be provided to the Engineer prior to shipping the waste. If the waste tests hazardous, the Contractor shall comply with all provision of "Collection, Temporary Storage, Transportation and Disposal of Waste" found in specification "Containment and Disposal of Lead Paint Cleaning Residues," except additional costs will be paid for according to Article 109.04.

If the waste is found to be non-hazardous as determined by TCLP testing, the waste shall be classified as a non-hazardous special waste, transported by a licensed waste transporter, and disposed of at an IEPA permitted disposal facility in Illinois.

The waste shall be shipped to the disposal facility within 90 days of the first accumulation of the waste in the containers. When permitted by the Engineer, waste from multiple bridges in the same contract may be transported by the Contractor to a central waste storage location(s) approved by the Engineer in order to consolidate the material for pick up, and to minimize the storage of waste containers at multiple remote sites after demobilization. Arrangements for the final waste pickup shall be made with the waste hauler by the time blast cleaning operations are completed or as required to meet the 90-day limit stated above.

All other project waste shall be removed from the site according to Federal, State and Local regulations, with all waste removed from the site prior to final Contractor demobilization.

The Contractor shall make arrangements to have other hazardous waste, which he/she generates, such as used paint solvent, transported to the Contractor's facility at the end of each day that this waste is generated. These hazardous wastes shall be manifested using the Contractor's own generator number to a treatment or disposal facility from the Contractor's facility. The Contractor shall not combine solvents or other wastes with cleaning residue wastes. All waste streams shall be stored in separate containers.

The Contractor is responsible for the payment of any fines and undertaking any clean up activities mandated by State or federal environmental agencies for improper waste handling, storage, transportation, or disposal.

Basis of Payment. The containment, collection, temporary storage, transportation, testing and disposal of all project waste, and all other work described herein will be paid for at the contract lump sum price for CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES at the designated location. Payment will not be authorized until all requirements have been fulfilled as described in this specification, including the submittal of waste test results, and disposal of all waste.

Table 1 Containment Criteria for Removal of Paint and Other Debris¹					
Removal Method	SSPC Class²	Containment Material Flexibility	Containment Material Permeability³	Containment Support Structure	Containment Material Joints
Hand Tool Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/ Vacuum	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/o Vacuum ⁵	3P	Rigid or Flexible	Permeable	Minimal	Partially Sealed
Water Jetting, Wet Abrasive Blast ⁶	4W	Flexible	Permeable	Flexible or Minimal	Partially Sealed
Water Cleaning ⁷	None	See Note 7	See Note 7	See Note 7	See Note 7
Open Abrasive Blast Cleaning ⁸	2A	Rigid or Flexible	Impermeable	Rigid or Flexible	Fully Sealed
Vacuum Blast Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4

Table 1 (Continued) Containment Criteria for Removal of Paint and Other Debris¹					
Removal Method	SSPC Class²	Containment Entryway	Ventilation System Required	Negative Pressure Required	Exhaust Filtration Required
Hand Tool Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/ Vacuum	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/o Vacuum ⁵	3P	Open Seam	No	No	No
Water Jetting, Wet Abrasive Blast ⁶	4W	Open Seam	No	No	No
Water Cleaning ⁷	None	See Note 7	See Note 7	See Note 7	See Note 7
Open Abrasive Blast Cleaning ⁸	2A	Resealable or Overlap	Yes	Yes	Yes
Vacuum Blast Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4

Notes:

¹This table provides general design criteria only. It does not guarantee that specific controls over emissions will occur because unique site conditions must be considered in the design. Other combinations of materials may provide controls over emissions equivalent to or greater than those combinations shown above.

²The SSPC Classification is based on SSPC Guide 6.

³Permeability addresses both air and water as appropriate. In the case of water removal methods, the containment materials must be resistant to water. When ground covers are used they shall be of sufficient strength to withstand the impact and weight of the debris and the equipment used for collection and clean-up.

⁴Containment is not required provided paint chips and debris are removed from the ground and surfaces in and around the worksite at the end of each day. Ground tarpaulins can be used to simplify the cleanup. At the Contractor's option, permeable containment materials may be suspended under the work area to capture the debris at the time of removal. Permeable materials for the purpose of this specification are defined as materials with openings measuring 25 mils or less in greatest dimension.

⁵This method involves open power tool cleaning. The containment consists of permeable materials suspended beneath the work area to capture debris. As an option, if the work is close to the ground or bridge deck, ground covers can be used to capture the paint chips and debris for proper disposal.

⁶This method involves water jetting (with and without abrasive) and wet abrasive blast cleaning where the goal is to remove paint. Permeable containment materials are used to capture removed paint chips, debris, and abrasives (in the case of wet abrasive blast cleaning) while allowing the water to pass through. Permeable materials for the purpose of this specification are defined as materials with openings measuring 25 mils (625 microns) or less in greatest dimension.

⁷Chips and debris can be removed from the ground at the end of each shift, or the Contractor can install a Class 4W containment in the work area to collect the debris while allowing the water to pass through (see note 6)

⁸This method involves dry abrasive blast cleaning. Dust and debris shall not be permitted to escape from the containment.

Containment Components - The basic components that make up containment systems are defined below. The components are combined in Table 1 to establish the minimum containment system requirements for the method(s) of paint removal specified for the Contract.

1. Rigidity of Containment Materials - Rigid containment materials consist of solid panels of plywood, aluminum, rigid metal, plastic, fiberglass, composites, or similar materials. Flexible materials consist of screens, tarps, drapes, plastic sheeting, or similar materials. When directed by the Engineer, do not use flexible materials for horizontal surfaces directly over traffic lanes or vertical surfaces in close proximity to traffic lanes. If the Engineer allows the use of flexible materials, the Contractor shall take special precautions to completely secure the materials to prevent any interference with traffic.
2. Permeability of Containment Materials - The containment materials are identified as air impenetrable if they are impervious to dust or wind such as provided by rigid panels, coated solid tarps, or plastic sheeting. Air penetrable materials are those that are formed or woven to allow air flow. Water impermeable materials are those that are capable of containing and controlling water when wet methods of preparation are used. Water permeable materials allow the water to pass through. Chemical resistant materials are those resistant to chemical and solvent stripping solutions. Use fire retardant materials in all cases.
3. Support Structure - Rigid support structures consist of scaffolding and framing to which the containment materials are affixed to minimize movement of the containment cocoon. Flexible support structures are comprised of cables, chains, or similar systems to which the containment materials are affixed. Use fire retardant materials in all cases.
4. Containment Joints - Fully sealed joints require that mating surfaces between the containment materials and to the structure being prepared are completely sealed. Sealing measures include tape, caulk, Velcro, clamps, or other similar material capable of forming a continuous, impenetrable or impermeable seal. When materials are overlapped, a minimum overlap of 8 in. (200 mm) is required.
5. Entryway - An airlock entryway involves a minimum of one stage that is fully sealed to the containment and which is maintained under negative pressure using the ventilation system of the containment. Resealable door entryways involve the use of flexible or rigid doors capable of being repeatedly opened and resealed. Sealing methods include the use of zippers, Velcro, clamps, or similar fasteners. Overlapping door tarpaulin entryways consist of two or three overlapping door tarpaulins.

6. Mechanical Ventilation - The requirement for mechanical ventilation is to ensure that adequate air movement is achieved to reduce worker exposure to toxic metals to as low as feasible according to OSHA regulations (e.g., 29 CFR 1926.62), and to enhance visibility. Natural ventilation does not require the use of mechanical equipment for moving dust and debris through the work area.
7. Negative Pressure - When specified, achieve a minimum of 0.03 in.(7.5 mm) water column (W.C.) relative to ambient conditions, or confirm through visual assessments for the concave appearance of the containment enclosure.
8. Exhaust Ventilation - When mechanical ventilation systems are specified,, provide filtration of the exhaust air, to achieve a filtration efficiency of 99.9 percent at 0.5 microns.

CONTINGENCY PLAN
FOR
NON-LEAD BASED PAINT REMOVAL PROJECTS

Bridge No.: _____
Location: _____

Note:

1. A copy of this plan must be kept at the bridge while the Contractor's employees are at the site.
2. A copy of the plan must be mailed to the police and fire departments and hospital identified herein.

Primary Emergency Coordinator

Name: _____
Address: _____
City: _____
Phone: (Work) _____
(Home) _____

Alternate Emergency Coordinator

Name: _____
Address: _____
City: _____
Phone: (Work) _____
(Home) _____

Emergency Response Agencies

POLICE:

1. State Police (if bridge not in city) Phone: _____
District No. _____
Address: _____
2. County Sheriff _____ Phone: _____
County: _____
Address: _____
3. City Police _____ Phone: _____
District No. _____
Address: _____

Arrangements made with police: (Describe arrangements or refusal by police to make arrangements):

FIRE:

1. City _____ Phone: _____
Name: _____
Address: _____
2. Fire District _____ Phone: _____
Name: _____
Address: _____

3. Other _____ Phone: _____

Name: _____

Address: _____

Arrangements made with fire departments: (Describe arrangements or refusal by fire departments to make arrangements):

HOSPITAL:

Name: _____ Phone: _____

Address: _____

Arrangements made with hospital: (Describe arrangements or refusal by hospital to make arrangements):

Properties of waste and hazard to health:

Places where employees working:

Location of Bridge:

Types of injuries or illness which could result:

Appropriate response to release of waste to the soil:

Appropriate response to release of waste to surface water:

Emergency Equipment at Bridge

Emergency Equipment List	Location of Equipment	Description of Equipment	Capability of Equipment
1. Two-way radio	Truck		Communication
2. Portable Fire Extinguisher	Truck		Extinguishes Fire
3. Absorbent Material	Truck		Absorbs Paint or Solvent Spills
4. Hand Shovel	Truck		Scooping Material
5. 208 L (55 Gallon) Drum	Truck		Storing Spilled Material
6. 19 L (5 Gallon) Pail	Truck		Storing Spilled Material

Emergency Procedure

1. Notify personnel at the bridge of the emergency and implement emergency procedure.
2. Identify the character, source, amount and extent of released materials.
3. Assess possible hazards to health or environment.
4. Contain the released waste or extinguish fire. Contact the fire department if appropriate.
5. If human health or the environment is threatened, contact appropriate police and fire department. In addition, the Emergency Services and Disaster Agency needs to be called using their 24-hour toll free number (800-782-7860) and the National Response Center using their 24-hour toll free number (800-824-8802).
6. Notify the Engineer that an emergency has occurred.
7. Store spilled material and soil contaminated by spill, if any, in a drum or pail. Mark and label the drum or pail for disposal.
8. Write a full account of the spill or fire incident including date, time, volume, material, and response taken.
9. Replenish stock of absorbent material or other equipment used in response.

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the

Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

“(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

“109.13 Payment for Contract Delay. Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
 - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

80384

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
INSURANCE

Effective: February 1, 2007
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

St. Clair County Transit District, its elected and appointed officials, officers, agents and employees,

both individually and collectively

Bi-State Development Agency, its officers, commissioners, agents and employees

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
RAILROAD PROTECTIVE LIABILITY INSURANCE FOR LOCAL LETTINGS

Effective: March 1, 2005
Revised: January 1, 2006

All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

Railroad Protective Liability Insurance. The contractor will be required to carry Railroad Protective Liability and Property Damage Liability Insurance in accordance with Article 107.11 of the Standard Specifications. A separate policy is required for each railroad indicated on the attached form unless otherwise noted. The limits of liability for each policy are listed on the attached form. The minimum limits of liability shall be in accordance with Article 107.11 of the Standard Specifications.

Basis of Payment. The costs for providing insurance, as noted above, will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

APPROVAL OF INSURANCE: The ORIGINAL and one CERTIFIED copy of each required policy shall be submitted for approval to the following address:

Mr. Tony Erwin

St. Clair County Transit District

27 North Illinois Street

Belleville, IL 62220

The contractor will be advised when approval of the insurance has been received from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Resident Engineer evidence that the required railroad protective liability insurance has been approved by the railroad(s). The Contractor shall also provide the Resident Engineer with expiration date of each required policy.

RAILROAD PROTECTIVE LIABILITY INSURANCE FORM

<u>NAMED INSURED & ADDRESS</u>	<u>NUMBER & SPEED OF PASSENGER TRAINS</u>	<u>NUMBER & SPEED OF FREIGHT TRAINS</u>
MetroLink 707 North First Street St. Louis, MO 63102-2595	252 @ 55 MPH	N/A

DOT/AAR Number: N/A RR Mile Post: Structure B34.48
Liability Limits: Combined Single Limit \$ 2,000,000.00 Aggregate Limit \$ 6,000,000.00
For Freight/Passenger Information Contact: _____ Phone: _____
For Insurance Information Contact: _____ Phone: _____

DOT/AAR Number: _____ RR Mile Post: _____
Liability Limits: Combined Single Limit \$ _____ Aggregate Limit \$ _____
For Freight/Passenger Information Contact: _____ Phone: _____
For Insurance Information Contact: _____ Phone: _____

DOT/AAR Number: _____ RR Mile Post: _____
Liability Limits: Combined Single Limit \$ _____ Aggregate Limit \$ _____
For Freight/Passenger Information Contact: _____ Phone: _____
For Insurance Information Contact: _____ Phone: _____

DOT/AAR Number: _____ RR Mile Post: _____
Liability Limits: Combined Single Limit \$ _____ Aggregate Limit \$ _____
For Freight/Passenger Information Contact: _____ Phone: _____
For Insurance Information Contact: _____ Phone: _____

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024

Revised: April 1, 2024

Revise the first paragraph of Article 669.04 of the Standard Specifications to read:

“669.04 Regulated Substances Monitoring. Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities. The excavated soil and groundwater within the work areas shall be managed as either uncontaminated soil, hazardous waste, special waste, or non-special waste.

As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 “Regulated Substances Monitoring Daily Record (RSM DR)”.”

Revise the first two sentences of the nineteenth paragraph of Article 669.05 of the Standard Specifications to read:

“The Contractor shall coordinate waste disposal approvals with the disposal facility and provide the specific analytical testing requirements of that facility. The Contractor shall make all arrangements for collection, transportation, and analysis of landfill acceptance testing.”

Revise the last paragraph of Article 669.05 of the Standard Specifications to read:

“The Contractor shall select a permitted landfill facility or CCDD/USFO facility meeting the requirements of 35 Ill. Admin. Code Parts 810-814 or Part 1100, respectively. The Department will review and approve or reject the facility proposed by the Contractor based upon information provided in BDE 2730. The Contractor shall verify whether the selected facility is compliant with those applicable standards as mandated by their permit and whether the facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected facility shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.”

Revise the first paragraph of Article 669.07 of the Standard Specifications to read:

“669.07 Temporary Staging. Soil classified according to Articles 669.05(a)(2), (b)(1), or (c) may be temporarily staged at the Contractor's option. All other soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) shall be managed and disposed of without temporary staging to the greatest extent practicable. If circumstances beyond the Contractor's control require temporary staging of these latter materials, the Contractor shall request approval from the Engineer in writing.

Topsoil for re-use as final cover which has been field screened and found not to exhibit PID readings over daily background readings as documented on the BDE 2732, visual staining or

odors, and is classified according to Articles 669.05(a)(2), (a)(3), (a)(4), (b)(1), or (c) may be temporarily staged at the Contractor's option."

Add the following paragraph after the sixth paragraph of Article 669.11 of the Standard Specifications.

"The sampling and testing of effluent water derived from dewatering discharges for priority pollutants volatile organic compounds (VOCs), priority pollutants semi-volatile organic compounds (SVOCs), or priority pollutants metals, will be paid for at the contract unit price per each for VOCS GROUNDWATER ANALYSIS using EPA Method 8260B, SVOCs GROUNDWATER ANALYSIS using EPA Method 8270C, or RCRA METALS GROUNDWATER ANALYSIS using EPA Methods 6010B and 7471A. This price shall include transporting the sample from the job site to the laboratory."

Revise the first sentence of the eight paragraph of Article 669.11 of the Standard Specifications to read:

"Payment for temporary staging of soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) to be managed and disposed of, if required and approved by the Engineer, will be paid according to Article 109.04."

80455

VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)

Effective: November 1, 2021

Revised: November 1, 2022

Add the following paragraph after the first paragraph of Article 701.08 of the Standard Specifications:

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing, amber or amber-and-white, warning lights which are visible from all directions. In accordance with 625 ILCS 5/12-215, the lights may only be in operation while the vehicle or equipment is engaged in construction operations.”

80439

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports 1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“**701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact

attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

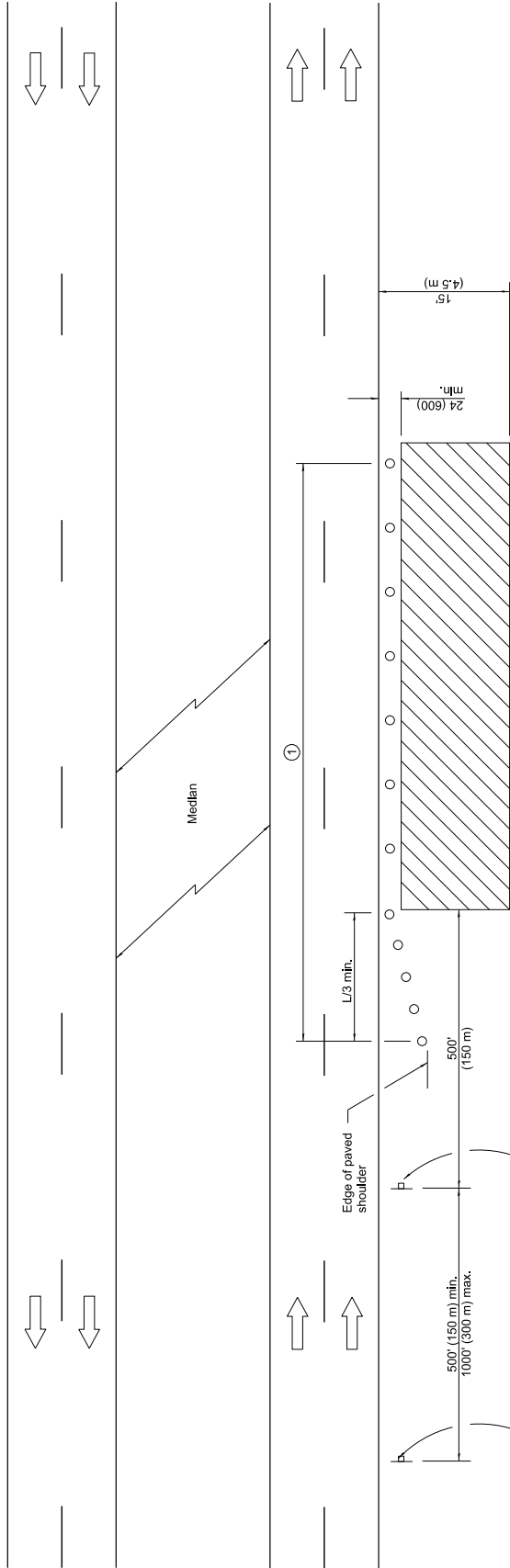
“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”



For contract construction projects

W20-1(0)-48



For maintenance and utility projects

W20-1(0)-48

W21-1(0)-48



GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS (Metric)
40 mph (70 km/h) or less:	English $L = \frac{WS^2}{60}$ Metric $L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	English $L = W(S)$ Metric $L = 0.65(W)(S)$

W = Width of offset in feet (meters).
S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

TYPICAL APPLICATIONS

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Delimitor installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

SYMBOLS

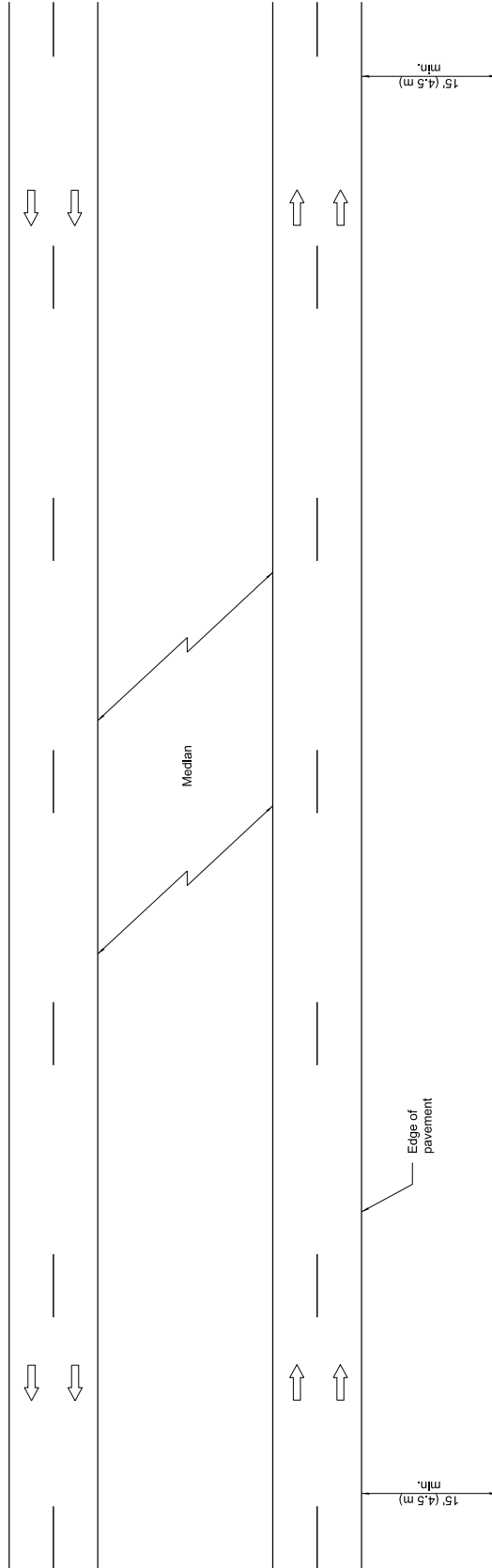
- Work area
- Sign
- Cone, drum or barricade

OFF-RD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE

DATE	REVISIONS
4-1-16	Corrected typo in title.
1-1-14	Revised workers sign number to agree with current MUTCD.

STANDARD 701101-05

ILLINOIS Department of Transportation
 APPROVED: [Signature] JANUARY 1, 2016
 ENGINEER OF SAFETY ENGINEERING
 APPROVED: [Signature] JANUARY 1, 2016
 ENGINEER OF DESIGN AND ENVIRONMENT
 ISSUED 1-1-87



GENERAL NOTES

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701101.

This Standard also applies to work performed in the median more than 15' (4.5 m) from either pavement.

All dimensions are in inches (millimeters) unless otherwise shown.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Fencing contracts

DATE	REVISIONS
1-1-05	Switched units to English (metric). Revised title.
1-1-97	Renum. Standard 2313-6.

ISSUED 1-1-97

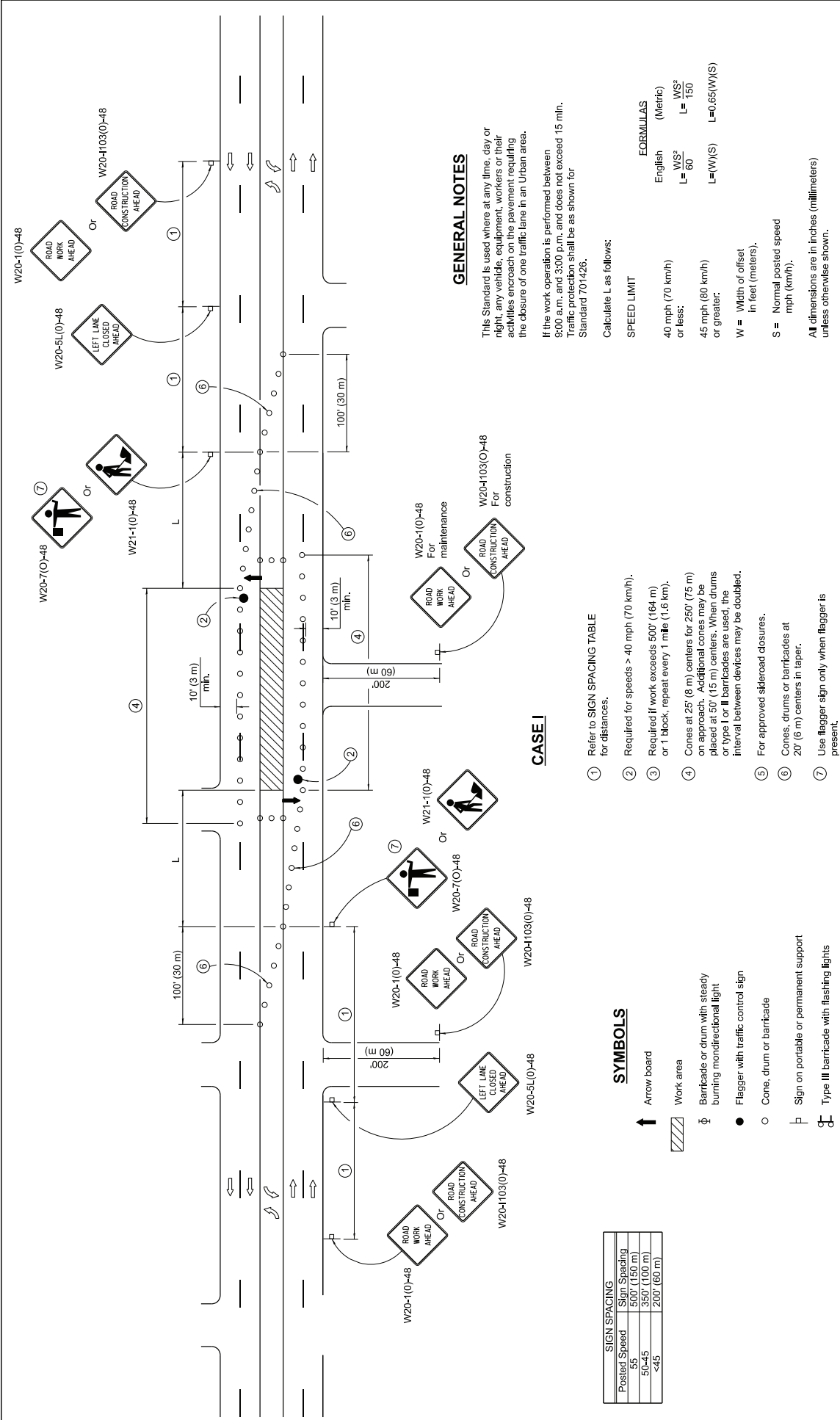
Illinois Department of Transportation

APPROVED *[Signature]* January 1, 2009
ENGINEER OF OPERATIONS

APPROVED *[Signature]* January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

**OFF-RD OPERATIONS, MULTILANE,
MORE THAN 15' (4.5 m) AWAY**

STANDARD 701106-02



W20-10-48

W20-5L(0)-48

W20-7(0)-48

W20-103(0)-48

W20-10-48

W20-7(0)-48

W20-103(0)-48

W20-5L(0)-48

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

If the work operation is performed between 9:00 a.m. and 3:00 p.m. and does not exceed 15 mph. Traffic protection shall be as shown for Standard 701426.

Calculate L as follows:

SPEED LIMIT

40 mph (70 km/h) or less:
 $L = \frac{WS^2}{60}$
 45 mph (80 km/h) or greater:
 $L = (W)(S)$
 $L = 0.65(W)(S)$

FORMULAS

English (Metric)
 $L = \frac{WS^2}{60}$ (m)
 $L = \frac{WS^2}{150}$ (ft)
 $L = (W)(S)$
 $L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

CASE I

- 1 Refer to SIGN SPACING TABLE for distances.
- 2 Required for speeds > 40 mph (70 km/h).
- 3 Required if work exceeds 500' (164 m) or 1 block, repeat every 1 mile (1.6 km).
- 4 Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type II or III barricades are used, the interval between devices may be doubled.
- 5 For approved sitedead closures.
- 6 Cones, drums or barricades at 20' (6 m) centers in taper.
- 7 Use flagger sign only when flagger is present.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- Barricade or drum with steady burning monidirectional light
- Flagger with traffic control sign
- Cone, drum or barricade
- ⊥ Sign on portable or permanent support
- ⊕ Type III barricade with flashing lights

Posted Speed	Sign Spacing
35	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

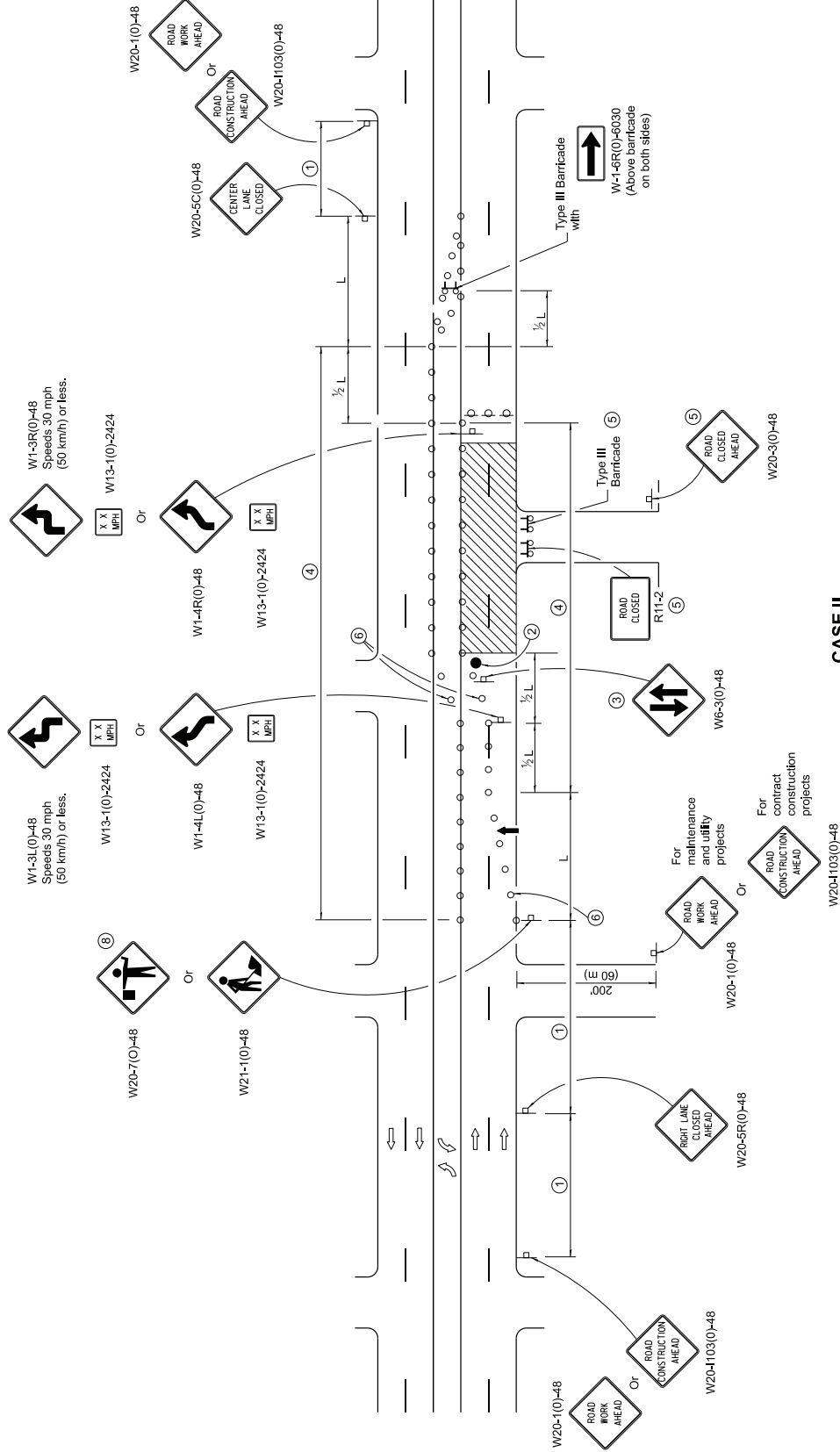
DATE	REVISIONS
1-1-19	Revised to allow cones at night.
1-1-18	Moved arrow boards into closed lanes for CASE I.

**URBAN LANE CLOSURE,
MULTILANE, 2W WITH
BIDIRECTIONAL LEFT TURN LANE**
(Sheet 1 of 4)

STANDARD 701602-10

<p>APPROVED MICHAEL J. O'CONNELL ENGINEER OF SAFETY PROGS. AND ENGINEERING</p>	<p>APPROVED ROBERT J. SELIG ENGINEER OF DESIGN AND ENVIRONMENT</p>
----------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------

ISSUED 1-1-13



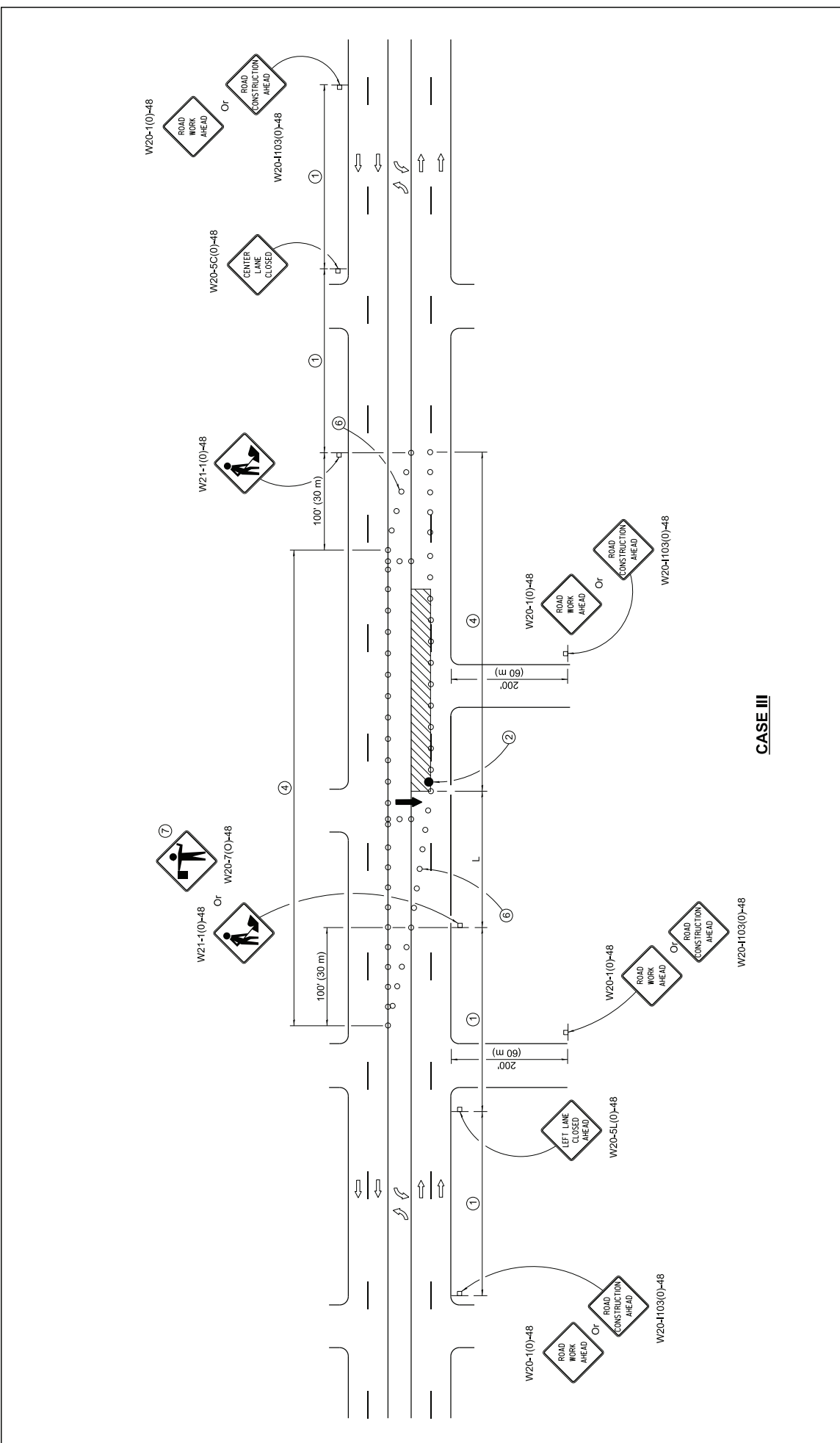
CASE II

**URBAN LANE CLOSURE,
MULTILANE, 2W WITH
BIDIRECTIONAL LEFT TURN LANE**
(Sheet 2 of 4)

STANDARD 701602-10

Illinois Department of Transportation
 APPROVED January 1, 2019
 ENGINEER OF SAFETY PROGS. AND ENGINEERING
 APPROVED January 1, 2019
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13



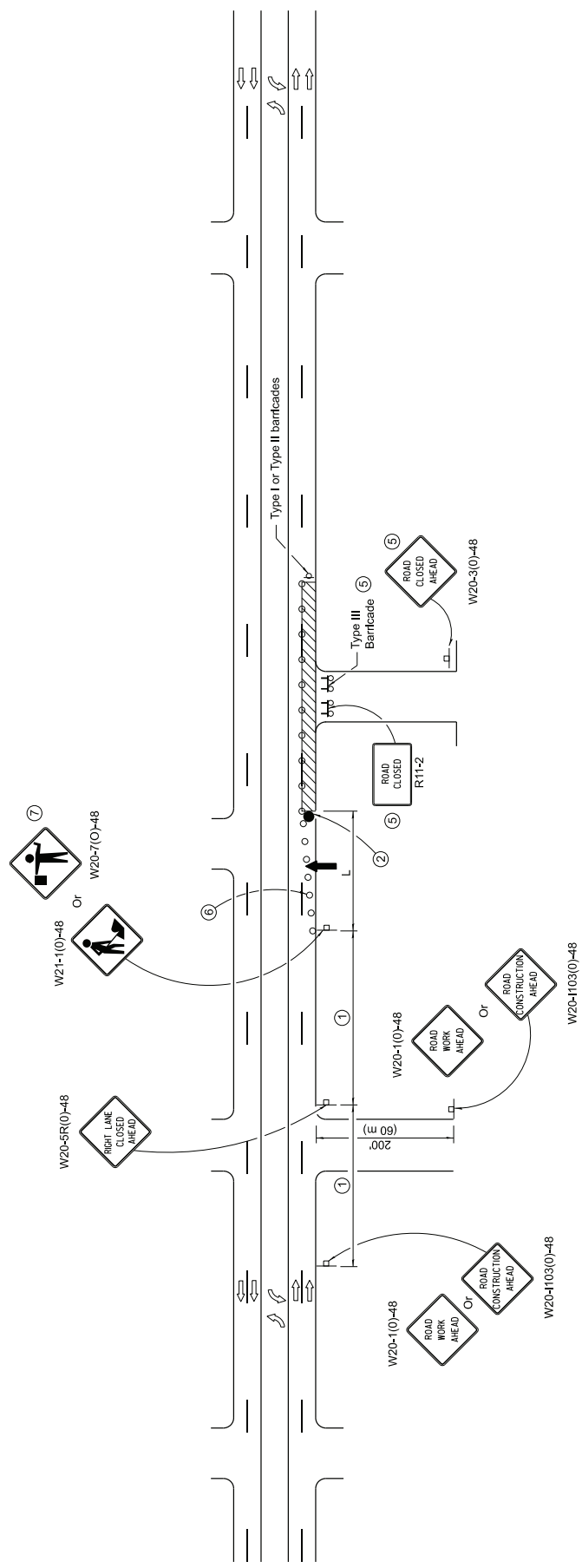
**URBAN LANE CLOSURE,
MULTILANE, 2W WITH
BIDIRECTIONAL LEFT TURN LANE**
(Sheet 3 of 4)

STANDARD 701602-10

Illinois Department of Transportation APPROVED ENGINEER OF SAFETY PROCS. AND ENGINEERING	January 1, 2019
	APPROVED ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-13	

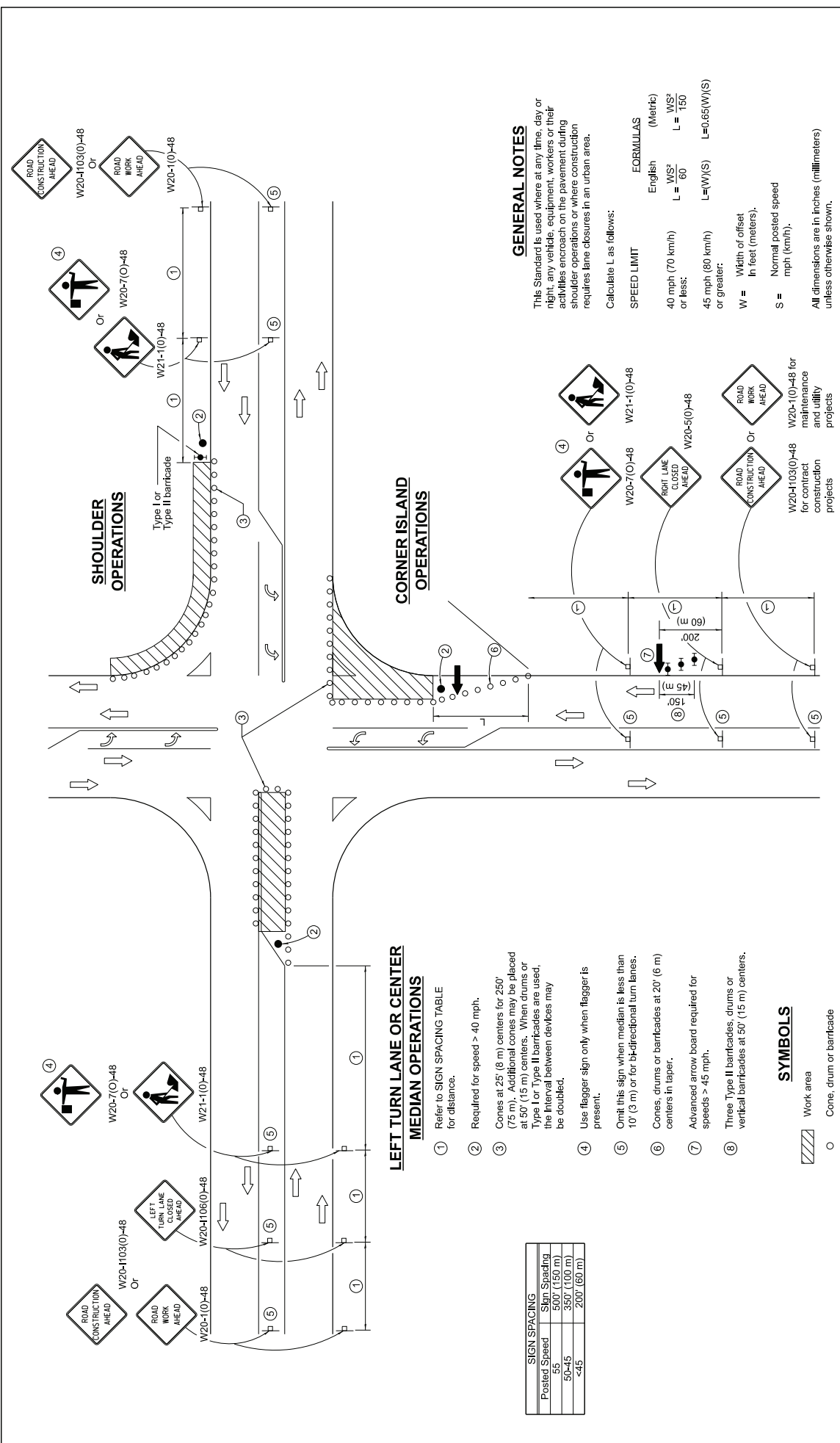
**URBAN LANE CLOSURE,
MULTILANE, 2W WITH
BIDIRECTIONAL LEFT TURN LANE**
(Sheet 4 of 4)

STANDARD 701602-10



CASE IV

Illinois Department of Transportation 	APPROVED _____ January 1, 2019 ENGINEER OF SAFETY PROGS. AND ENGINEERING
	APPROVED _____ January 1, 2019 ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-13	



LEFT TURN LANE OR CENTER MEDIAN OPERATIONS

- 1 Refer to SIGN SPACING TABLE for distance.
- 2 Required for speed > 40 mph.
- 3 Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- 4 Use flagger sign only when flagger is present.
- 5 Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
- 6 Cones, drums or barricades at 20' (6 m) centers in taper.
- 7 Advanced arrow board required for speeds > 45 mph.
- 8 Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT

English (Metric)

40 mph (70 km/h) $L = WS^2$ or less: $L = 60$

45 mph (80 km/h) or greater: $L = (W)(S)$ or $L = 0.65(W)(S)$

FORMULAS

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Corrected sign number for LEFT TURN LANE CLOSED AHEAD.
1-1-14	Added devices at arrow board upstream from taper. Revised workers sign number.

URBAN LANE CLOSURE, MULTILANE INTERSECTION

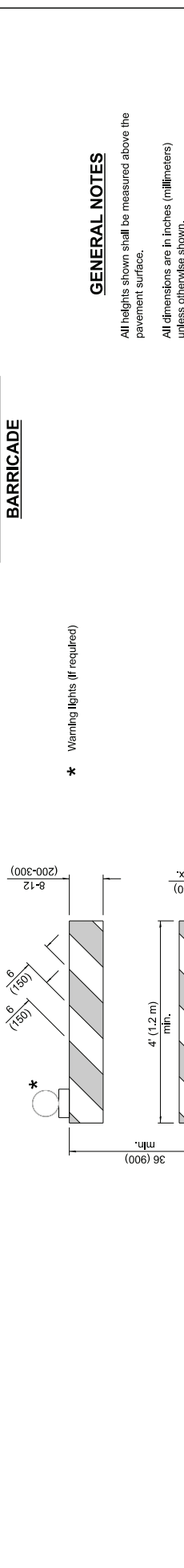
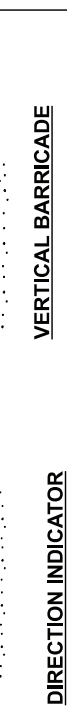
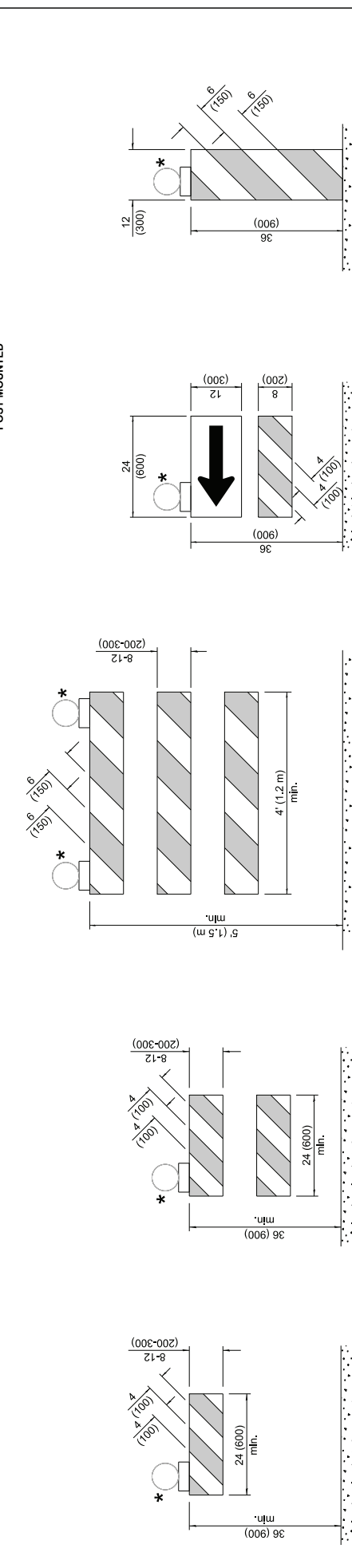
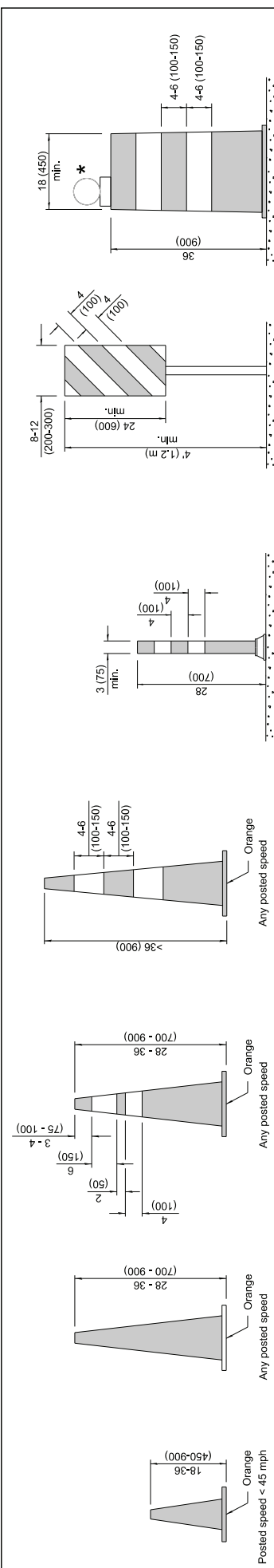
STANDARD 701701-10

ISSUED 1-1-87

Illinois Department of Transportation

APPROVED: APRIL 1, 2016
 ENGINEER OF SAFETY ENGINEERING

APPROVED: APRIL 1, 2016
 ENGINEER OF DESIGN AND ENVIRONMENT



GENERAL NOTES
All heights shown shall be measured above the pavement surface.
All dimensions are in inches (millimeters) unless otherwise shown.

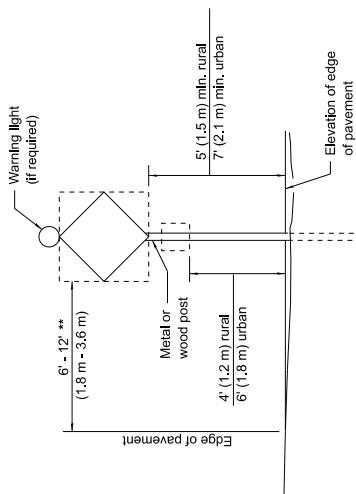
* Warning lights (if required)

DATE	REVISIONS
1-1-24	Revised Type III Barricade notes (sht. 3) & moved warning light on post mounted signs to top center.
1-1-19	Revised cones usage and added cones > 36" (900 mm) height.

ILLINOIS Department of Transportation
APPROVED: [Signature] 2024
ENGINEER OF SAFETY PROTECT AND ENGINEERING
APPROVED: [Signature] 2024
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

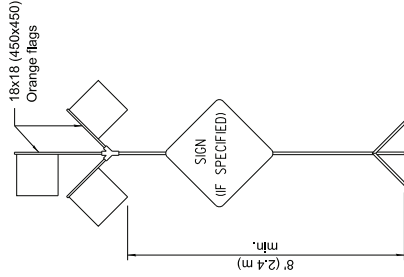
STANDARD 701901-09 (Sheet 1 of 3)



5' (1.5 m) min. embedment

POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



HIGH LEVEL WARNING DEVICE

ROAD CONSTRUCTION NEXT X MILES
G20-1104(0)-6036

END CONSTRUCTION
G20-1105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

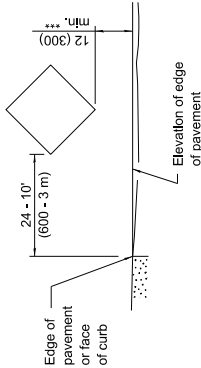
Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

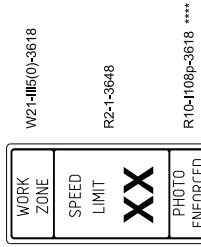
*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.

SIGNS ON TEMPORARY SUPPORTS

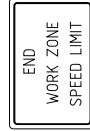
*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE



Sign assembly as shown on Standards or as allowed by District Operations.

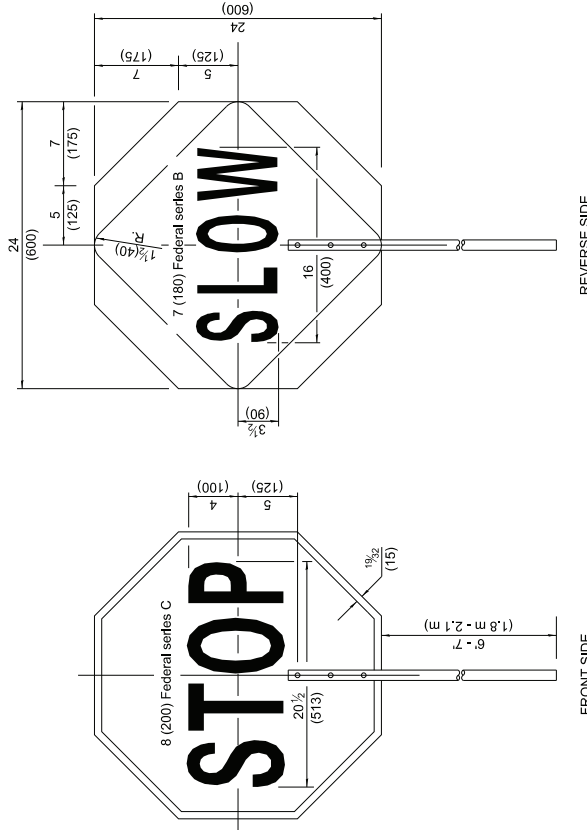
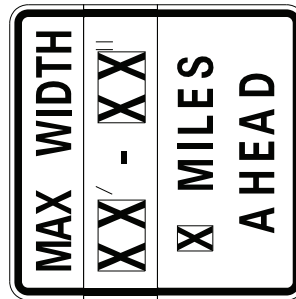


This sign shall be used when the above sign assembly is used.

W12-1103-4646

WIDTH RESTRICTION SIGN

XX-XX* width and X miles are variable.



REVERSE SIDE

FRONT SIDE

Illinois Department of Transportation
 APPROVED: [Signature] 2024
 ENGINEER OF SAFETY PROJECT AND ENGINEERING
 APPROVED: [Signature] 2024
 ENGINEER OF DESIGN AND ENVIRONMENT

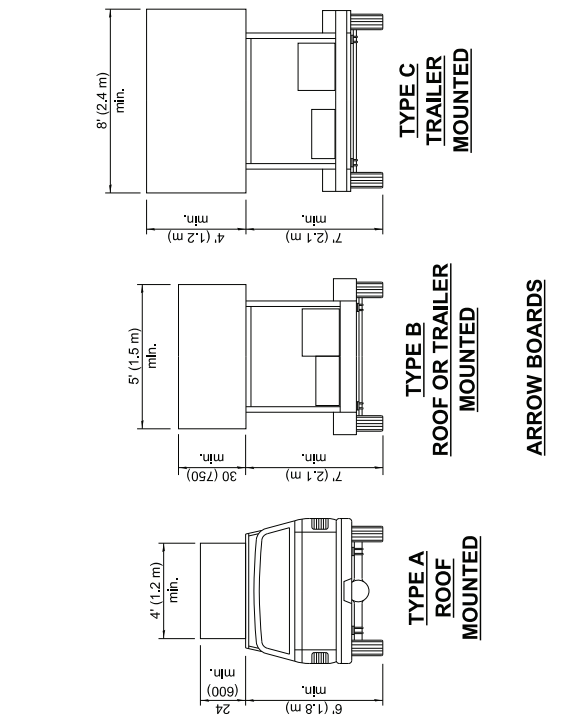
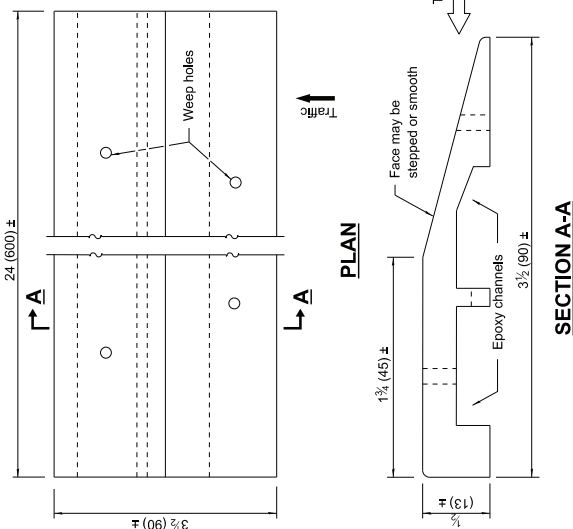
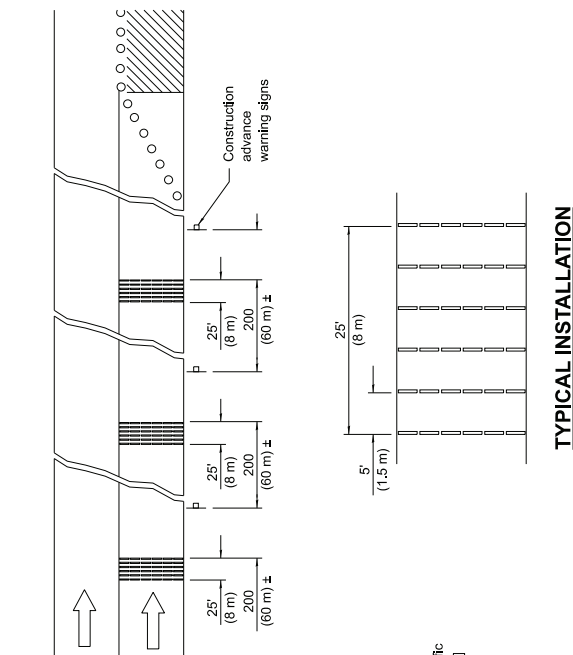
ISSUED 1-1-13

FLAGGER TRAFFIC CONTROL SIGN

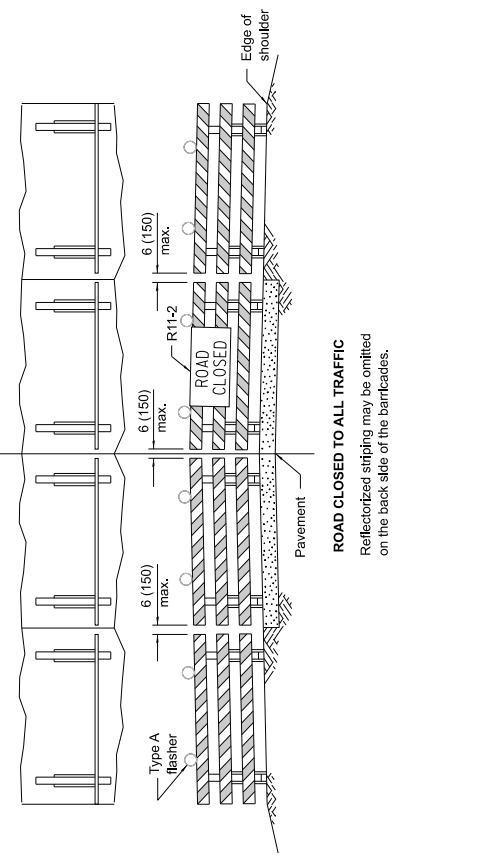
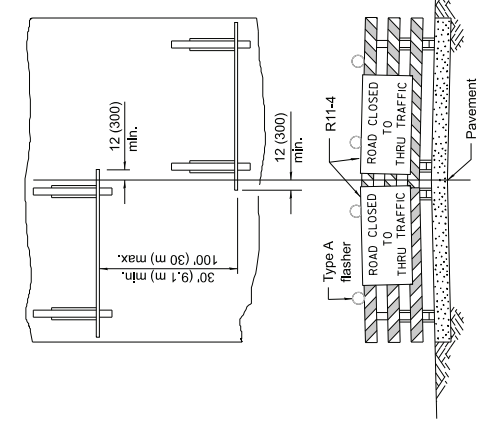
TRAFFIC CONTROL DEVICES

STANDARD 701901-09

(Sheet 2 of 3)



TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO THRU TRAFFIC
 ReflectORIZED striping shall appear on both sides of the barricades.

ROAD CLOSED TO ALL TRAFFIC
 ReflectORIZED striping may be omitted on the back side of the barricades.

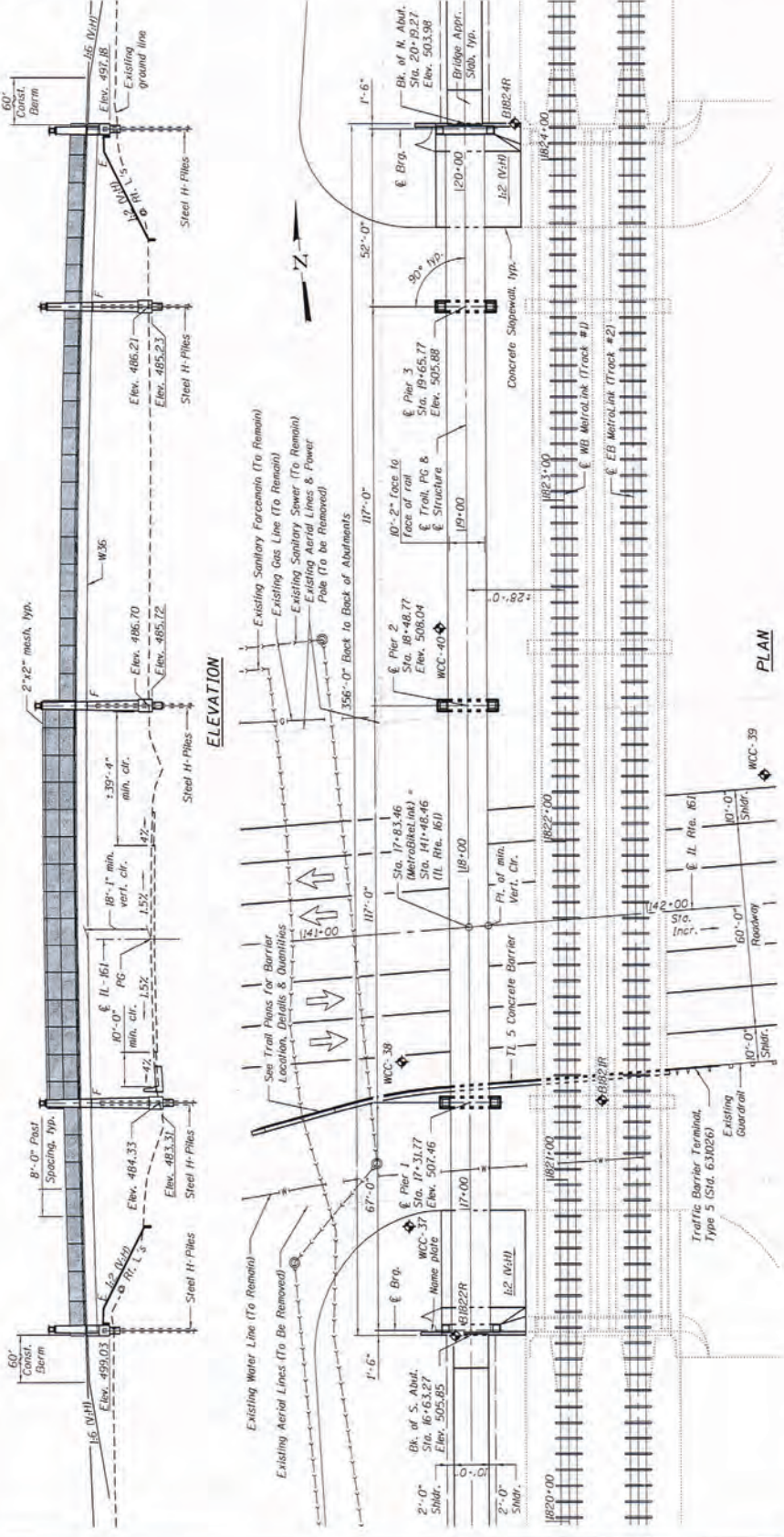
TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

If a Type III barricade with an attached sign panel which meets NCHRP 350 or MASH is not available, the sign may be mounted on an NCHRP 350 or MASH temporary sign support directly in front of the barricade.

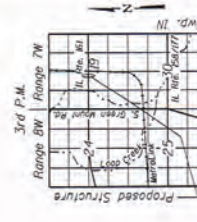
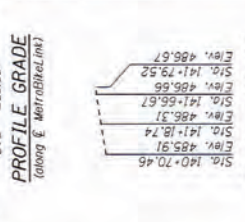
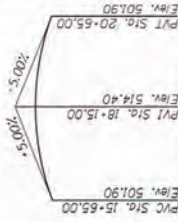
Illinois Department of Transportation
 APPROVED: [Signature] 2024
 ENGINEER OF SAFETY PROJECT AND ENGINEERING
 APPROVED: [Signature] 2024
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

Benchmarks:
 BM #615: Chiseled "x" on signal controller box in S.E. corner of intersection approx. 13' west of the guardrail terminal. Elev. 484.05.
 BM #732: Cross cut on most arm foundation in N.E. corner of intersection. Elev. 485.65.
 Existing Structures: None.



- ### INDEX OF SHEETS
1. General Plan and Elevation
 2. General Data
 3. Superstructure Details
 4. Bridge Approach Slab Details
 5. Rolling Details
 6. Framing Plan and Elevation
 7. Structural Steel Details
 8. Abutment Details
 9. Pier Details
 10. Pile Details
 11. Architectural Elevations
 - 12-20. Boring Logs



LOADING
 Pedestrian Live Load according to Art. 3.1 of the Guide Specifications
 All Members = 90#/sq. ft.
 Metro Maintenance Vehicle Loading:
 17,200 lb gross vehicle with the following axle load configuration:
 5,200 lb Max. 12,000 lb Max.
 10'-0" min.

DESIGN STRESSES

FIELD LIMITS
 Concrete $f'_c = 3,500$ psi
 Reinforcement $f_y = 60,000$ psi
 Structural Steel $f_y = 50,000$ psi
 M 270 Gr. 50 $f_y = 50,000$ psi
 M 270 Gr. 36 $f_y = 36,000$ psi
 ASTM A 500 Gr. B $f_y = 46,000$ psi
 Timber Deck - No. 1 Southern Pine
 $f_b = 1,650$ psi
 $E = 1,700,000$ psi

DESIGN SPECIFICATIONS
 2009 LRFD Guide Specifications for the Design of Pedestrian Bridges
 2012 AASHTO LRFD Bridge Design Specifications
SEISMIC DATA
 Seismic Performance Zone (SPZ) = 2
 Design Spectral Acceleration at 1.0 sec. (S_{d1}) = 0.269
 Design Spectral Acceleration at 0.2 sec. ($S_{d0.2}$) = 0.589
 Soil Site Class = D

NAME PLATE
 Sta. 18+41.27
 BUILT 2012 BY STATE OF ILLINOIS SEC. JI-00005-00-BR
 LOADING PEDESTRIAN STRUCTURE NO. 082-7003

GENERAL PLAN
 STRUCTURE B34.48 (SN 082-7003)

DESIGN STRESSES

DESIGN SPECIFICATIONS

NAME PLATE

GENERAL PLAN
 STRUCTURE B34.48 (SN 082-7003)

Si Clair County Transit District
 Metro

SCD

DESIGNED - MJJ
 CHECKED - DJM/PC
 DRAWN - MJJ
 CHECKED - ALR

LAST NAME | EXP. DATE
 FIRST NAME | DATE / 7th / 00
 FIRST NAME | DATE / 7th / 00

TWM
 THOUVENOT, WADE & MCROPER, INC.
 ENGINEERS ARCHITECTS
 1111 N. TRONDEN AVENUE
 PEORIA, ILLINOIS 61629
 PHONE: (309) 698-1234
 FAX: (309) 698-1235
 WWW: TWM-INC.COM
 EXPIRES 11/30/2014

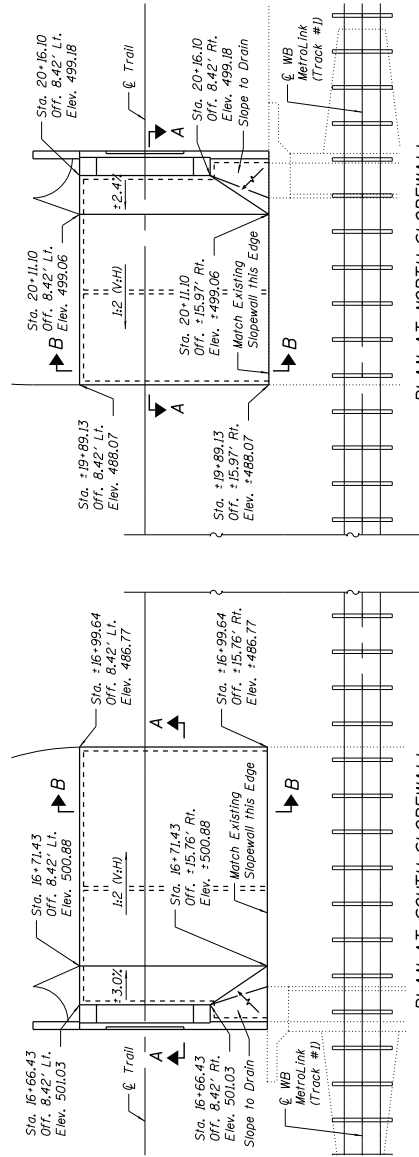
THOUVENOT, WADE & MCROPER, INC.
 ENGINEERS ARCHITECTS

GENERAL NOTES

Fasteners shall be as shown in Schedule of Bolts. Bolts in standard size holes, unless otherwise noted.
 Calculated Weight of Structural Steel
 AASHTO M270 Grade 50 = 14.720
 AASHTO M270 Grade 50W = 14.0
 AASHTO M270 Grade 36 = 14.940
 ASTM A 500 Grade B = 370

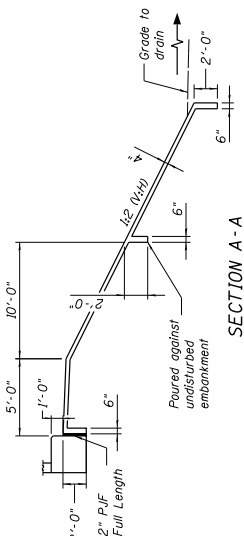
No Field welding is permitted except as specified in the contract documents. Reinforcement bars designated (E) shall be epoxy coated. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft). Adjustment shall be made either by grinding the surface or by shiming the bearings. Bolt System shall be used for field or end structural steel contact where otherwise noted. The entire system shall be shop applied, with the exception of masked off connection surfaces. Field installed fasteners and damaged areas touched up in the field. The color of the final finish coat for all structural steel surfaces shall be SWLC Blue (See Sheet 12).

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
 Utility relocation by others.

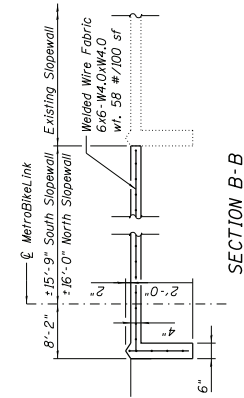


PLAN AT SOUTH SLOPEWALL

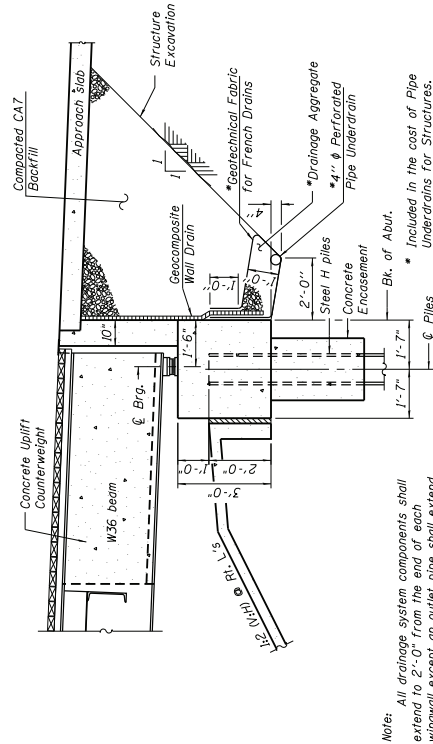
PLAN AT NORTH SLOPEWALL



SECTION A-A



SECTION B-B



Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60101).

SECTION THRU ABUTMENT
 (horiz. dim. @ Rt. L 3)

SCHEDULE OF BOLTS

DESCRIPTION	DIAM.	BOLT TYPE	SHEET REF.
Abutment Bearing Bolt	3/4"	AASHTO M64 Type 1	8
Abutment Bearing Bolt	5/8"	AASHTO M64 Type 1 (ASTM A325)	8
Pier Anchor Bolt - Outside Girder	1 1/4"	ASTM F1554 Gr. 105	8
Pier Anchor Bolt - Inside Girder	3/4"	ASTM F1554 Gr. 36	8
Girder Splices	3/4"	AASHTO M64 Type 1	6
Channel End Connection	3/4"	AASHTO M253 Type 1	7
WT End Connection	3/4"	AASHTO M253 Type 1	7
Stringer End Connection	3/4"	ASTM A307 Gr. 36	7
Nailer Carriage Bolts	3/8"	Stainless Steel	3
Rail Post Studs	3/4"	AASHTO M64 Type 1	5

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUB	TOTAL
Structure Excavation	Cu. Yd.	138	138
Concrete Structures	Cu. Yd.	166.8	166.8
Treated Timber	F.B.M.	14,130	14,130
Concrete Encasement	Cu. Yd.	6.4	6.4
Furnishing and Erecting Structural Steel	L. Sum	1	1
Reinforcement Bars, Epoxy Coated	Pounds	530	13,360
Slopewall 4 Inch	Sq. Yd.	182	182
Furnishing Steel Piles HP 12x53	Foot	1,044	1,044
Driving Piles	Foot	1,044	1,044
Test Pile Steel HP 12x53	Each	5	5
Pile Shoes	Each	18	18
Name Plates	Each	1	1
Elastomeric Bearing Assembly, Type III	Each	4	4
Anchor Bolts, 3/4"	Each	40	40
Anchor Bolts, 1/2"	Each	6	6
Anchor Bolts, 3/8"	Each	6	6
Composiite Wall Drain Structures, 4"	Sq. Ft.	71	71
700			
Composite Wall Drain Structures, 4"	Sq. Ft.	66	66
Bridge Fence Railing, Special	Foot	714	714
Form Liner Textured Surface, Special	Sq. Ft.	2,716	2,716
Anti-Graffiti Protection System	Sq. Ft.	6,176	6,176
Cap Blocks	Each	10	10

FILE NAME: P:\110914\1-CAD - DWG\13-Br-Bridge 14.8\B34.48-002-General.dwg

THOUVENOT, WADE & MORGENTHAU, INC.
 SWANSEA, MASSACHUSETTS 01903-5100

USER NAME: j_morlock
 PLOT SCALE: B34.48
 PLOT DATE: 6/19/2013

DESIGNED: MJJ
 CHECKED: DJH/KFC
 DRAWN: ALJ
 CHECKED: ALJ

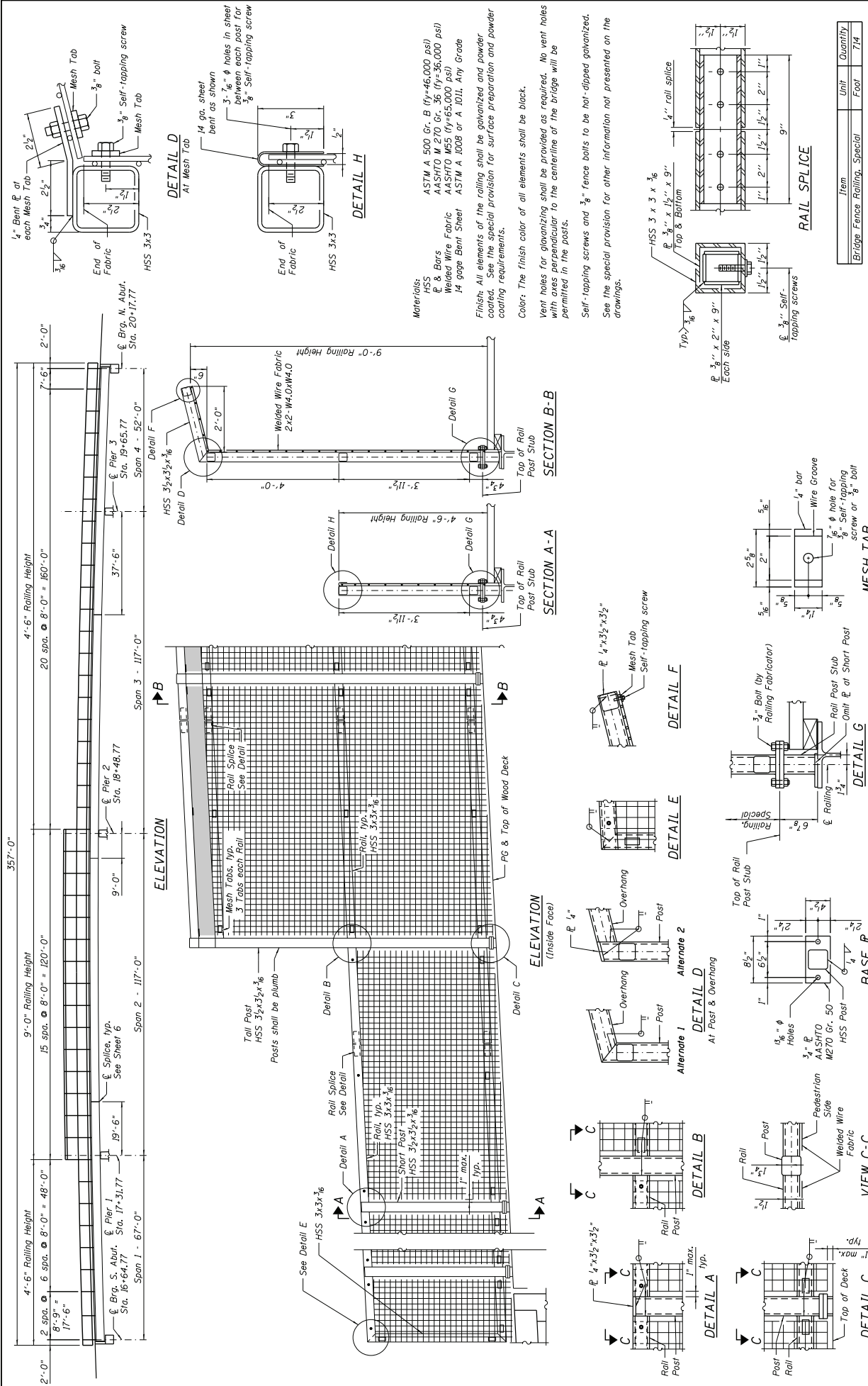
REVISIONS:
 REVISION
 REVISION
 REVISION

St Clair County Transit District
 Bt-State Development Agency
 Metro

GENERAL DATA
 STRUCTURE B34.48 (SN 002-7003)
 SHEET NO. 2 OF 20 SHEETS

MetroBikeLink
 over IL-161 at SWIC
 ILLINOIS TOL. RD PROJECT

COUNTY SHEETS
 ST. CLAIR 127
 CONTRACT NO. 52

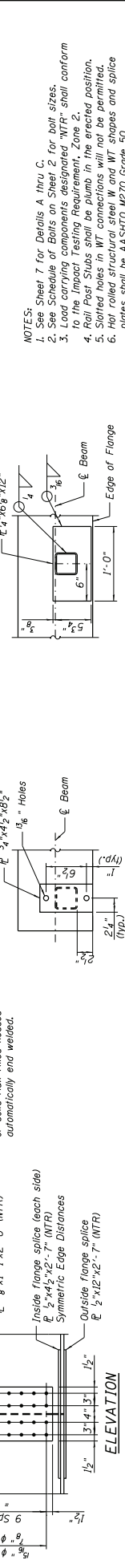
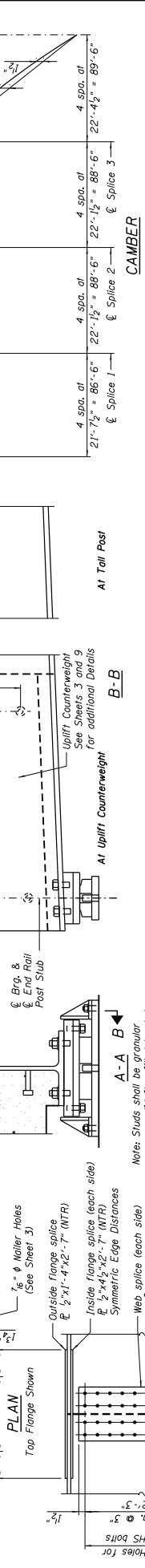
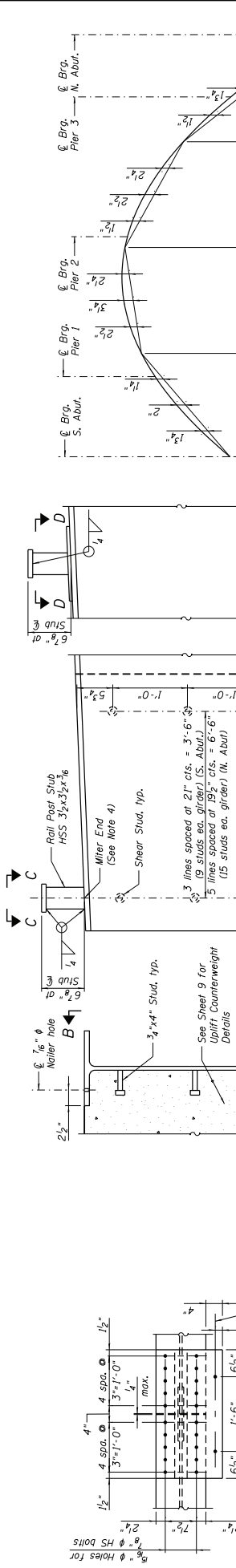
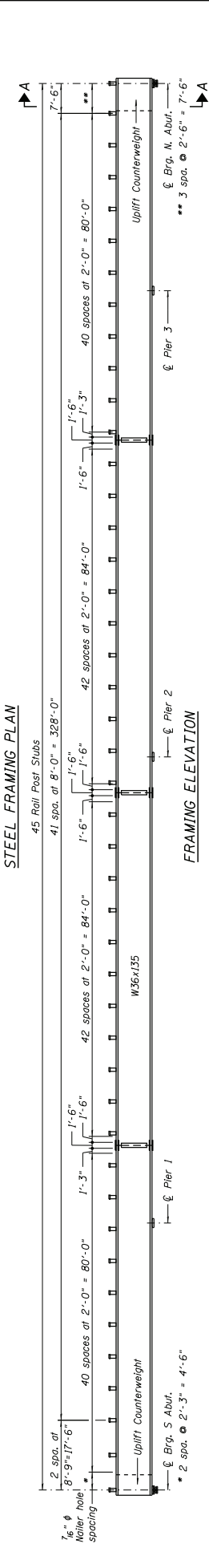
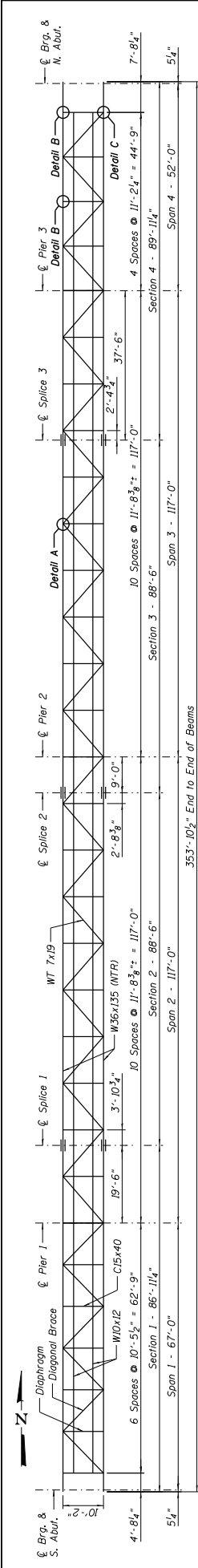


Item	Unit	Quantity	Foot	7/14
Bridge Fence Railing, Special	Foot			

REVISED	DESIGNED	DATE	BY
REVISED	MLJ		
REVISED	DJM		
REVISED	MLJ		
REVISED	DJM		

USER NAME	PROJECT	DATE	BY
TWM	THOUVENOT, WADE & MOERGEN, INC.		

THOUVENOT, WADE & MOERGEN, INC.	RAILING STRUCTURE B34.48 (SN 082-7003)	ST. CLAIR COUNTY	ST. CLAIR COUNTY
ILLINOIS	ILLINOIS	ILLINOIS	ILLINOIS
ST. CLAIR COUNTY	ST. CLAIR COUNTY	ST. CLAIR COUNTY	ST. CLAIR COUNTY
ST. CLAIR COUNTY	ST. CLAIR COUNTY	ST. CLAIR COUNTY	ST. CLAIR COUNTY
ST. CLAIR COUNTY	ST. CLAIR COUNTY	ST. CLAIR COUNTY	ST. CLAIR COUNTY



NOTES:

- See Sheet 7 for Details A thru C.
- See Schedule of Bolts on Sheet 2 for bolt sizes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- Rail Post Stubs shall be plumb in the erected position.
- Started holes in WT connectors will not be permitted.
- Hot rolled structural steel and WT shapes and splice plates shall be AASHTO M270 Grade 50.
- HSS shall be ASTM A 500, Grade B.
- See Sheet 7 for Girder Moment and Reaction Tables.

REVISIONS:

NO.	DATE	BY	CHKD.	REASON
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

PROJECT INFORMATION:

PROJECT: ILLINOIS BRIDGE 34-108-148-006-Framing

USER NAME: j_mack

DESIGNED: - MJI

CHECKED: - DJH

DRAWN: - MJI

DATE: 8/24/2011

PLOT SCALE: 1/8" = 1'-0"

CHECKED: - DJH

REVISION: -

CLIENT: St. Clair County Transit District

DESIGNER: SCD

AGENCY: St. Clair County Transit District

STATE: Ill.

PROJECT: Metro

STRUCTURE: FRAME PLAN STRUCTURE B34.4B (SN 082-7003)

DATE: 8/24/2011

SCALE: 1/8" = 1'-0"

SHEET NO.: 6 OF 20 SHEETS

CONTRACT NO.: ILLINOIS BRIDGE 34-108-148-006-Framing

DATE: 8/24/2011

PROJECT: Metro

STATE: Ill.

PROJECT: Metro

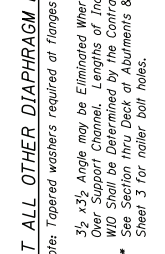
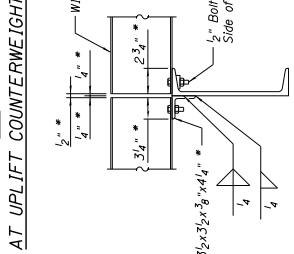
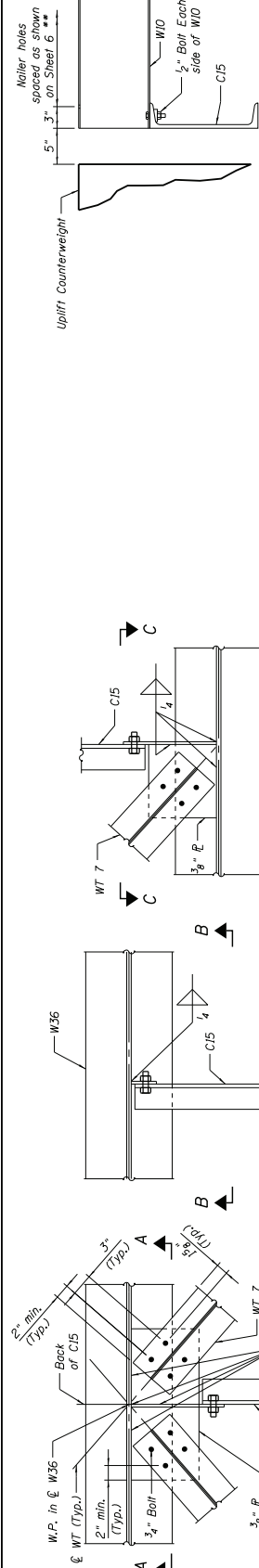
STRUCTURE: FRAME PLAN STRUCTURE B34.4B (SN 082-7003)

DATE: 8/24/2011

SCALE: 1/8" = 1'-0"

SHEET NO.: 6 OF 20 SHEETS

CONTRACT NO.: ILLINOIS BRIDGE 34-108-148-006-Framing



Miller holes spaced as shown on Sheet 6

WID

C15

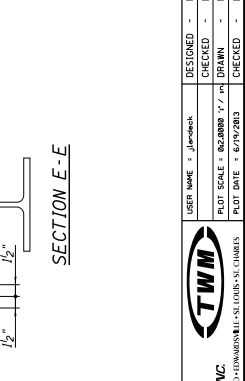
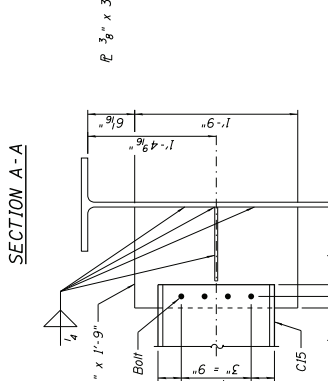
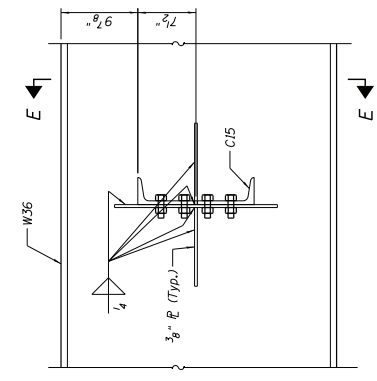
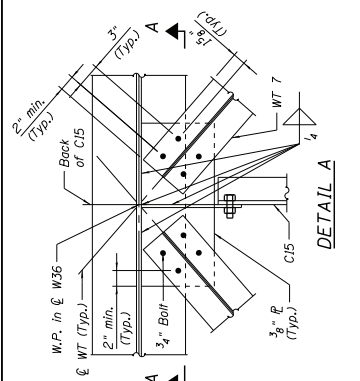
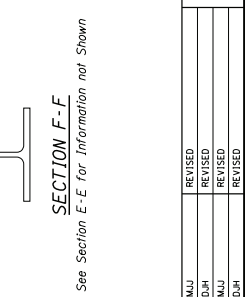
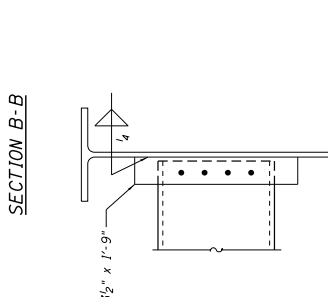
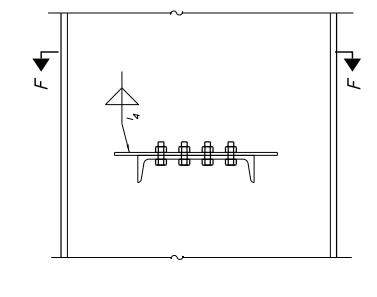
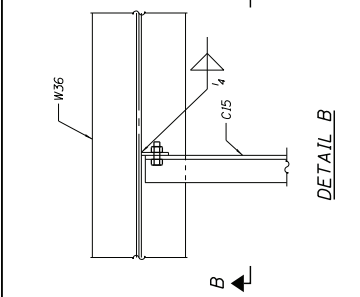
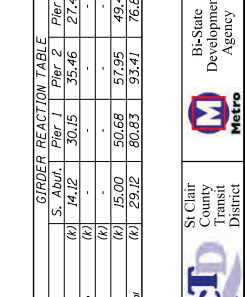
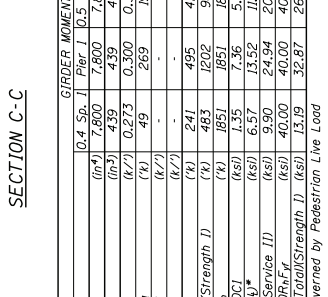
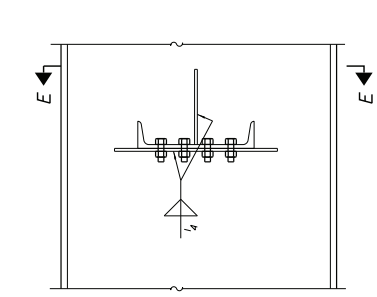
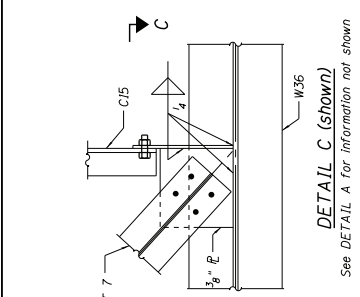
1/2" Bolt Each Side of WID

AT UPLIFT COUNTERWEIGHT

1/2" Bolt Each Side of WID

L 3 1/2 x 3 1/2 x 3/8 x 1/4"

1/2" Bolt Each Side of WID



AT ALL OTHER DIAPHRAGM LOCATIONS

Note: Tapered washers required at flanges of C15 channels.

* 3/4 x 3/4 Angle may be Eliminated Where WID is Continuous Over Support Channel Lengths of Individual Pieces of WID Shall be Determined by the Contractor.

** See Section thru Deck at Abutments & Section B-B on Sheet 3 for nailer bolt holes.

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
I_s	(in ⁴) 7,800	7,800	7,800	7,800	7,800	7,800	7,800
S_x	(in ³) 439	439	439	439	439	439	439
DC1	(ft ³) 0.273	0.300	0.300	0.273	0.273	0.273	0.273
DC2	(ft ³) 49	269	196	365	168	233	26
DW	(ft ³) -	-	-	-	-	-	-
M_u	(ft-k) 241	495	423	617	414	490	169
M_u (Strength I)	(ft-k) 483	1202	985	1535	934	1149	328
ϕM_u	(ft-k) 1851	1851	1851	1851	1851	1851	1851
f_s DC1	(ksi) 1.35	7.36	5.37	9.97	4.60	6.38	0.71
f_s (Service II)	(ksi) 6.57	13.52	11.55	16.86	11.31	13.39	4.62
f_s (Service I)	(ksi) 9.90	24.94	20.39	31.89	19.30	23.78	6.71
f_s (Total Strength I)	(ksi) 40.00	40.00	40.00	40.00	40.00	40.00	40.00
f_s (Total Strength II)	(ksi) 13.19	32.87	26.93	41.96	25.54	31.40	8.97

* Governed by Pedestrian Live Load

STRUCTURAL STEEL DETAILS

STRUCTURE B34.48 (SN 002-7003)

SHEET NO. 7 OF 20 SHEETS

Metrolink over IL-161 at SMC

BLIND/REP. AND PROJECT

COUNTY ST. CLAIR CONTRACT NO. 127 57

Bl-State Development Agency

St Clair County Transit District

Metrolink

THOUVENOT, WADE & MORGENTHAU, INC.

DESIGNED - MJJ

CHECKED - DJH

DRAWN - MJJ

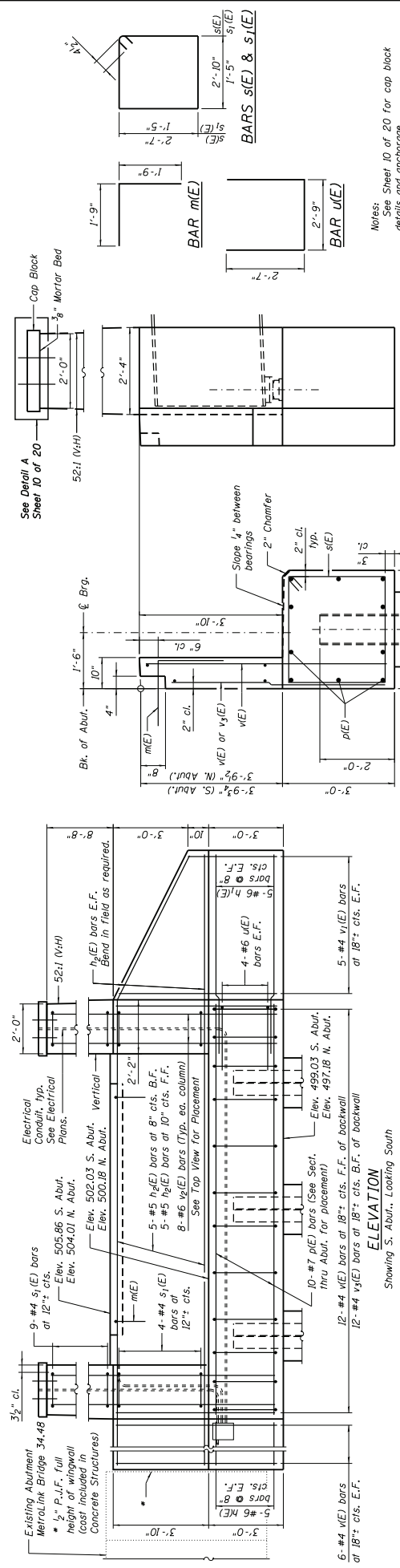
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USER NAME = j_morgenthau

PLOT SCALE = 1/8"=1'-0"

PLOT DATE = 6/19/2013

FILE NAME = P:\110314\11-CAD-005\13-57-BrIDGE 34-48\B34.48-007-Structl Steel Dwg.dgn



Notes:
 See Sheet 10 of 20 for cap block details and anchorage.
 See Sheet 12 of 20 for form liner, concrete staining and other architectural details.

BILL OF MATERIAL (2 ABUT.)

Bar	No.	Size	Length	Shape
m(E)	20	#6	10'-1"	
h(E)	20	#6	8'-5"	
h(E)	20	#5	30'-2"	
m(E)	24	#4	3'-7"	
m(E)	26	#5	9'-10"	
m(E)	22	#5	3'-11"	
m(E)	22	#5	6'-11"	
p(E)	20	#7	16'-6"	
s(E)	24	#4	11'-7"	
s(E)	52	#4	6'-5"	
u(E)	16	#6	7'-11"	
v(E)	48	#4	6'-5"	
v(E)	10	#4	9'-10"	
v(E)	32	#6	15'-1"	
v(E)	24	#4	5'-9"	
Structure Excavation Cu. Yd. 120				
Concrete Structures Cu. Yd. 42.4				
Concrete Encasement Cu. Yd. 2.2				
Reinforcement Bars, Pound 4,120				
Epoxy Coated Reinforcing Steel Piles, Foot 306				
HP 12x53 Piles, Foot 306				
Tie Bars, Each 2				
HP 12x53 Piles, Each 6				
Anchor Bolts, Each 16				
Cap Blocks, Each 4				

** If it is necessary to cut these bars in the field, the cut shall be cut on the edge coating shall be required according to Article 508.04 of the 2012 Standard Specifications.

END ELEVATION

SEC. THRU ABUT.

SECTION THRU UPLIFT COUNTERWEIGHT

ELEVATION

TOP VIEW

PILE DATA

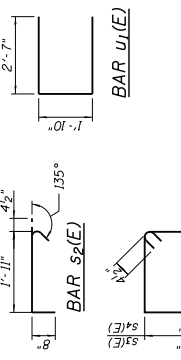
Type: HP 12x53
 Nominal Required Bearing: 419 kips
 Factored Resistance Available: 230 kips
 Est. Length: 76 ft. - S. Abutment
 77 ft. - N. Abutment
 No. Production Piles: 2 at each Abutment
 See Sheet 11 for Pile Details

V(I)E) BAR FIELD CUTTING DIAGRAM

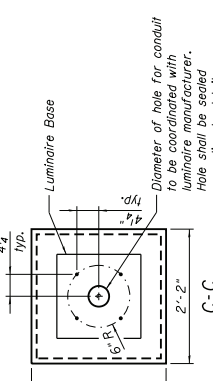
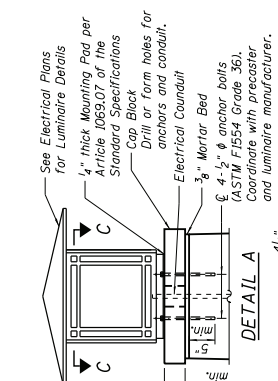
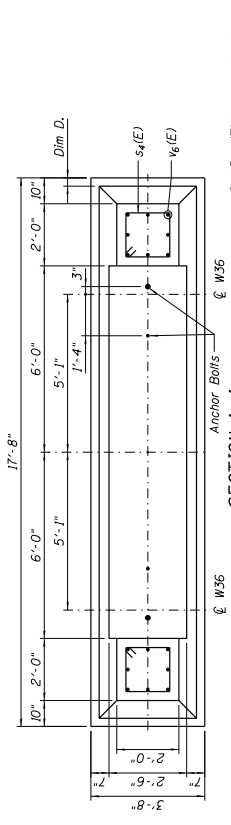
Order v(I)E) bars full length. Cut as shown and use remainder of bars in opposite face.

USER NAME	DESIGNED	REVISION
J. J. J.	ALU/DJH	REVISION
B. B. B.	DRN/	REVISION
C. C. C.	ALN	REVISION

THOUVENOT, WADE & MORGENTHAU, INC.	ST. CLAIR COUNTY TRANSIT DISTRICT	BLUMHARDT, AID PROJET
PROJECT NO. 15-1005-S-COMBES	STRUCTURE B34.48 (SN 002-7003)	CONTRACT NO. 127
PLOT SCALE = 1/8" = 1'-0"	ABUTMENT DETAILS	SHEETS 59
PLOT DATE = 6/29/2013	Sheet No. 9 of 20 SHEETS	CONTRACT NO. 127
CHECKED - ALN	Metro	CONTRACT NO. 127



	Pier 1	Pier 2	Pier 3
Elev. A	503.69	504.47	502.31
Elev. B	493.31	485.72	485.23
Dim. C	16'-7"	14'-9"	13'-1"
Dim. D	3'-6"	3'-3"	4'
Note E	17-#6 s3(E) bars spool as shown E.P.	17-#6 s3(E) bars spool as shown E.P.	17-#6 s3(E) bars spool as shown E.P.
Note F	18-#6 s4(E) bars at 6' cts. 18-#6 u1(E) bars at 12' cts. End of 12' cts. at End	16-#6 s4(E) bars at 6' cts. 16-#6 u1(E) bars at 12' cts. End of 12' cts. at End	15-#6 s4(E) bars at 6' cts. 15-#6 u1(E) bars at 12' cts. End of 12' cts. at End
Note G	1-#4 s4(E) bar ea. End	1-#4 s4(E) bar ea. End	1-#4 s4(E) bar ea. End



Notes: See Sheet 12 of 20 for form liner, concrete staining and other architectural details.

BILL OF MATERIAL (3 PIERS)

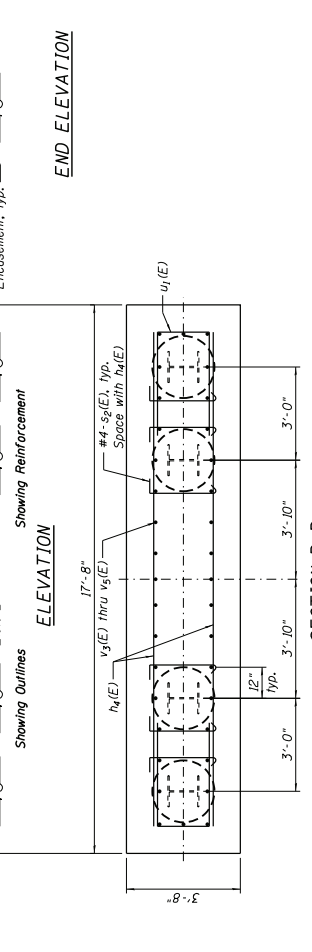
Bar No.	Size	Length	Shape
h4(E)	#8	15'-11"	—
D1(E)	#4	15'-11"	—
s2(E)	#4	3'-0"	—
s3(E)	#4	8'-11"	—
u1(E)	#4	6'-5"	—
u1(E)	#6	7'-0"	—
v4(E)	#6	19'-1"	—
v4(E)	#6	17'-3"	—
v4(E)	#6	15'-7"	—
v4(E)	#5	14'-4"	—
Structure Excavation	Col. Yd.	18	—
Concrete Structures	Col. Yd.	119.5	—
Concrete Encasement	Col. Yd.	4.2	—
Formwork Bars	Pound	9,240	—
Reinforcing Steel Piles	Foot	738	—
HP 12x53	Foot	738	—
Test Piles	Each	3	—
Steel HP 12x53	Each	12	—
Pile Shoes	Each	24	—
Anchor Bolts, 1/2"	Each	6	—
Cap Blocks	Each	6	—

Anchor Bolt Notes:
Anchor bolts shall be ASTM F1554 all-thread for an Engineer shall alternate material of the case(s) and diameter(s) specified. The corresponding grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at luminaires may be either cast in place or installed in holes drilled after the luminaire is in place. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

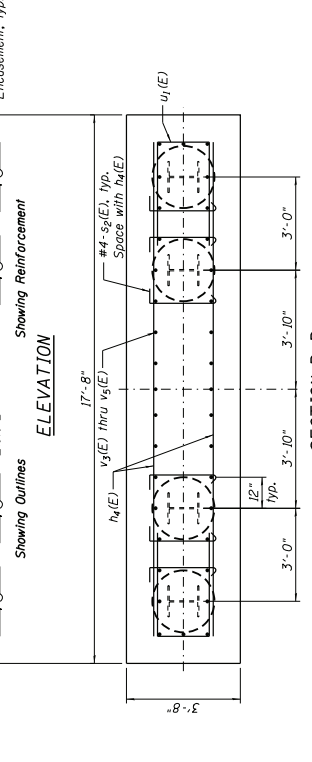
PILE DATA

Type: HP 12x53
Nominal Required Bearing: 419 kips
Factored Resistance Available: 230 kips
Est. Length: 74 ft. - Pier 1
91 ft. - Pier 2
81 ft. - Pier 3
Mtn. Tip Elevations: 445 - All Piers
No. Production Piles: 3 at each Pier
No. test Piles: 1 at each Pier
See Sheet 11 for Pile Details

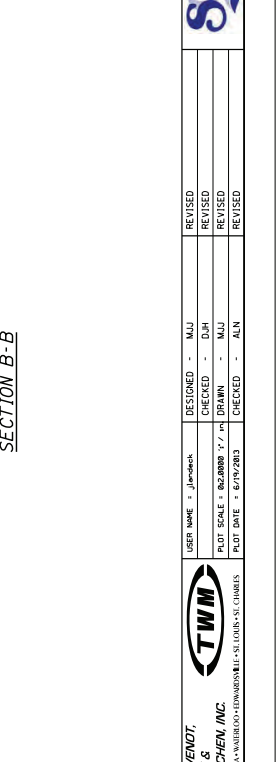
END ELEVATION



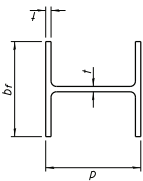
ELEVATION



SECTION B-B

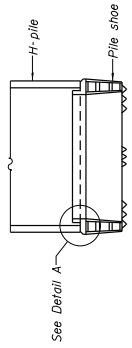


THOUVENOT, WADE & MORGENTHAU, INC. SWANSEA VALLEY CENTER • 1000 W. 10TH ST. CHICAGO, IL 60607 PHONE: 312.467.1000 • FAX: 312.467.1001 • WWW.TWMINC.COM	USER NAME = j_black PLOT SCALE = 8:1 PLOT DATE = 6/29/2013	DESIGNED - MJJ CHECKED - DJH DRAWN - MJJ CHECKED - ALN	St. Clair County Transit District Bi-State Development Agency 	PIER DETAILS STRUCTURE B34.48 (SN 002-7003) SHEET NO. 10 OF 20 SHEETS	COUNTY ST. CLAIR CONTRACT NO. ILLINDOT 14B PROJ02	SHEET NO. 10 OF 20 SHEETS
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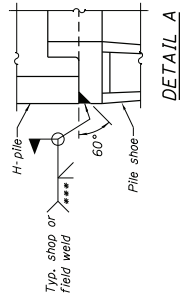


STEEL PILE TABLE

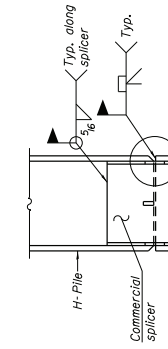
Designation	Depth d	Flange width br	Web and Flange thickness t	Web and Encasement diameter A
HP 14x17	14"	14 5/8"	9/16"	30"
x102	14"	14 3/8"	5/8"	30"
x89	13 5/8"	14 3/8"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/2"	24"
x74	12 1/4"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	1/2"	24"
HP 10x57	10"	10 1/2"	5/8"	24"
x42	9 3/4"	10 1/2"	5/8"	24"
HP 8x36	8"	8 3/8"	7/8"	18"



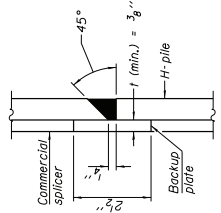
ELEVATION



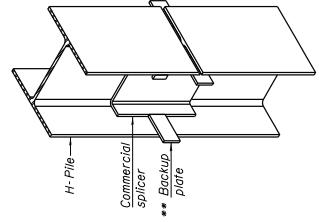
H-PILE SHOE ATTACHMENT



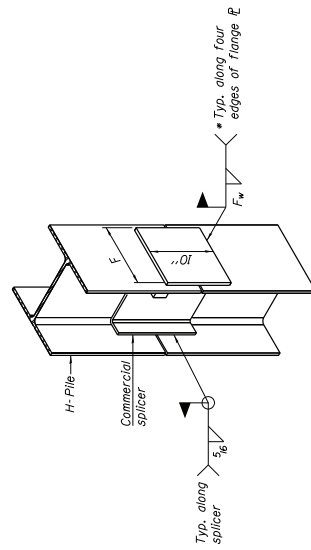
ELEVATION



DETAIL "B"



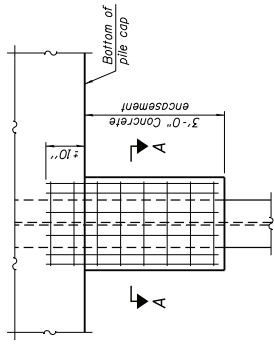
ISOMETRIC VIEW



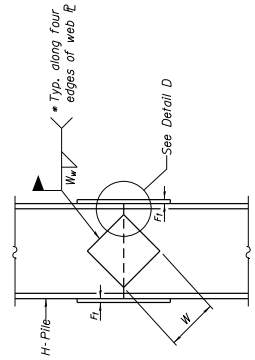
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/8" min.).

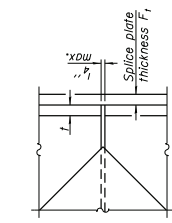


ELEVATION



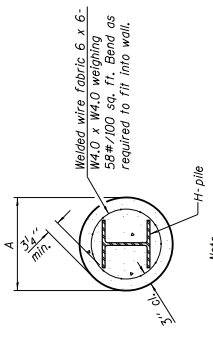
ELEVATION

WELDED COMMERCIAL SPLICE

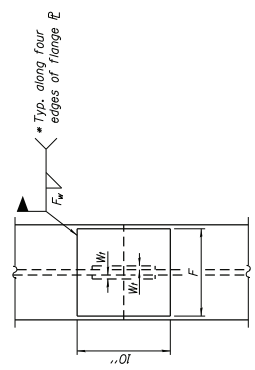


DETAIL D

WELDED PLATE FIELD SPLICE



SECTION A-A



END VIEW

Designation	F	F ₁	F _w	W	W ₁	W _w
HP 14x17	12 1/2"	1"	7/8"	7 3/4"	5 9/8"	1/2"
x102	12 1/2"	3/8"	3/4"	7 3/4"	5 5/8"	1/2"
x89	12 1/2"	3/4"	1/2"	7 3/4"	5 7/8"	1/2"
x73	12 1/2"	3/8"	3/8"	7 3/4"	5 5/8"	1/2"
HP 12x84	10"	3/8"	1/2"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/2"	6 1/2"	5 7/8"	1/2"
x63	10"	3/8"	1/2"	6 1/2"	5 5/8"	1/2"
x53	10"	5/8"	1/2"	6 1/2"	5 7/8"	1/2"
HP 10x57	8"	3/4"	9/16"	5 1/2"	5 1/2"	1/2"
x42	8"	3/8"	5/8"	5 1/2"	5 1/2"	1/2"
HP 8x36	7"	5/8"	1/2"	4 1/2"	4 1/2"	1/2"

Note: The steel H-piles shall be according to AASHTO M270 Grade 50.

1-27-12

F-HP

THOUVENOT, WADE & MORGENTHAU, INC.
SUNNYVALE, CALIFORNIA

USER NAME: j_jacoback
PLOT SCALE: 8x4.000 x 7.0
PLOT DATE: 6/29/2013

DESIGNED: -
CHECKED: -
DRAWN: -
CHECKED: -

St Clair County Transit District

St Clair County Transit District

Metro

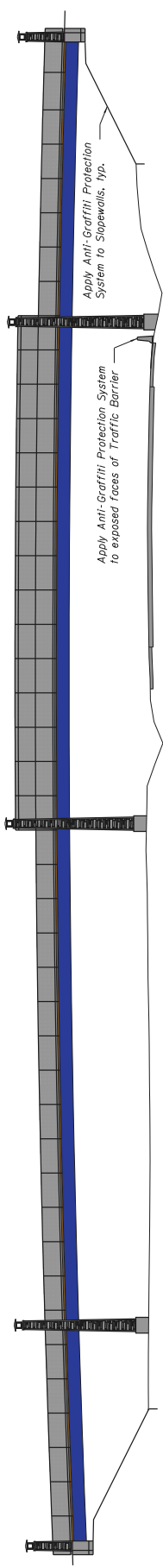
Bi-State Development Agency

HP PILE DETAILS
STRUCTURE B34.48 (SN 082-7003)

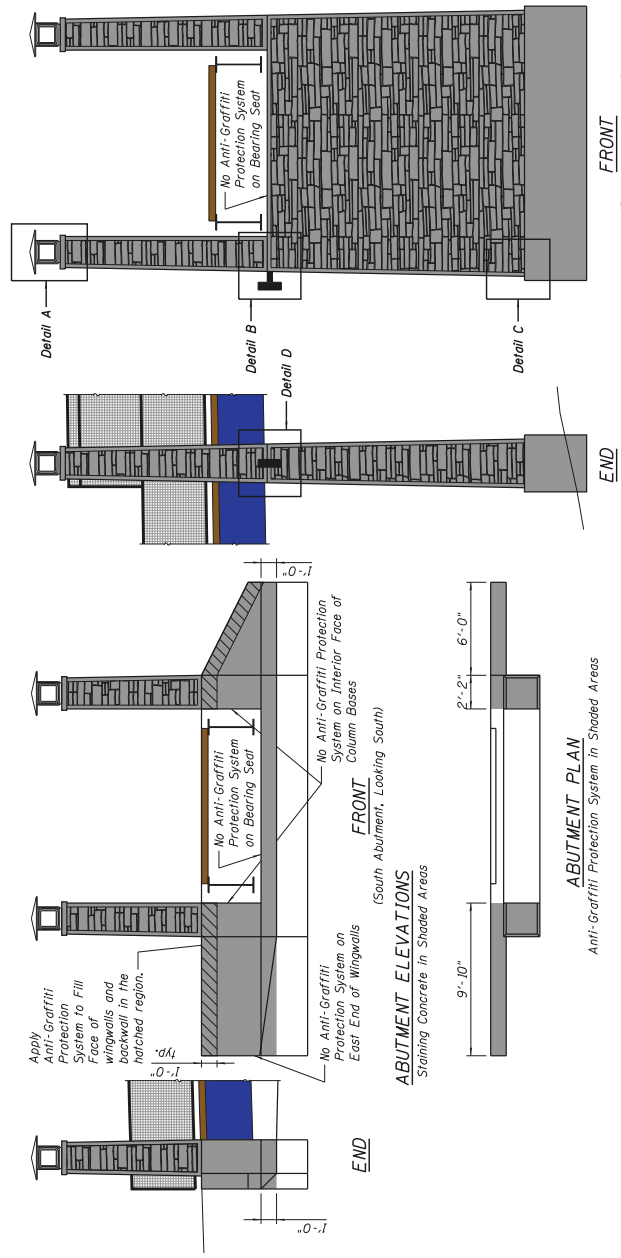
Metro/Orbel Ink
over IL-161 of SMC

COUNTY SHEETS
ST. CLAIR 127
CONTRACT NO. 61

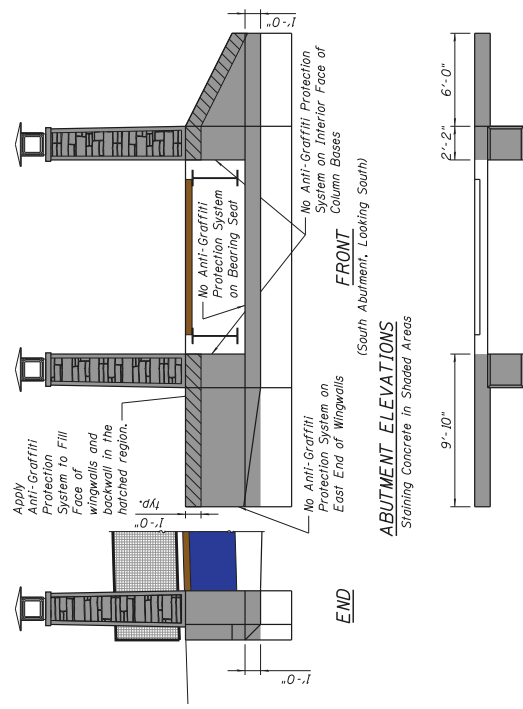
BLIND/REP. AND PROJECT
SHEET NO. 11 OF 20 SHEETS



ARCHITECTURAL ELEVATION
(Looking East)

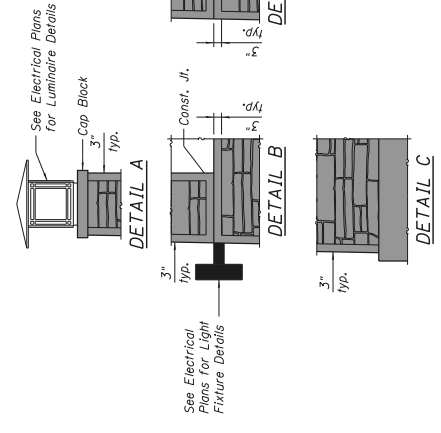


PIER ELEVATIONS
(Pier 1, Looking North)
Anti-Graffiti Protection System in Shaded Areas



ABUTMENT PLAN
Anti-Graffiti Protection System in Shaded Areas

Notes:
Specified Colors shall match the Following:
Grey Federal Color Standard 595; 36373; 36473
SW/C Blue Pantone PMS-286
When different items have the same specified color, the finished color of each item shall match to the satisfaction of the Owner. Color samples and mockups shall be provided as described in the special provisions.



BILL OF MATERIAL

Item	Unit	Total
Form Liner, Textured Surface	Sq. Ft.	2,716
Anti-Graffiti Protection System	Sq. Ft.	6,176

THOUVENOT, WADE & MORGENTHAU, INC.	St. Clair County Transit District	Bi-State Development Agency	ARCHITECTURAL DETAILS	County	ST. CLAIR	CONTRACT NO.	SHEET NO.
SWANSEA VALLEY ROAD + HIGHWAY 5811 + S. LOUISVILLE CHURCH			STRUCTURE B34.48 (SN 082-7003)	Metrolink	over IL-161 at SMC		62
							20 SHEETS



District _____

Project _____

Marked Route _____

Location _____

County _____

Contract Number _____

Section _____

Inclusive Dates of Work _____ to _____ Work Hours _____ AM PM to _____ AM PM

Work Type Maintenance Construction Traffic Other

Describe Work _____

Contractor or Agency Performing Work _____

Responsible Engineer: (Construction Foreman/Superintendent, Maintenance/Traffic Field Engineer)

Name _____ Telephone No. () _____ () _____
Office Home

(If traffic control is to be employed between 5:00 p.m. and 8:30 a.m. or on Saturday, Sunday or holidays give additional names and numbers)

Name _____ Telephone No. () _____ () _____

Name _____ Telephone No. () _____ () _____

Name _____ Telephone No. () _____ () _____

Controls: (Describe specific controls to be used, including reference to appropriate Highway Standards or sections of manuals, and set forth any special controls proposed).

Distribution: District Operations/Traffic Engineer
Project Implementation Engineer
Field Engineer
Resident Engineer
ISP District

Submitted by: _____


Approved by: _____
(District Operations/Traffic Engineer)



MetroLink Operations

700 South Ewing Street • Saint Louis, Missouri 63103-2902

Operating Procedure	SOP #	Date:	Page 1 of 9
Operations Department	101.17	January 28, 2020	REVISION
Title: WORK PERFORMED ON METROLINK RIGHT OF WAY			

Classifications: OCC – Rail Dispatchers – Maintenance of Way – Contractors
Other Departments: Real Estate – MetroLink Operations – Safety – Risk Management – Engineering & New Systems Development
Issued by:  _____ General Manager MetroLink
Supersedes: SOP 101.17 dated April 8, 2009

I. PURPOSE AND SCOPE

The purpose of the following requirements is to maintain a safe environment and efficient transit system for MetroLink customers, employees and Contractors when work is being performed on the MetroLink Right-of-Way (ROW).

The following procedures must be followed and all requirements fulfilled before permission will be granted to any individual or group requesting access to the MetroLink ROW to perform work. This includes all work on, under, above, or adjacent to the MetroLink ROW that has the potential to impact train operations. MetroLink ROW is defined as Metro owned property along MetroLink’s Light Rail System, including main line tracks, yard tracks, shop tracks, and stations. Work performed on the ROW outside of the alignment or area where trains operate that **will not** impact train operations, e.g. park and ride lots etc., is excluded from the scope detailed in the following procedures.

This procedure is applicable to Contractors and Metro employees.

MetroLink Land Maps defining Metro property lines and a MetroLink Alignment Schematic are available from the Maintenance of Way (MOW) Department upon request.

II. EXHIBITS

- EXHIBIT A: MetroLink - Contractor Right-of-Way Temporary Work Permit
- EXHIBIT B: Metro Permit Fee Schedule
- EXHIBIT C: MetroLink Alignment Schematic
- EXHIBIT D: Indemnification Agreement and Required Insurance Coverage
- EXHIBIT E: Metro Personnel Right of Way Work Permit (For Metro employees only)
- EXHIBIT F: MetroLink Rule Book



MetroLink Operations

700 South Ewing Street • Saint Louis, Missouri 63103-2902

Operating	Procedure	SOP #	Date:	Page 2 of 9
Operations	Department	101.17	January 28, 2020	REVISION
Title: WORK PERFORMED ON METROLINK RIGHT OF WAY				

III. DEFINITIONS

After Revenue Service (ARS) is the time period that begins after the last revenue train has passed a portion of the alignment. ARS will vary depending on location. ARS for a given service day is part of the next calendar day. For example; ARS for Monday’s service day will occur around 01:30 AM on Tuesday morning.

Before Revenue Service (BRS) is the time before revenue trains begin running on a given day. BRS will vary depending on location. Revenue trains begin service daily around 03:30 AM.

Bi-State Development (BSD) is a multi-faceted agency that was created to serve as a resource for economic development in the St. Louis region.

BSD Safety Department (Safety) is the department of BSD, independent of MetroLink, responsible for the safety of the public, passengers, Metro employees and Contractors.

Daily Operating Clearance is the daily record of all temporary restrictions on the MetroLink alignment during revenue service and is updated by OCC. All train operators and Flag Persons must be in possession of a current Daily Operating Clearance.

Flagperson is a Tier 2 qualified Contractor or Metro employee that is assigned to protect work crews, personnel, and equipment working on or near the tracks to ensure safe passage of trains.

Fouling a Track means placement of an individual or an item of equipment in such proximity to the track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case, is within 8’- 6” from the centerline of the nearest in-service track.

Lookout is a qualified Metro employee who is qualified to provide warning to ROW workers of approaching trains or on-track equipment. The Lookout should be equipped with the necessary equipment to warn ROW workers of approaching trains, as well as flagging equipment to be used if it is necessary to warn approaching trains. The Lookout’s sole duty is to look for approaching trains or on – track equipment, and that provides at least 15 seconds advanced warning to employees before arrival of the trains or on-track equipment.

Metro Transit (METRO) is an enterprise of BSD that operates the public transportation system for the St. Louis region.

MetroLink (ML) is the light rail system for the St. Louis region.

MetroLink Operations (MLO) is the division of Metro responsible for the operation of MetroLink.

Maintenance of Way (MOW) is the division of Metro responsible for the maintenance of Metro’s ROW.



MetroLink Operations

700 South Ewing Street • Saint Louis, Missouri 63103-2902

Operating	Procedure	SOP #	Date:	Page 3 of 9
Operations	Department	101.17	January 28, 2020	REVISION
Title: WORK PERFORMED ON METROLINK RIGHT OF WAY				

No Clearance Zones are areas along the MetroLink ROW where there is not 8'-6" clearance from the centerline of the nearest track to the nearest fixed object, e.g. wall, fence, bridge, steep embankment. Within these areas it is not possible for personnel to safely clear from fouling train movement. These areas are designated with reflective **No Clearance** signs on the ROW and by markings on the MetroLink Alignment Schematic.

Operating Right-of-Way (ROW) is the area within twenty (20) feet of the centerline of any track on the main line or in a yard.

Operation Control Center (OCC) is the designated location from which all MetroLink operations are authorized and directed.

Pilot is a qualified Metro employee assigned to facilitate track car or on-track equipment movement when the operator or driver is not qualified on the physical characteristics or rules of the portion of the alignment over which movement is to be made. The pilot will be responsible for the safe movement of on-track equipment to which they are assigned.

Right-of-Way (ROW) is land, property and interests therein, acquired by Metro.

Temporary Restriction is an approved work zone in the Operating ROW for a Contractor or Metro employee to perform work at the approved location and for an approved duration of time during revenue service hours, all temporary restrictions are listed on the Daily Operating Clearance.

Train Detection is a procedure by which a worker acquires ROW access safely by seeing approaching trains and leaving the track before the train arrives at the location at which he is working. This procedure may be used only under certain conditions authorized by OCC.

IV. METROLINK TRACK ACCESS QUALIFICATION

- The following table summarizes the Track Access Qualification required for any Contractor or Metro employee to be allowed to perform any work on the ROW. Annual recertification is required.

Work or Duties	Qualification Required
Any work within the ROW	Tier 1
Flagging to protect work crews, personnel and equipment in the ROW	Tier 1, and Tier 2
Piloting on-track equipment	Tier 1, Tier 2, and Tier 3

- If a Metro employee is not qualified at a minimum Tier 2, the employee must be escorted by another employee qualified to Tier 2.
- Safety will maintain a list of Track Access qualified personnel and their level of qualification.
- Dates, times and locations of Track Access qualification training classes can be obtained by contacting Safety or MetroLink Operations. This information is posted on MetroWeb > Departments > Risk Management, Claims, & Safety and at www.metrostlouis.org in the contractor resources.



MetroLink Operations

700 South Ewing Street • Saint Louis, Missouri 63103-2902

Operating	Procedure	SOP #	Date:	Page 4 of 9
Operations	Department	101.17	January 28, 2020	REVISION
Title: WORK PERFORMED ON METROLINK RIGHT OF WAY				

V. GENERAL REQUIREMENTS FOR ACCESS TO METROLINK RIGHT-OF- WAY

1. To access the MetroLink ROW all Contractor and Metro employees must have a minimum of Tier 1 Track Access Qualification and each work group must be accompanied by at least one person that is Tier 2 qualified to serve as a flagperson or lookout. For unforeseen work for short durations, OCC may authorize unqualified persons access to the ROW if accompanied by a qualified Metro lookout.
2. A work crew must have in its possession an approved *MetroLink – Contractor Right-of-Way Temporary Work Permit* describing the work being performed. Contractors also must meet all additional requirements for ROW access described within this SOP and the referenced exhibits. Metro employees must have in their possession an approved *Metro Personnel Right of Way Work Permit*
3. For unforeseen work for very short durations, OCC may authorize access to the ROW without an approved work permit.
4. Work permits are not required for LRV equipment maintenance performed on the mainline or in the yard and shops.
5. Metro employees that operate on-track equipment must be Tier 3 qualified. Contractors that operate on-track equipment shall be, at a minimum, Tier 1 qualified.
6. A Metro Tier 3 qualified pilot must accompany Contractor on-track equipment. The pilot is to ensure the Contractor's on-track equipment is operated in compliance with Metro operating and safety rules. The requirement for the Metro pilot can be waived by Metro, if it has been determined that the Contractor's operator has sufficient experience with Metro operating and safety rules and is Tier 3 qualified
7. Each individual accessing the ROW shall wear personal protective equipment, including a reflective Class 2 ANSI safety vest, hard hat, safety glasses, and safety toed shoes

VI. CONTRACTOR REQUIREMENTS FOR ACCESS TO METROLINK RIGHT-OF-WAY

1. The Contractor shall, if requested by Metro, submit a detailed work plan to MetroLink Operations for review and approval by MetroLink Operations, Maintenance of Way, and Safety. After acceptance of the work plan, Contractor will obtain, through the procedure defined in this SOP, an approved *EXHIBIT A: MetroLink - Contractor Right-of-Way Temporary Work Permit* before any work can be performed,
2. The Contractor shall be required to reimburse Metro for all expenses as defined in *EXHIBIT B: Metro Permit Fee Schedule*. Metro reserves the right to waive fees at its sole discretion.
3. The method of payment from Contractor to Metro will be determined by Metro. All Metro expenses for a particular Contractor shall then be accumulated under the associated permit number.
4. The Contractor shall immediately stop any work that deviates from their approved temporary work permit or detailed work plan. Metro shall be contacted and must approve any alternate work procedures.



MetroLink Operations

700 South Ewing Street • Saint Louis, Missouri 63103-2902

Operating Procedure	SOP #	Date:	Page 5 of 9
Operations Department	101.17	January 28, 2020	REVISION
Title: WORK PERFORMED ON METROLINK RIGHT OF WAY			

5. Contractor work activities can be terminated immediately by MetroLink Operations, Maintenance of Way or Safety, at any time without notice. Typical conditions under which this may occur include, but are not limited to:
 - a) Failure to comply with any of the requirements identified in this SOP or other documents referred to within.
 - b) Safety related reasons.
 - c) Operations schedule-related reasons.
 - d) If work in progress deviates from the written work proposal approved by Metro.
 - e) Flagperson(s) not available.
 - f) Contractors' work interferes with the constant, continuous use of the tracks, property and facilities of the MetroLink system, its employees, its customers or other Contractor's working within the ROW.
 - g) Accidents, injuries, near misses, or vehicle damage.
 - h) Metro rule violations.

6. All on-track equipment shall meet Federal Register 49 CFR, Part 214 standards related to Roadway Maintenance Machine Safety. The Contractor shall submit to Metro a list of qualified operators and which roadway maintenance machines they are qualified to operate. The Contractor shall provide, for Metro approval, documentation of their training and qualification process. Prior to use on the operating ROW, all on-track equipment shall be inspected and approved for use by MOW and Safety.

7. The Contractor shall satisfy all safety requirements including, but not limited to, those found in Exhibit F: MetroLink Rule Book. Copies are available upon request from MOW.

8. The following requirements pertain to excavations:
 - a) The Missouri One Call System, Inc. locate procedure for Missouri and Julie, Inc. procedure for Illinois shall be followed.
 - b) Excavations to either side of tracks shall be at least twenty feet from the centerline of track.
 - c) Excavation under, between or within the track structure or the removal of ballast is prohibited unless approved by Metro.
 - d) Under-track installations must be directionally bored at all times, the minimum depth to the top of conduit shall be the greater of eight feet below top of tie or eight feet below the flowline of ditch.
 - e) Excavations within 5 feet of either side of buried MetroLink signal, power, communication cables, or structure must be performed by hand digging or hydro-vacuum and with MOW personnel present at the dig site.
 - f) At Metro's request, and without cost to Metro, the contractor shall hand excavate to locate existing Metro utilities or structures.
 - g) When cable work is being performed parallel to MetroLink right-of-way, cables shall be laid at the same depth as MetroLink cables. The location of the cables shall be between the MetroLink cables and the property line, not towards the track.



MetroLink Operations

700 South Ewing Street • Saint Louis, Missouri 63103-2902

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9. Over-track crossings will be considered on a case-by-case basis. All over-track crossings shall comply with both National Electric Safety Code (NESC) clearances and any MetroLink imposed requirements.
10. The Contractor shall only enter the MetroLink Right-of-Way with an approved temporary work permit, unless otherwise approved by OCC.
11. Work performed by a Contractor on the MetroLink Right-of-Way within 20 feet of the centerline of a main line or yard track shall require a Temporary Restriction to be issued on the Daily Operating Clearance.
12. If the Contractor is performing work outside of 20 feet of the center line of any main line or yard track, and it is possible for equipment e.g. boom, or hoisted equipment etc, to foul the operating ROW or has the potential of making contact with the catenary, a Temporary Restriction shall be required.
13. A Temporary Restriction will require a dedicated flagperson to provide flag protection for the work crew. Refer to SOP 103.04 for more information on flagging requirements.
14. The Contractor shall comply with all applicable federal, state, and local laws, regulations, and standards affecting their work.
15. As a limitation to any rights or licenses that may be granted to the Contractor, Metro reserves the right to use and maintain its entire property. This includes Metro's right to construct, maintain, repair, renew, use, operate, change, modify, or relocate railroad tracks, roadways, station platforms, signal, communication, fiber optics, power, or other wire lines, pipelines and other facilities upon, along or across any or all parts of its property. All or any of the above mentioned use and maintenance may be done at any time or times by Metro without liability to the Contractor or to any other party for compensation or damages.
16. The Contractor is required to comply with Metro's *EXHIBIT D: Indemnification Agreement and Required Insurance Coverage*.
17. Metro reserves the right to fully investigate all Contractor accidents, injuries, near misses, or vehicle damage and the Contractor and its employees agree to comply and assist Metro in all aspects of these investigations. This includes, but is not limited to, drug and alcohol testing, employee interviews, written reports, and requests for documentation.
18. Contractor employees who work on the MetroLink ROW shall be required to comply with Metro's Drug and Alcohol Policy.
19. In the event that the Contractor disturbs, or modifies Metro's property in any manner, the Contractor shall restore the property to the same condition it was in before the Contractor performed work. Such restoration shall be to the satisfaction of the Sr. Director of Maintenance of Way. The Contractor shall be billed for all work required to restore property to its original condition.



MetroLink Operations

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VII. CONTRACTOR PROCEDURE TO ACCESS METROLINK RIGHT-OF-WAY

1. The Contractor shall request a Right-of-Way Work Permit packet of information from the contractor resources section of www.metrostlouis.org
2. The MetroLink Project Manager will distribute to the Contractor SOP 101.17 with Exhibits A, B, and D. The Contractor may request Exhibits C, and F. Exhibit E is for Metro employee use only.
3. The Contractor then submits to Metro the permit application fee, the *EXHIBIT A: MetroLink Contractor Right-of-Way Temporary Work Permit*, their detailed work plan and relevant project drawings. All other required documents should be submitted a minimum of 14 days prior to their proposed start date. This will include the indemnification agreement and required insurance coverage as described in *EXHIBIT D: Indemnification Agreement and Required Insurance Coverage*.
4. The MetroLink Project Manager will then distribute the permit and detailed work plan to Metro Real Estate and Safety for approval. MLO will facilitate a pre-project planning meeting with the Contractor, if required.
5. The MetroLink Project Manager then contacts the Contractor with approval and the necessary requirements for Track Access Qualification.
6. The Contractor completes the required Track Access Qualification training (Tier Training).
7. The Contractor submits its *MetroLink – Contractor Right-of-Way Temporary Work Permit* no later than Wednesday 12 Noon, prior to the week the work will be performed. The permit must be resubmitted every week during the length of the project. The permit submittal day and time may be affected by holiday work schedules. Metro’s work week begins at BRS Monday.
8. If the proposed project changes significantly, a new *MetroLink Contractor Right-of-Way Temporary Work Permit* shall be submitted. A new permit number will be assigned after the permit is approved.
9. The Contractor is required to attend the weekly Track Allocation meeting scheduled for Thursday 8:30AM. This affords the opportunity for MLO and MOW to better understand and pose questions regarding the proposed work.
10. Scheduling of work activities is subject to availability of Maintenance of Way, Operations and Safety personnel, as well as the effect it will have on service quality and train schedules. Generally, work requiring a temporary restriction will be allowed to start at 7:30 AM daily. Some work will be restricted to ARS hours, approximately 1:30 AM to 3:30 AM.
11. The Metro Project Manager or MetroLink Operations will provide the Contractor with a copy of their approved temporary work permit. The approved permit will include the permit number. The approved permit must be available on the project site at all times during work activities to confirm permission to occupy the MetroLink Right-of-Way.



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12. The Contractor must contact OCC and request permission prior to accessing the ROW. OCC has authority over all activity along the ROW at all times.
13. The Contractor must communicate to OCC any change to their temporary work permit. The change could be in start time, a change in location, cancellation of the work, etc. The communication to OCC shall be by email to dailyclearanceupdate@metrostlouis.org. The change must be communicated no later than 2:00 AM on the day that the change takes effect. Failure to communicate the change shall result in the cancellation of the temporary work permit for the remainder of the permitted week.
14. Once work is complete, and the work area is cleared of materials, equipment, tools, and personnel, the Contractor must contact OCC to confirm that they are clear of the ROW.
15. The Contractor will submit payments as previously determined in Section VI, item 3.

VIII. METRO EMPLOYEE PROCEDURE TO ACCESS METROLINK RIGHT-OF-WAY

1. The Metro employee submits a completed *Exhibit E: Metro Personnel Right-of-Way Work Permit to MetroLink*
2. Permits are reviewed and approved at the weekly Track Allocation meeting by MetroLink Operations, Maintenance of Way and Safety.
3. MetroLink Operations publishes the Final Track Allocation for the following week, including all revisions.
4. For unforeseen work, such as emergencies or to perform minor corrections or routine inspections, OCC can authorize a Tier 2 qualified Metro employee to access the track without an approved permit.
5. Work performed by an employee on the Operating ROW will require a temporary restriction be issued on the Daily Operating Clearance. Exceptions to the temporary restriction requirement for employees can be granted under the conditions listed in Item 7.
6. A temporary restriction requires a dedicated flagperson be utilized to provide flag protection for the work crew. Speed restriction signs may need to be posted to identify the work zone to approaching trains. Refer to SOP 103.04 for more information on flagging requirements.



MetroLink Operations

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7. Work performed by a Tier 2 qualified Metro employee does not require the issuance of a temporary restriction if one of the following train detection schemes is used so that workers clear from fouling a track to a prearranged place of Safety 15 seconds prior to arrival of a train at maximum authorized speed:

Scheme	Prearranged Place of Safety	Train Speed	Special Notifications
A	Outside the Operating ROW	Maximum Authorized Speed	None
B	Within Operating ROW	Restricted Speed	OCC must contact a minimum of the next two approaching trains in the affected area before authorizing work or movement in this area. If work is for an extended time period, OCC will notify approaching trains as necessary to protect the workers.

If all four conditions listed below cannot be met, a lookout must be assigned to provide the workers warning of approaching trains.

- I. Workers are performing minor corrections or routine inspections.
 - II. No power tools or equipment are being used in hearing range of the workers.
 - III. Workers are performing tasks that allows them to be attentive to train movement.
 - IV. The ability of the workers to hear and see approaching trains is not impaired by background noise, lights, precipitation, fog, passing trains or other obstructions or physical conditions.
8. Work performed in a No Clearance Zone requires removal of the track from service, or the issuance of a temporary restriction for BOTH tracks. This is to ensure workers have a safe zone to clear to.

For unforeseen or emergency situations, OCC can authorize entry into No Clearance Zones for short durations without the issuance of a temporary restriction, but the following steps must be taken:

- a) Train operation must be temporarily stopped on the track(s) in the area where the workers will be located.
- b) Normal train operation in the affected area cannot resume until OCC is advised by the workers that they are no longer fouling the track on which the train will operate.
- c) Trains must pass the workers at restricted speed, if personnel remain within the Operating ROW.



Exhibit A

Permit #: _____

MetroLink Contractor - Right of Way Temporary Work Permit

This permit must be submitted by 12 P.M. (noon) on Wednesday prior to the work week requested

email to: rowworkpermits@metrostlouis.org (If unable to email) Fax to: 314-335-3429

Company: _____ Date: _____

Requester: _____ Email Address: _____

Office: _____ Cell: _____ Fax: _____

(In Lieu of Email Address)

Contractor's Metro Contact: _____

Description of work to be performed and equipment and tools to be used:

Large empty box for describing the work to be performed and equipment to be used.

Will personnel or equipment be within 20ft. from center of nearest track at anytime?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If within 20ft a Metro Qualified Flag Person will be required	Metro <input type="checkbox"/> Self <input type="checkbox"/>
----------------------------------------------------------------------------------------------------	----------------------------------------------------------	---------------------------------------------------------------	--------------------------------------------------------------

Will work or equipment be within 10ft. of the closest overhead catenary wire at anytime?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Will any excavating be performed (by hand or machine)?	Yes <input type="checkbox"/> No <input type="checkbox"/>
--------------------------------------------------------------------------------------------------------	----------------------------------------------------------	--------------------------------------------------------	----------------------------------------------------------

Is the work described above being performed under a METRO contract?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If excavating is being performed Dig Number must be provided	<input type="text"/>
----------------------------------------------------------------------------	----------------------------------------------------------	--------------------------------------------------------------	----------------------

Dates Work Performed:	Start Date: _____	Finish Date: _____
------------------------------	--------------------------	---------------------------

Enter Time in 24hr. Format:	Start Time: _____	Finish Time: _____
------------------------------------	--------------------------	---------------------------

Work Location by MP:	From MP: _____	To MP: _____
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Track to be Accessed:	Track 1 Westbound <input type="checkbox"/>	Track 2 Eastbound <input type="checkbox"/>	Both Tracks <input type="checkbox"/>	Off Track <input type="checkbox"/>	Yard Track <input type="checkbox"/>
------------------------------	--------------------------------------------	--------------------------------------------	--------------------------------------	------------------------------------	-------------------------------------

I understand that before entering the MetroLink Right-of-Way, and prior to the start of any work, permission must be obtained from Operations Control Center (OCC) via a Metro issued portable radio on the appropriate Operations channel for my work location. I understand all workers and equipment must remain 20ft. or more from the center of the nearest track at all times, if at anytime 20ft. cannot be maintained a restriction is required and the Contractor is responsible for having a MetroLink Certified Flagperson present with speed boards in place. **If Metro radio fails OCC should be reached by phone at 314-289-6870.**

Metro Maintenance of Way Use Only

Tech. Support:	Insurance Approved? Yes <input type="checkbox"/> No <input type="checkbox"/>	Tier Training Completed? Yes <input type="checkbox"/> No <input type="checkbox"/>	Initial: _____
Signal:	Cable Locate Required? Yes <input type="checkbox"/> No <input type="checkbox"/>	Dig Number: <input type="text"/>	Initial: _____
Comm:	Cable Locate Required? Yes <input type="checkbox"/> No <input type="checkbox"/>	Dig Number: <input type="text"/>	Initial: _____
Traction Power	Power Down Required? Yes <input type="checkbox"/> No <input type="checkbox"/>	Dig Number: <input type="text"/>	Initial: _____
Rail Fac. Maint:	Flagperson Scheduled? Yes <input type="checkbox"/> No <input type="checkbox"/>	Dig Number: <input type="text"/>	Initial: _____
Track:	Work is Approved? Yes <input type="checkbox"/> No <input type="checkbox"/>	BLANK	Initial: _____

Metrolink Operations' Use Only

Operations:	Restriction Yes <input type="checkbox"/> No <input type="checkbox"/>	Speed Signs Yes <input type="checkbox"/> No <input type="checkbox"/>	Track Out of Service			
	Moving Crew Yes <input type="checkbox"/> No <input type="checkbox"/>	Single Track Yes <input type="checkbox"/> No <input type="checkbox"/>	Track # 1 <input type="checkbox"/>	Track # 2 <input type="checkbox"/>	Ewing Yd. <input type="checkbox"/>	29th St. Yd. <input type="checkbox"/>
<p style="text-align: center;">_____</p> <p style="text-align: center;">Operation Authorization Signature Date</p>						

EXHIBIT B – Metro Permit Fee Schedule

TEMPORARY WORK Permit Fees

A *MetroLink-Contractor Right-of-Way Temporary Work Permit* is required prior to outside parties commencing any underground, overhead, or surface work on the MetroLink light rail system. Permit fees are based on the permit applicant's scope of work and Metro's labor and indirect costs. The fees listed are not comprehensive and Metro may apply other fees associated with the temporary work permit. Metro reserves the right to waive these fees.

1. Initial Permit Application (Non-Refundable) \$500.00

The Permit Application Fee is non-refundable and covers Metro's administrative costs associated with processing the temporary work permit, which includes review of work plans, proof of insurance, and track allocation in accordance with *SOP 101.17, Policy and Procedure for Work Performed on MetroLink Right-of-Way* and *SOP 101.23, Permit Numbers and Track Allocation*. This fee is incurred on a project basis and will only be incurred once on a project, regardless of duration, unless work changes substantially and further significant review is required by Metro.

2. Recurring Weekly Permit (if required) \$150.00

3. Track Access Qualification

All Contractor employees that will perform work on the MetroLink Right-of-Way are required to be track access qualified.. Training sessions are regularly scheduled at a minimum of 2 times per month. Regularly scheduled training sessions are offered to contractor employees at no cost. If a contractor requires specially scheduled training classes, the following fees will apply. Fees are per class. There is a maximum of (15) fifteen students per class. Typical duration of class is also indicated below. Payment is as outlined in SOP 101.17.

Tier 1 (1.5 hrs)	\$175.00
Tier 2 (2.0 hrs)	\$300.00
Tier 3 (2.0 hrs)	\$300.00

4. Power Up/Power Down \$3000.00

The Power Up/Power Down Fee is a daily fee, which covers Metro's labor and non-labor costs for sectionalizing, de-energizing, and restoring the MetroLink Traction Power System to its normal state. Metro shall determine this requirement per *SOP 104.01, Catenary Lockout Procedure*. **There shall be a \$1200 cancellation fee with less than 10 hours notice.**

5. Flagging, Lookout and Pilot \$650.00

The Service fee for each flag person, lookout, or pilot is \$650 per shift.

The Flagging Service Fee is a rate per flag person per shift. It covers Metro's labor and non-labor costs for providing a flag person.

The Lookout Service Fee is a rate per lookout per shift. It covers Metro's labor and non-labor costs for providing a lookout.

The Pilot Service Fee is a rate per pilot per shift. It covers Metro's labor and non-labor costs for providing a pilot to facilitate on-track equipment movement.

There shall be a \$325 cancellation fee with less than 10 hours notice.

6. Station Shuttle Hourly Rate \$TBD

The Station Shuttle Fee is an hourly rate, which covers Metro's labor and non-labor costs for utilizing buses for customer transport during work on the MetroLink Right-of-Way. This fee will be determined on a case-by-case basis.

**INDEMNIFICATION AGREEMENT
and
REQUIRED INSURANCE COVERAGE¹**

SECTION 1. - INDEMNIFICATION

In accordance with the Agency's "Right-of-Entry" requirements and in exchange for the authorization to perform work on or near the MetroLink right-of-way, contractor agrees, to the fullest extent permitted by applicable law, to indemnify, defend and hold harmless the Agency and its commissioners, officers, officials, agents, and employees from and against any and all claims, suits, actions, judgments, fines, penalties, loss, damage, costs, or expense (including but not limited to attorneys' fees), whether direct or indirect, due to bodily or personal injury, death, sickness or property damage (including loss of use thereof) arising out of Contractor's activities.

In the event a third party makes a claim or files a lawsuit against the Agency for injury or death to persons, for damage to property, or for costs associated with loss of business, caused in any way by the contractor's activities, the contractor shall defend such claims or suits, on behalf of the Agency at contractor's sole cost and expense.

Contractor further agrees to repair any damage or disturbance to Agency property caused by the contractor's activities or caused, in whole or in part, by its subcontractors, employees or agents. Such repairs must be completed in a manner approved by and within a time-frame defined by the Agency.

SECTION 2. - INSURANCE REQUIREMENTS

The contractor shall procure and maintain for the duration of its work on, under, or over the MetroLink right-of-way, a policy or policies of insurance for the protection of both the contractor and the Agency and its commissioners, officers, officials, agents, and employees. The Agency requires certification of insurance coverage from all contractors and subcontractors prior to commencing work on, under, or over the MetroLink right-of-way. Please carefully review the requirements outlined below.

IT IS RECOMMENDED THAT THE CONTRACTOR CONFER WITH ITS INSURANCE BROKER OR AGENT PRIOR TO SUBMITTING THE "METROLINK RIGHT-OF-WAY WORK REQUEST" TO DETERMINE THE AVAILABILITY AND APPLICABLE COST, IF ANY, OF CERTIFICATES, ENDORSEMENTS, COVERAGES, AND LIMITS REQUIRED.

SECTION 3 - MINIMUM SCOPE AND EXTENT OF COVERAGE

A. GENERAL LIABILITY

Commercial General Liability, ISO coverage form number CG 00 01 ("occurrence" basis or ISO equivalent).

If ISO equivalent or manuscript general liability coverage forms are used, minimum coverage will be as follows: Premises/Operations; Independent Contractors; Products/Completed Operations;

¹ These insurance specifications are applicable only to contractors engaged by parties other than the Agency. For specifications applicable to Agency construction contract or maintenance contracts that require access to the track or ML ROW, please consult the Department of Risk Management.

EXHIBIT D – ML ROW INS REQUIREMENTS

Personal Injury; Broad Form Property Damage including Completed Operations; Broad Form Contractual Liability Coverage to include **Contractor's** obligations under **INDEMNIFICATION** above.

B. AUTOMOBILE LIABILITY

Business Automobile Liability Insurance, ISO Coverage form number **CA 00 01** covering automobile liability, code 1 "ANY AUTO".

C. WORKERS' COMPENSATION and EMPLOYER'S LIABILITY

Statutory Workers' Compensation Insurance for all states and jurisdictions where **Contractor** has work locations, a Broad form All States Endorsement for incidental contact, standard Employer's Liability Insurance, and coverage for U.S. Longshoremen's and Harbor Workers Act and FELA, where applicable.

D. RAILROAD PROTECTIVE LIABILITY

Railroad Protective Liability Insurance covering the work to be performed under this contract by the successful contractor if such work is to be performed on or adjacent to the Metro Link right-of-way. The policy form should be ISO CG 00 35 (06/90) or other equivalent RIMA/AASFITO approved form including coverage for "Physical Damage to Property" and coverage for pollution arising out of fuels or lubricants brought to the job site (i.e., ISO Form CG 28 31). If a Lloyd's or other similar "Claims Made" policy form is used, the Extended Claims Made Date shall be a minimum of two years past the expiration date of the policy.

Alternative: In many instances, it is possible for an organization to address this exposure by an endorsement to its commercial general liability policy *if it is not in the construction business per se or if it does not customarily work in proximity of a railroad right-of-way*. The applicable endorsement is CG 24 17 – Contractual Liability – Railroads. A copy of the endorsement must be attached to the required Certificate of Insurance.

SECTION 4. - MINIMUM LIMITS OF INSURANCE

A. GENERAL LIABILITY

\$2,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage.

\$2,000,000 annual aggregate.

B. AUTOMOBILE LIABILITY

\$2,000,000 combined single limit per accident for bodily injury and property damage.

General Liability and Automobile Liability insurance may be arranged under individual policies for the full limits required or by a combination of underlying policies with the balance provided by a form following Excess or Umbrella Liability policy.

C. WORKERS' COMPENSATION/EMPLOYER'S LIABILITY

Workers' Compensation limits as required by applicable State Statutes (generally unlimited) and minimum of **\$500,000** limit per accident for Employer's Liability.

EXHIBIT D – ML ROW INS REQUIREMENTS

D. RAILROAD PROTECTIVE LIABILITY

\$2,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage.

\$6,000,000 annual aggregate (*or \$2,000,000 if the aggregate applies only to claims and legal expenses which arise out of the activities under this contract*).

SECTION 5. - DEDUCTIBLES AND SELF-INSURED RETENTIONS

All deductibles, co-payment clauses, and self-insured retentions must be declared to and approved by the **Agency**. The **Agency** reserves the right to request the reduction or elimination of unacceptable deductibles or self-insured retentions *as they would apply to the Agency, its commissioners, officers, officials, agents, and employees*. Alternatively, the **Agency** may request the **contractor** to procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

SECTION 6. - OTHER INSURANCE PROVISIONS & REQUIREMENTS

The respective insurance policies and coverage as outlined below must contain, or be endorsed to contain, the following conditions or provisions:

A. GENERAL LIABILITY

The **Agency** and its commissioners, officers, officials, agents, and employees shall be endorsed as additional **insureds** by ISO form **CG 20 26 – ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION**. As additional insureds, they shall be covered as to work performed by or on behalf of the **contractor** or as to liability which arises out of **contractor's** activities on, over, or under the MetroLink right-of-way.

B. GENERAL LIABILITY & AUTOMOBILE LIABILITY

Contractor's insurance coverage shall be primary with respect to the **Agency**, its commissioners, officers, officials, agents, and employees. Insurance or self-insurance programs maintained by the **Agency** shall be excess of the **contractor's** insurance and shall not contribute with it.

Contractor's failure to comply with the terms and conditions of these insurance policies shall not affect or abridge coverage for the **Agency** or for any of its commissioners, officers, officials, agents, or employees.

C. WORKERS' COMPENSATION and EMPLOYER'S LIABILITY

The **contractor** and **contractor's** workers' compensation insurer shall agree to waive all rights of subrogation against the **Agency**, its commissioners, officers, officials, agents, or employees for claims, losses, or expenses which arise out of **contractor's** activities on, over, or under the MetroLink right-of-way.

D. RAILROAD PROTECTIVE LIABILITY

The **Agency**, its commissioners, officers, officials, agents, and employees are to be covered as named insureds or as additional named insureds with respect to work performed by or on behalf of the **contractor** or as to liability which arises out of **contractor's** activities on, over, or under the MetroLink right-of-way.

Contractor's failure to comply with the terms and conditions of these insurance policies shall not affect or abridge coverage for the **Agency**, its commissioners, officers, officials, agents, or employees.

EXHIBIT D – ML ROW INS REQUIREMENTS

E.. ALL COVERAGES

Each insurance policy required by the MetroLink right-of-way license shall contain a stipulation, endorsed if necessary, that the **Agency's** Director of Risk Management will receive a 30-day advance notice of any policy cancellation other than cancellation for non-payment of premium. Ten (10) days advance notice is required for policy cancellation due to non-payment of premium.

SECTION 7. - INSURER QUALIFICATIONS/ACCEPTABILITY

Insurance required hereunder shall be issued by an A.M. Best "A" rated, Class VII insurance company approved to conduct insurance business in the state(s) of Missouri and/or Illinois.

SECTION 8. - VERIFICATION OF INSURANCE COVERAGE

Prior to commencing work on, over, or under the MetroLink right-of-way, the **contractor** shall furnish the **Agency** with CERTIFICATE(S) OF INSURANCE and with any applicable original endorsements evidencing the required insurance coverage. The insurance certificates and endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and endorsements received by the **Agency** are subject to review and approval by the **Agency's** Director of Risk Management. The **Agency** reserves the rights to require complete, certified copies of all required policies at any time.

If the work on, over or under the MetroLink right-of-way will exceed one (1) year -- or, if any of **contractor's** applicable insurance coverage expire prior to completion of the work -- the **contractor** will provide a renewal or replacement certificate before continuing work on, over, or under the MetroLink right-of-way.

CONTRACTOR SAFETY ACTION PLAN

Bi-State Development Contractor Safety Program



Metro's Operation Control
Center Phone Number is
314-289-6870

**SCAN HERE TO
REPORT HAZARD**



INTRODUCTION

Bi-State Development (BSD) acknowledges that construction and other contract activity at BSD and any other facilities operated by BSD may pose risks. This safety action plan does not necessarily cover all applicable safety and health laws. Contractors must comply with applicable Federal, State, BSD, and local safety and health standards while on-site.

The contractor is liable and responsible for their employees' safety. BSD reserves the right, however, to require the contractor to cease operations if it finds that the contractor's actions expose non-contractor individuals to an unsafe circumstance, environmental requirement, or rule. BSD reserves the right, however, to require the contractor to cease operations if it finds that the contractor's actions expose non-contractor individuals to an unsafe circumstance, environmental requirement, or rule.

This Contractor Safety Action Plan is designed to assist contractors that have been selected to conduct work on or around BSD in improving safety knowledge and hazard responsibilities.

The regulatory codes or programs referenced in this document are meant solely as a guide or reference for contractors and are not intended to encompass all rules and regulations that may influence the subject matter and/or contractor.

The contractor will be responsible for verifying the regulatory accuracy of this document and communicating to its employees the environment, health, and safety information provided by BSD.

Compliance by contractors and/or their representatives during BSD work is mandatory.

PURPOSE

The objective of BSD's Contractor Safety Action Plan (SAP) is to facilitate and organize employer and employee activities in the event of a workplace emergency and to be prepared for such an occurrence. There will be fewer and less severe employee injuries and less equipment damage as a result of well-developed strategies and adequate employee training that helps workers understand their roles and responsibilities. To be permitted to work on Metro's land, you must develop a complete SAP that addresses site-specific challenges. It includes a review of the workplace and a description of how personnel would respond to various types of emergencies, taking into account the layout, structural characteristics, emergency systems, and BSD's policies and procedures.

SAFETY MANAGEMENT SYSTEM

BSD's Safety Management System (SMS) is an umbrella system that encompasses all of BSD's Environmental, Health (Industrial Hygiene), and Safety programs. It provides a methodical approach for identifying hazards and mitigating risks while preserving confidence in the effectiveness of these risk controls. The Safety Action Plan is an element of the Safety Management System implemented by BSD.

Prior to beginning any work on BSD's property, BSD CONTRACTORS ARE REQUIRED TO COMPLETE A SAFETY ACTION PLAN.

The Completed Safety Action Plan must be available as follows:

1. Work along MetroLink Right-of-Way
 - Emailed to rowworkpermits@metrostlouis.org and safety@metrostlouis.org.
2. Work at Metro Facilities
 - Emailed to safety@metrostlouis.org
3. Provided to the BSD Project Manager.
4. Maintained with each work group on BSD's property.

GENERAL INFORMATION

Your Name:

Your Title/Position and
Contact Information:

Company Name:

Company Contact Information:

Your Employee in Charge
Contact Information:

Work Site Location:

Type of Work Being
Performed:

Primary Metro point of
contact:

General or Subcontractor:

Current copies of Safety Data Sheets (SDSs) for hazardous materials must be provided to the BSD Safety Department for approval and be maintained on-site. (email to safety@metrostlouis.org)

CONTRACTOR REQUIREMENTS

CONTRACTOR COMPLIANCE

Contractors/suppliers operating for or with BSD MUST complete a Safety Action Plan (SAP). During a given calendar year, the number of SAPs submitted by a contractor will vary dependent on criteria such as the number of work locations and the nature of the work to be undertaken. General Contractors may submit a single Safety Action Plan to include subcontractors on a project, or they may require each subcontractor to submit their own form. When relevant, the General Contractor must clearly identify on a Safety Action Plan form that subcontractors are covered.

SAFETY ACTION PLAN RETENTION & MAINTENANCE

Your company must maintain an ELECTRONIC COPY of this Safety Action Plan:

- If working along the MetroLink Right-of-Way, an electronic copy shall be emailed to rowworkpermits@metrostlouis.org and safety@metrostlouis.org.
- If working within at a BSD Facility, an electronic copy shall be emailed to safety@metrostlouis.org

Your company must maintain HARD COPY of the Safety Action Plan:

- Submit a hard-copy of your completed Safety Action Plan to your BSD Project Manager or Employee in Charge (EIC).
- Maintain a hard copy of your completed Safety Action Plan on-site with each of your work groups.

COMPANY INJURY HISTORY

Contractors must provide the “Frequency and Severity Rates” for each of the PREVIOUS THREE CALENDAR YEARS. Frequency and severity rates data is used to estimate the organizational performance on safety.

COMPANY INJURY HISTORY

Frequency Rate

Experience on BSD = # of Recordable Injuries x 200,000 divided by the # of Actual Hours Worked for BSD.

Severity Rate

Severity Rate = # of Lost Days x 200,000 divided by the Actual Hours Worked for BSD.

<i>Year</i>	<i>Frequency/Incident Rate</i>	<i>Severity/Lost Workday Rate</i>
2021	_____	_____
2020	_____	_____
2019	_____	_____

CORRECTIVE ACTIONS FOR PAST INJURY EXPERIENCE

Please include this document as an addendum to the Safety Action Plan. BSD's top focus is the safe operation and prevention of mishaps and injuries. Feedback from previous Contractor experiences is important, and Contractors must have a framework in place to identify lessons learned and adopt effective preventative measures.

EMERGENCY PREPAREDNESS

ON SITE EMERGENCY INFORMATION

Work groups must have written emergency preparedness information on hand at the job site.

- Work groups working on a project(s) at a fixed work location must fill out the information below for the fixed location.
- Work groups that will be moving around during the course of a project must update this information as needed and keep it on file with each work group.

OPERATIONS CONTROL CENTER **314-289-6870**

Emergency Preparedness Plans

Emergency preparedness plans must be developed by the contractor and communicated to the contractor's/subcontractor's employees. In some cases, contractors may need to interface with Metro's Property. The Project Manager or EICs shall obtain specific addresses, the names of local fire, medical and police agencies.

The following information must be communicated during job briefings and in conjunction with Metro's Toolbox Talk Program

Project/Work
Location

Contact Information:

Who is CPR Qualified?

Who is First Aid Qualified?

Medical Phone Number:

Estimated Medical Response Time:

Who is Responsible for Making the Emergency
Call? (Include Contact Information)

Provide Written Directions to Job Site
(Latitude/Longitude Recommended)

Who is Assigned to Meet
Emergency Personnel? (Include Contact Information)

PLAN ELEMENTS

SAFETY ACTION PLAN AFFIRMATION

The below statements in each row SHALL BE CHECKED and implemented within your safety plan; by selecting the Program In Place option you affirm that the training will be accomplished prior to the start of work. If these elements do not apply, please select the OPT Out option.

This Safety Action Plan will not be accepted unless each element is checked.

Program in Place	Safety Program Element	Regulatory Reference	Opt Out
<input type="checkbox"/>	Asbestos	OSHA 1910.1001 & 1926.1101	<input type="checkbox"/>
<input type="checkbox"/>	Arc Flash/Electrical Worker	NFPA 70E & OSHA SUBPART S	<input type="checkbox"/>
<input type="checkbox"/>	Confined Space Entry	OSHA 1910.146	<input type="checkbox"/>
<input type="checkbox"/>	DOT Training	DOT – 390-399	<input type="checkbox"/>
<input type="checkbox"/>	Hazardous Waste	OSHA 1910.120	<input type="checkbox"/>
<input type="checkbox"/>	Excavation (Trenching & Shoring)	OSHA 1926.650-652	<input type="checkbox"/>
<input type="checkbox"/>	Fall Protection/Bridge Worker Safety	OSHA 1926.500-503 & 1926.760	<input type="checkbox"/>
<input type="checkbox"/>	Metro's Track Access Safety Training Safety	TIER 1, 2, 3 (AS NEEDED)	<input type="checkbox"/>
<input type="checkbox"/>	Hazard Communication	OSHA 1910.1200	<input type="checkbox"/>
<input type="checkbox"/>	Hearing Conservation	OSHA 1910.95	<input type="checkbox"/>
<input type="checkbox"/>	Lead Safety	OSHA 1910.1025	<input type="checkbox"/>
<input type="checkbox"/>	Lockout/Tagout (Hazardous Energy Control)	OSHA 1910.147	<input type="checkbox"/>
<input type="checkbox"/>	Radiation Safety	OSHA 1910.97 & 1910.1096	<input type="checkbox"/>
<input type="checkbox"/>	Respiratory Protection	OSHA 1910.134	<input type="checkbox"/>
<input type="checkbox"/>	Personal Protective Equipment	OSHA 1910.132, .133, .135, .136, .137, .138;	<input type="checkbox"/>

EMPLOYEE TRAINING

TRAINING PROGRAMS & REGULATORY COMPLIANCE

This program & training summary shall cover/support the provisions of potential work that your company has contracted to perform for Metro or its General Contractor(s), including Competent or Qualified Worker training.

- Your company is responsible for this determination in compliance with your Metro contract.
- Safety Training shall be conducted by/through the Contractor's Company.
- Employee non-compliance shall result in their removal from Metro property.
- Copies of training programs do not need to be provided to Metro.
- Metro does not conduct safety training for personnel other than Metro employees with exception to Track Access Safety Training.

Safety Programs	N/A	Training Completed
Asbestos	<input type="checkbox"/>	<input type="checkbox"/>
Arc Flash/Electrical Worker	<input type="checkbox"/>	<input type="checkbox"/>
Confined Space	<input type="checkbox"/>	<input type="checkbox"/>
DOT Training	<input type="checkbox"/>	<input type="checkbox"/>
Environmental/Hazardous Worker	<input type="checkbox"/>	<input type="checkbox"/>
Excavation (Trenching/Shoring)	<input type="checkbox"/>	<input type="checkbox"/>
Fall Protection	<input type="checkbox"/>	<input type="checkbox"/>
Metro's Track Access Training	<input type="checkbox"/>	<input type="checkbox"/>
Hazard Communications	<input type="checkbox"/>	<input type="checkbox"/>
Hearing Conservation	<input type="checkbox"/>	<input type="checkbox"/>
Lockout/Tagout	<input type="checkbox"/>	<input type="checkbox"/>
Lead Safety	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory Protection	<input type="checkbox"/>	<input type="checkbox"/>
Personal Protective Equipment	<input type="checkbox"/>	<input type="checkbox"/>

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE COMPLIANCE

Your Company's contract may require a variety of work and tasks in different environments. Contract employers must ensure that all employees have the proper PPE to use for the tasks that they will or may be involved in on Metro property. PPE Compliance is strictly enforced per Metro's Safety Rules.

Safety Boots

Safety boots must meet the following criteria:

- Leather or leather-like upper.
- Sturdy no-leather sole that will resist puncture.
- Above ankle (5-inch height as measured from inside boot).
- Minimum ASTM F2412-05, ASTM F2413-5 impact and compression class toe.
- Lace-up

Anti-Slip Winter Footwear

Employees will wear anti-slip winter footwear when working in icy and or snowy conditions.

All employees must have appropriate PPE to perform the tasks that are contracted for; including:

- Safety Eyewear and Face Protection
- Safety-Toed Boots/Anti-Slip Footwear
- Hard Hat
- Hearing Protection (If Needed)
- Gloves/Hand protection
- High-Visibility, ANSI Class II vest
- Other specialty PPE as identified/required by Metro Safety Rules for task at hand

JOB SAFETY BRIEFINGS

The Contract employer must ensure their employees receive Job Safety Briefings at the start of each work shift and as needed during the course of the day; e.g. personnel changes, weather changes, and/or changes in assignments.

- Job Safety Briefings will include Emergency Preparedness Information and summarize the findings of Risk Assessment activities.
- In addition to critical safety and response preparation, BSD Job Safety Briefings provide information on potential exposures in the work environment, discussion about the best ways to minimize risk to exposure, and potential cues to pause the work.
- Contractors may reference Metro's Toolbox Talk Discussion forms if needed. Contact Safety@metrostlouis.org for more information.

To hold an effective Job Safety Briefing, follow these steps:

Lead Name:

Today's Date:

Location of Job:

Track # (If Applicable):

Start Date:

Length of Job:

Weather Forecast:

of Employees Onsite:

Record of those Attending:

Name (Please Print):

Signature:

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

FIRE PREVENTION

Hot Work

Hot work can be defined as cutting and welding operations for construction/demolition activities that involve the use of portable gas or arc welding equipment, or involve soldering, grinding, or any other similar activities producing a spark, flame, or heat.

Will “Hot Work” activities be performed on Metro property?

YES

NO

Fire Prevention Affirmation

If “YES” then all of the following items must be implemented:

1. Risk Assessment activities and Job Safety Briefings will identify procedures/strategies, and equipment available for fire prevention and suppression, as well as, locations where suppression equipment will be staged.
2. In right-of-way areas, the local fire agency is contacted to check for hot work bans or restrictions, and determine ability of local agency to provide emergency assistance.
3. All right-of-way fires are to be reported to Metro's Operation Control Center and responsible Metro Project Manager/EIC.
4. List fire prevention and suppression equipment on-site and minimum fire watch of 60 minutes.

ON TRACK SAFETY

Will any contractors performing Roadway Worker duties be within 20' of track centerline of Metro's tracks? Roadway Worker duties include inspection, construction, maintenance or repair of track, bridges, roadway, signal and communication systems, traction power systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track, and other personnel directly involved with their protection?

YES

NO

ON TRACK SAFETY CONT.

Track Safety Affirmation

If “YES” then all of the following items must be implemented:

1. The contract employer is responsible for scheduling Track Access training for all its employees working within Metro's Operating Right-of-Way.
2. Each contract employee must be able to provide training documentation upon request.
3. Each contract Roadway Worker In-Charge must maintain a current copy of this Safety Action Plan and have it readily accessible.
4. A detailed work plan shall be submitted to Metro to describe equipment listing, and equipment staging.
5. A Right of Way Work Permit shall be completed and emailed to rowworkpermits@metrostlouis.org.

Configuration Changes

Configuration management is defined as identification and documentation of the functional and physical characteristics of facilities, systems, equipment and vehicles including the control of changes to these elements. Required configuration information is maintained and tracked by documenting test/modified equipment.

Will the work being performed change the configuration of Metro's property?

YES

NO

If “YES” then all of the following items must be implemented:

1. The contract employer is responsible submitting detailed attachments to support this document describing proposed configuration change as well as the impact to Metro the configuration change will incur.

ON TRACK SAFETY CONT.

The following checklist shall be completed prior to entering Metro's Operating Right-of-Way and prior to the start of any work.

	YES	NO
Are all employees current on track access certification?	<input type="checkbox"/>	<input type="checkbox"/>
Have all employees reviewed the daily operating clearance and understand the scope of work?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees know which track or tracks the restriction(s) is in effect for?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees know where the approved "clear to" location is to allow for safe passage of trains?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees know maximum authorized speed of trains for each track including the track with the restriction in effect?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees understand the communication protocols?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees know how the railroad flagger will warn workers of an approaching train?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees have the correct PPE and equipment to perform their jobs safely?	<input type="checkbox"/>	<input type="checkbox"/>
If Track Cars are utilized, visually verify all locking pins are secured.	<input type="checkbox"/>	<input type="checkbox"/>

If the answer is NO to any of these questions, NO WORK CAN BEGIN.

HAZARD REPORTING

Metro's Safety Management System Training Card

Upon request, Metro can provide contractor's with Safety Management System Cards that summarize options to report a Hazard or Safety Concern to Metro.

SAFETY MANAGEMENT SYSTEM (SMS)

WHAT IS MY ROLE IN OUR SMS?

- Work safely/ Wear PPE
- Be compliant with procedures and regulations
- Report safety hazards, concerns, or suggestions

WHAT CAN I REPORT?

- Hazards/potential hazards
- Safety issues and concerns
- Accidents/incidents
- Possible solutions and safety improvements
- Close calls/near misses

**Call the Public Safety
Hotline at**

314-982-6873

or email Safety@metrostlouis.org

UNACCEPTABLE WORKPLACE BEHAVIORS

- Will full safety violations
- Reckless and neglectful acts
- Criminal activities
- Alcohol or drug use

SAFETY REPORTING OPTIONS

- Notify your Lead/Supervisor or local Safety Representative
- Call the Public Safety Hotline
- Email Safety@metrostlouis.org
- Report safety hazards, concerns, or suggestions
- OR use the QR code below.

PERSONAL SAFETY ACCOUNTABILITIES:

- I am accountable for my own safety & the safety of those around me
- I follow procedures, wear PPE, and promptly report safety hazards
- I report injuries and damages
- Be safe at work and at home



SCAN HERE TO REPORT HAZARD

SAFETY SUPPORT

Other Safety Support and Affirmation

The categories below will further identify Metro support required and ensure a comprehensive understanding of the work request.

Excavation Operation?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Water required?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
PileDriving Operation?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Metro Equipment Required?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Saw Cutting Operation?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Within 10ft. of Catenary?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Welding or Grinding Operation?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Passengers/Public be Impacted?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Workers at elevated heights?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Self Flagging or Metro Flagger?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Chemicals used?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Metro Systems Require Powerdown?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

If “YES” then all of the following items must be added in a separate attachment to this plan:

1. Describe controls.
2. Submit a detailed work plan.
3. Describe Metro support needed.
4. Submit chemical Safety Data Sheets.

The following section serves as your company’s Compliance Affirmation to this document:

Name

Title

Date
