PROPOSAL SUBMITTED BY:

_____

Contractor's Name

_____

Street *P.O. Box*

_____

City *State* *Zip Code*

CITY OF AURORA

KANE COUNTY

STATE OF ILLINOIS

PROPOSAL AND SPECIFICATIONS FOR

2024 Bridge Rehabilitation Program

Bid 24-068

AURORA, ILLINOIS

August 2024

PREPARED BY
CITY OF AURORA
Engineering Division
77 S. Broadway Avenue
AURORA, ILLINOIS 60507

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City of Aurora
Bid 24-068
NOTICE TO BIDDERS

Time and Place of Opening of Bids

Sealed bids for the improvement described below must be received at the office of the City Clerk, 44 E Downer Place, First Floor, Aurora, IL 60505 until **11:00 AM, Wednesday, August 21, 2024**. Proposals will be opened and read publicly at the above address on **Wednesday, August 21, 2024** at **11:00 AM** for those wishing to attend in person. The bid opening will also be live streamed, access details to be provided to all plan holders.

All questions must be received by 2:00 pm (CST) on Wednesday August 14, 2024. A response to all questions received will be posted on the City's website via addendum by 5:00 pm (CST) on Thursday August 15, 2024.

Description of Work

Name: 2024 Bridge Rehabilitation

Proposed Improvement: The project includes miscellaneous bridge repair items at 3 bridges in the City: SN 045-6017 (High St over BNSF RR), SN 045-6022 (Wood St over BNSF RR), and SN 045-9942 (Ohio St over BNSF RR). The project includes small quantities of various miscellaneous structure repair items as detailed in the plans and special provisions.

Bidder Instructions

1. Plans and proposal forms will be available online at: https://www.aurora-il.org/bids.aspx.
2. Prequalification of Bidders is required for this project. The 2 low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57), showing all uncompleted contracts awarded to them and all low bids pending award.
3. All proposals must be accompanied by a proposal guaranty as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals contained in the "Supplemental Specifications and Recurring Special Provisions".
4. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in Standard Provisions for Bidding Requirements and Conditions for Contract Proposals contained in the "Supplemental Specifications and Recurring Special Provisions".
5. Any bidder who owes the City money may be disqualified at the City's discretion.
6. The City encourages minority business firms to submit proposals and encourages the successful contract bidder to utilize minority businesses as subcontractors for supplies, equipment, services, and construction.
7. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in-depth examination. The Awarding Authority will, in no case be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.
8. The City of Aurora has a local preference ordinance that would apply to this contract.

By Order of
City Clerk
City of Aurora

INDEX TO SPECIAL PROVISIONS

CITY OF AURORA
SPECIAL PROVISIONS

The following Special Provisions supplement the “General Specifications,” the Illinois Department of Transportation’s "Standard Specifications For Road and Bridge Construction," (herein after called the “Standard Specifications”, the City of Aurora’s “Standard Specifications for Improvements,” the "Supplemental Specifications and Recurring Special Provisions," the "Standard Specifications for Water And Sewer Main Construction in Illinois, Sixth Edition,” the "Standard Specifications for Traffic Control Items," and the latest edition of the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways" in effect on the date of invitation for proposals. These special provisions apply to and govern the proposed improvement designated as the *2024 Bridge Rehabilitation Program (Bid 24-068)* and in case of conflict with any part or parts of said specifications; these Special Provisions shall take precedence and shall govern.

DESCRIPTION OF PROJECT:

This project shall consist of making improvements to the existing bridges, approaches, and nearby facilities. The Engineer reserves the right to alter the plans, extend or shorten the improvement, add such work as may be necessary, and increase or decrease the quantities of work to be performed all in accordance with Section 104 of the Standard Specifications. The difference in quantities regardless of the percent increase or decrease shall be deemed to pose no significant change in the character of the work for this contract. All quantities are estimated, and payment will made for actual measured work completed. Contractor shall note this project consists of 3 bridge locations (SN 045-6017, SN 045-6022, and SN 045-9942) within the City of Aurora.

SP 1. Special Conditions

The bidder shall inspect the streets, the site of the proposed work and the local conditions that affect the detailed requirements of construction. The Contractor shall be responsible for determining the possible effects of the varying site conditions and no additional compensation will be allowed for extra time due to the progress of work.

SP 2. Mobilization

This contract contains no provisions for Mobilization. Therefore, Section 671 of the Standard Specifications is deleted.

SP 3. Available Reports

When applicable, the following checked reports and record information is available for Bidders’ reference upon request:

SN 045-6022 (Wood St) Record Bridge Plans
SN 045-9942 (Ohio St) Record Bridge Plans

Those seeking these reports should request access from:

City of Aurora
Tim Weidner, PE
44 E. Downer Place, Aurora, IL 60507
(630) 256-3200
WeidnerT@aurora.il.us
Hours: 8 AM to 4 PM (Monday - Friday)

SP 4. Public Convenience

This contract includes work on several streets throughout the city and as such the Contractor shall schedule work to minimize the inconvenience to the public. In addition to the requirements of Article 107.09, the Contractor shall be aware of the commuter hours and main direction of high traffic flow on the city's Arterial and Major Collector streets. Certain lanes as identified by the Resident Engineer shall not be closed before 8:30 AM and shall be opened by 3:30 PM. The Contractor will not be entitled to extra compensation to adjust their work schedule according to the requirements as stated herein and as directed by the Resident Engineer.

SP 5. Disposal of Debris and Excavated Material & CCDD

The Contractor shall be responsible for removal and disposal of all waste material, asphalt, grindings, concrete, stone, dirt or debris generated in the course of the work. The Contractor shall load the removed pieces of curb and gutter, sidewalk, street pavements, etc. directly onto trucks, haul it away and dispose of it. The temporary storing of excavated materials on the parkway and street and re-handling them later for disposal or backfill will not be allowed.

In addition to the requirements of Section 107.01 of the Standard Specifications, the Contractor shall be responsible for the proper removal and disposal of excavated materials from the project site. The Contractor will meet all the requirements set forth by the IEPA in regard to Clean Construction and Demolition Debris which include providing certification from a licensed Professional Engineer, geotechnical testing, dumping fees and proper documentation. This work will not be paid for separately but shall be considered included in the total contract cost.

SP 6. NPDES Permit

A separate Notice of Intent (NOI) will not be required for this construction project. The City of Aurora has filed a Notice of Intent for General Permit for Discharges from a Small Municipal Separate Storm Sewer Systems (MS4s) under the National Pollutant Discharge Elimination System Phase II. This NOI covers all City of Aurora sponsored construction projects. A copy of the City of Aurora NOI is maintained on file at the Engineering Department of the City of Aurora.

SP 7. Scheduled Work Activity

The Contractor shall provide any Scheduled Work Activity to the Resident Engineer by 3:00 PM each day prior to any construction. The information shall provide the list of streets where work will occur and include start time, type of work and all scheduled material deliveries. Work done without prior notification to the resident engineer shall be considered unauthorized and will not be included for payment.

SP 8. Police Department Notification

The Contractor shall contact the City of Aurora, Police Department non-emergency number prior to closing streets to through traffic, installing temporary no parking signage and any work that may impede the flow of traffic.

SP 9. Public Notice and Work Times

The Contractor shall deliver a notice, original form supplied by the City, to each address that will be affected by work to be performed on each street. Notices shall be distributed 7 to 14 days in advance of the start of work. The allowed work hours are Monday thru Friday 7 AM to 5 PM for regular work days that are not a City holiday. The Contractor may request work hours and days outside normal working periods. The Contractor shall be responsible for keeping vehicles off the streets as needed

for the project. The Contractor shall install and maintain temporary signs in the parkway 24 hours prior to starting work on each street. The signs shall be 18" x 24", white plastic with red lettering on both sides stating **NO PARKING, 7:00 AM - 5:00 PM MON – FRI THANK YOU "contractor name". Signs shall be spaced on both sides (min. 3 signs each side, each block) as needed to notify motorists.** Immediately following each stage of work on each street, the Contractor shall remove the signs and reinstall them as needed.

SP 10. Work Adjacent to Schools, High Volume Traffic Routes (Shopping Centers, Commuter Routes) and Special Events (Concerts/Parades)

In addition to delivering the "Notices", the Contractor shall personally contact schools, shopping centers and other heavy traffic locations and events that will experience traffic delays as a result of working on this contract. In no case, shall equipment be operated near school zones when children are present. The Contractor shall also make adjustments to work schedules to accommodate events that would involve large numbers of vehicles and people on a particular street. No compensation will be paid for any inconvenience, delay, or loss experienced by the Contractor because of adjustments to their normal schedule.

SP 11. Water for Construction Purposes

City water for construction purposes will be available to the Contractor at his cost according to the rates in effect at the time of usage. The Contractor shall secure a city water meter from the Water Treatment Plant at Route 25 and Indian Trail Road by leaving the required deposit. The use of City water without a City issued meter is illegal. The Contractor will be fined according to ordinance, which will be deducted from moneys due, for each unauthorized use of city water regardless of the amount of water used or the reason for the unauthorized use.

SP 12. Deadline

The Contractor shall complete the work on all streets included in the scope of work detailed in this contract by **Friday, May 23, 2025.**

SP 13. Saw Cutting

Wherever new work will meet existing conditions other than lawn, regardless of whether the new or existing is asphalt or concrete, the existing adjacent sidewalk, pavement or curb shall be neatly saw cut. The saw cut shall be in a neat straight line sufficiently deep so that it renders a smooth vertical face to match. All saw cutting, shall be included in cost to the adjacent new item of work.

SP 14. Payments

The City will process up to one partial payment per month based on the work completed to date. Payments in progress under this contract shall be subject to a maximum 10% retainage by the City. The Contractor shall provide Partial Waiver of Lien and Contractor Affidavit for partial payments. All payments and processes shall follow the requirements of the City of Aurora's Purchasing Division.

The Engineer shall process the final payment one year after the completion of all the work. A maximum of 5% of the total value of completed work may be held during this period. The Contractor shall make repairs to any work that is found to be defective as determined by the Engineer.

Prior to the Final Payment, the Contractor shall provide Final Waivers of Lien for his company, all subcontractors, suppliers and materials. Final payment will be made after all material certification has been received and accepted.

SP 15. Clean Up

Following the completion of work on each street, the Contractor shall clean the area of all construction debris, signs, all barricades, survey markings and other items that do not belong on the site. All temporary signs and pavement tape shall be removed. Clean-up will not be paid for separately but shall be considered incidental to the contract.

SP 16. Traffic Control and Protection

Traffic control shall be in accordance with the applicable sections of the Standard Specifications, the Supplemental Specifications, the Illinois Manual on Uniform Traffic control Devices for Streets and Highways, any special details and Highway Standards contained in the plans and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions, and Special Provisions contained herein relating to traffic control.

The Contractor shall contact the City of Aurora at least 72 hours in advance of beginning work. Prior to the start of work the Contractor shall have a sufficient number of barricades, signs, and flag persons at the jobsite for the scheduled work.

It is anticipated that full closures may be needed at each bridge to complete the contract work. Construction affecting traffic will only be allowed on one bridge at a time. Signed detours are not expected to be needed. The Contractor is expected to develop a maintenance of traffic plan for approval by the City.

All traffic control and protection will be paid for at the contract lump-sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL). This price shall be payment in full for all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, and remove all traffic control devices required as stated herein and all applicable Highway Standards for Traffic Control and Protection.

SP 17. Landscape Restoration

This work shall consist of restoration of the parkways and landscaped areas that were disturbed, damaged, or removed during construction in accordance with Sections 211, 212, 250 and 251 of the Standard Specifications and as stated herein.

- Disturbed areas shall be cleared of debris generated during the course of work. Debris shall include all stone, gravel, concrete, forms and any other material that is not topsoil material.
- Turf areas that are removed or disturbed during construction shall be restored to original condition or better. The Contractor shall cut a vertical edge along the line where the turf was removed. The excavated areas shall be filled with topsoil and topped with 6” of compacted pulverized topsoil. The area shall be leveled and shaped to provide a smooth transition to the existing ground and sloped to provide positive drainage.
- Areas shall be seeded with City of Aurora standard seed mix, fertilizer, straw and mulch applied by Method 2 – Procedure 3 to secure the straw.
- The Contractor shall monitor the restoration and remove weeds that exceed 12” tall and reapply seed & topsoil as needed.

This work will be paid for at the contract price lump sum for LANDSCAPE RESTORATION which price shall include all labor, material and equipment necessary to complete the work as specified herein, guarantee repairs and as directed by the Engineer.

SP 18. Bolt Replacement

This work shall consist of the replacement of missing bolts in the rail splice at the east fence. Bolts shall be replaced in-kind to match as closely as possible to the remaining existing bolts and meet the requirements of Article 1006.07.

This work will be paid for at the contract unit price per each for BOLT REPLACEMENT.

SP 19. Graffiti Removal

Description. This work shall consist of removing graffiti from the surfaces of the abutments and piers for structures included in this contract, as directed by the Resident Engineer, by the methods described in this specification.

Materials. All materials and equipment shall be subject to the Resident Engineer's approval before any work can begin. Abrasive material for blast cleaning shall meet the requirements of IEPA.

Paint. All paint used shall meet the following requirements: The paint shall be a quality primer formulated specifically for the purpose of covering graffiti. It shall be compatible with the surface it is used on as per the manufacturer's data sheet and must adhere well to the substrate and resist fading and chalking. Compatibility shall be verified by the paint manufacturer's product data sheet or by written documentation from the paint manufacturer. Color of primer used to cover graffiti shall match existing paint color to the satisfaction of the Engineer.

Power Wash. Soluble, abrasive blast media shall be a large crystal sodium bicarbonate or a magnesium sulfate based media. Solubility of the media in water shall meet the requirements of IEPA. The equipment with the media shall be a soluble media injector type power washer. The Contractor shall submit catalog cuts or other documentation for all equipment proposed for use in this work. The Resident Engineer may require demonstration of the equipment's capabilities. No work shall begin until the equipment has been demonstrated to, and accepted by the Resident Engineer.

Solvent Wash. The cleaning compound shall be a blend of an organic solvent of emulsifiers and surfactants. It shall be a bio-degradable water-based, mixture developed from non-toxic and noncorrosive substances. This may be a soybean solution or other, satisfactory to the Resident Engineer. Mineral spirits are also acceptable for this usage.

The cleaner shall lift graffiti from the substrate surface, and emulsify and dissolve the paint constituents; pigments; oils; binders and fillers. Acceptance of the cleaning compound will be based on the manufacturer's certification that the material conforms to the requirements of this specification. No work shall begin until these materials have been delivered to and accepted by the Resident Engineer.

Construction Details. All work must conform to the OSHA standards.

Unless otherwise directed by the Resident Engineer, the following methods shall be used to remove graffiti from various surfaces. If one of these prescribed methods is used, and the graffiti still remains visible, the Contractor shall use an alternate method approved by the Resident Engineer. Painting over graffiti is the preferred option on previously painted surfaces, and where solvents were unsuccessful at removing graffiti.

Unless otherwise noted or directed by the Resident Engineer, graffiti shall be removed within five (5) working days of written notification. If a lift device will be necessary, the removal date will be extended to ten (10) working days.

Graffiti Surface	Suggested Graffiti Removal Method
Steel (smooth, non-porous) Wood (painted or unpainted)	Solvent wash with Enviro-Solutions Paint Stripper & Graffiti Remover; SOY solv; Mineral Spirits or Painting Over Graffiti or Power Washing
Brick, Stone, Concrete, Paving, Solvent blocks (porous, unpainted)	Wash with Taginator, or Power Washing, or Painting Over Graffiti or Abrasive Blasting
Painted Masonry	Painting Over Graffiti or Power Wash

Sign Panel Faces & Aluminum (unpainted mill finish or anodized finish)	Solvent Washing with Enviro-Solutions Paint Stripper & Graffiti Remover; SOY Solv; EZ Solv or Mineral Spirits.

Painting Over Graffiti. The Contractor shall primer paint over all graffiti on the concrete surfaces within project limits and take appropriate precautions to prevent paint from falling onto traffic.
The substrate surfaces shall be thoroughly cleaned before painting. All dust, dirt, oil, grease, and other substances which might prevent the adhesion of the paint to the substrate shall be removed. No sandblasting will be allowed. Paint shall be applied as soon as practicable after cleaning is completed. If in the opinion of the Resident Engineer, the substrate surface has become soiled, or otherwise contaminated, prior to the application of the paint, the surface shall be recleaned at no additional cost to the City. The paint shall be applied evenly in a neat and workmanlike manner by a roller or other suitable method, as approved by the Resident Engineer. The rolling shall be done at such a pace that no spinning of the roller or throwing off of paint occurs when the roller is lifted from the surface. The paint shall be feathered out by using light pressure at the end of the stroke to promote uniformity. The first time a surface is painted, it shall be painted from column to column, post to post, and from top to bottom for panels and from joint to joint or score mark to score mark for other concrete surfaces. After the first time, which includes previous painting for graffiti removal, the substrate surface shall be painted in small rectangular patterns in order to minimize the area painted and ensure that the graffiti will no longer be "readable" when the painting is complete. If the paint to be applied requires more stringent or additional surface preparation than stated in this specification, the Contractor shall prepare the surface in accordance with the paint manufacturer's recommendations.
The graffiti must be completely hidden before the painted area will be measured for payment.
The Contractor will be required to repaint areas if the graffiti remains visible after painting at no additional cost to the City. New graffiti at the same location will be measured for payment when the painting meets the requirements of this specification. The Resident Engineer may require sand be added to the paint to provide a texture to the final surface.

Power Washing Graffiti Surfaces. All graffitied surfaces shall be cleaned with a soluble, abrasive blasting media applied with a soluble media injector or a compressed air delivery system, whichever is satisfactory to the Resident Engineer. No particulate matter of any nature shall be permitted to remain on the cleaned surface. After cleaning, the surface shall be rinsed with tap water applied with a power washer. All visible media shall be removed from the surface.
After rinsing, the Contractor shall repeat the cleaning process in areas where graffiti or paint is still visible. If the second cleaning process fails to remove the graffiti or paint to the Resident Engineer's satisfaction, the equipment and methods used by the Contractor will again be subject to review and approved by the Resident Engineer. Cleaned surfaces shall bear no evidence of graffiti paint layers.

Solvent Washing Graffiti Surfaces. Pre-Cleaning Materials: A wet, non-abrasive cleanser is recommended. This cleanser shall not contain strong solvents or alcohols.
Pre-Cleaning Procedure: Cleanse the surface of loose dirt particles with clean water. Use a soft sponge or brush to wash the graffitied surface with detergent and water. Avoid scrubbing the surface unnecessarily. After the cleaner has been utilized, apply a steady stream of water on the cleaned surface to wash the dirt particles away. Allow to dry.
Cleaning Procedure: The Contractor shall supply the instructions of the cleaning procedure, to the Resident Engineer, at least two weeks prior to starting this work. Graffiti Removal material shall be applied to surfaces as per the manufacturer's instructions. Graffiti Removal material shall not be applied to silk screen processed areas.
After the solvent is applied, the surfaces shall then be wiped with a non-abrasive material. The wiped surfaces shall then be rinsed with a water wash. The cleanliness of the surfaces is subject to the approval by the Resident Engineer.
After rinsing, the Contractor shall repeat the cleaning process in areas where graffiti is still visible. If the second cleaning process fails to remove the graffiti to the Resident Engineer's satisfaction, the

equipment and methods used by the Contractor will again be subject to review and approval by the Resident Engineer.
Cleaned surfaces shall bear no evidence of graffiti. The cleaning of the graffiti image shall be feathered out by using light pressure at the end of the stroke to promote uniformity on the surrounding surface.
Abrasive Blasting off Graffiti: Due to the potential of abrasive blasting to damage the substrate, this method of graffiti removal may only be performed as a last resort, at the direction of the Resident Engineer, after all other methods to remove graffiti have failed.
Graffiti should be removed using vacuum-shrouded blasting or power-tool equipment that has the appropriate attachments for the surface being cleaned to ensure that no dust or abrasive escapes during operation. This equipment should be capable of cleaning all the graffiti off the surface at a rate acceptable to the Resident Engineer while producing no detectable dust. The equipment should operate in a manner such that all dust or abrasive/dust mix generated is simultaneously drawn away from the contact surface into attached vacuum hoses leading to a vacuum that utilizes HEPA filters. The vacuum and its hoses should be sufficiently rated for the volume of debris and/or abrasive/debris generated. The equipment, its method of use, and efficiency shall be demonstrated to the Resident Engineer prior to the start of work. Power tool cleaning should remove the graffiti without causing undue damage to the surface being cleaned.
Graffiti Removal from Overhead Structures: If the use of a mechanical aerial lift is required to safely access the graffitied surface, the Contractor shall obtain the necessary equipment and use it in conjunction with the other graffiti removal items.
Method of Measurement: This work will be measured in square yards of surface area that graffiti is either removed from, or painted over, in accordance with this specification. There will be no payment for removing graffiti that is not done within the time limitations stated in this specification.
Basis of Payment. This work will be paid for at the contract unit price per square yard for GRAFFITI REMOVAL.

SP 20. Cleaning Bridge Scuppers And Downspouts

Description. This work shall consist of cleaning all bridge drainage scuppers and downspouts from the opening at the bridge deck to the point of discharge below the deck, at the locations shown on the plans and as directed by the Engineer.
Construction Requirements. This item of work shall be performed in accordance with applicable portions of Section 592 of the Standard Specifications. The method of cleaning shall not damage the existing drainage system and shall be submitted to the Engineer for approval. Any damage to the drainage system shall be repaired by the Contractor at no additional cost. The drainage system shall be cleaned to the satisfaction of the Engineer, which includes the testing and inspecting of each scupper and deck surface to ensure that it has been completely cleaned.
Basis of Payment. This work will be paid for at the contract unit price per each for CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS.

SP 21. Anti-Graffiti Coating

Description. This work shall consist of the surface preparation, furnishing, and application of an anti-graffiti coating to the exposed concrete surfaces of the abutments and crashwalls and columns of the piers according to the manufacturer's recommendations. The Contractor shall furnish all materials, equipment, labor, and other essentials necessary to accomplish this work and all other work described herein or as directed by the Engineer.
Materials. Anti-graffiti coating shall be a single-component, non-sacrificial siloxane coating intended to cure with atmospheric moisture and is intended for use over properly prepared concrete surfaces. Coating shall dry as a matte, semi-gloss, or satin finish. A high gloss finish is unacceptable. The application of the coating product shall be clear and not result in yellowing or color change to the surface.

The anti-graffiti coating shall be a low volatile organic content (VOC) material, with a VOC less than 250 grams/liter. It shall have a minimum 10-year unlimited warranty for graffiti removals that can be cleaned an unlimited number of times without requiring reapplication of the anti-graffiti coating.
The coating shall have the capability of having all types of paints and graffiti completely removed with power washing with cold water. After graffiti removal there shall be no damage to the anti-graffiti coating or the surface to which it is applied. Additionally, there shall be no evidence of ghosting, shadowing, staining, streaking, cracking, pin holing, discolorations, or other degradations of the protected surface upon removal of graffiti.
Acceptable products include but are not limited to:

- Pro-Industrial Anti-Graffiti Coating by Sherwin Williams
- Si-COAT 530 by CSL Silicones Inc.
- VandlGuard Non-Sacrificial Anti-Graffiti Coating by RainguardPro

Other equivalent products may be submitted to the Engineer for review.
Submittals. The anti-graffiti coating shall be a product that has been commercially available for a period of at least five (5) years. The Contractor shall submit the following items to the Engineer:

1. Written evidence that the installer for the work has completed at least five (5) projects of similar complexity within the past five (5) years.
2. Product identification including brand name and product number.
3. Batch number for manufactured date and must be within shelf life of material.
4. Complete manufacturer's recommendation for usage.
5. Available product data sheets, Material Safety Data Sheets (MSDS), information verifying compliance to VOC limitations as outlined above, test data, and reports.
6. A one liter (one quart) representative sample.
7. Provide written application instructions from the manufacturer, which shall include recommended application equipment, application methods and rates, surface preparation requirements and other applicable manufacturer's recommendations.

Approval of the coating shall be based upon the following:

1. A technical representative of the manufacturer shall be present to approve surface preparation and application of the anti-graffiti coating. The Contractor shall apply the anti-graffiti coating to a test panel/area following the manufacturer's recommendation to determine acceptable application rate and method. After the manufacturer's recommended curing period, the Engineer will apply various types of graffiti materials to the coating. After seven (7) days, in the presence of the Engineer, the Contractor shall remove the graffiti with a power washer using cold water.
2. If after graffiti removal, the test sample exhibits no signs of graffiti or graffiti staining upon inspection by the Engineer.
3. If after graffiti removal, the anti-graffiti coating is clean and undamaged upon inspection by the Engineer.
4. If after graffiti removal, the coating is intact and exhibits no signs of ghosting, shadowing, staining, streaking, cracking, pin holing, discoloring, or other coating degradations upon inspection upon inspection by the Engineer.
5. If all requirements are met, written approval will be provided by the Engineer prior to starting application.

Preparation. A technical representative of the manufacturer and the Engineer shall be present to approve surface preparation and application of the coating. Concrete shall be cleaned and prepared in accordance with product requirements and all existing graffiti completely removed prior to application of coating.
Prior to application of the anti-graffiti coating, all designated surfaces shall be free of graffiti, dirt, dust, chalking paint, mortar spatter, loose rust, loose mill scale, old caulking, grease, oil, release agents, curing compounds, laitance and other foreign matter including frost by a method as recommended

by the coating manufacturer and approved by the Engineer. All surfaces shall be thoroughly clean, dry, and free of dust that might prevent penetration of the coating.
Surface preparation for all concrete surfaces shall comply with the manufacturer's recommendations and may include the use of the manufacturer's pre-treatment products.
Application. Coatings shall not be applied in the rain, snow, fog, mist, nor shall they be applied if these conditions are expected within twelve (12) hours of application. Coatings shall neither be applied when the surface or air temperatures are less than 41º F nor greater than 100º F or are expected to exceed these temperatures within twelve (12) hours of application or as recommended by the manufacturer.
All surfaces should be clean and dry prior to application. The coating should be applied in a manner that prevents runs, sags, drips, spills, etc. and that completely covers surfaces without leaving gaps. The paint temperature should be approximately 50°F. The air temperature should be a minimum of 40°F and a maximum of 120°F. The temperature of the surface to be coated should be between 40° and 140°F and environmental and substrate temperature should be at least 5°F above the dew point prior to and during application.
When working with product in high humidity and/or high temperature environments, it is recommended to use a pail lid adapter fitted with an agitator. This will prevent the product from skinning over and curing in the pail during application. Ideally apply using brush or roller; may also be applied using an airless sprayer, but it is not recommended, as it will leave a milky appearance.

Application shall be by means of brush, roller, or sprayer in accordance with the manufacturer's recommendations. The number of coats applied shall be in accordance with the manufacturer's recommendations. Coating material shall not be diluted in any way. A consistent application method shall be used throughout the project.
Apply at a rate that will achieve a minimum of 6 mils DFT and a maximum of 9 mils DFT. Roller and brush application will require multiple coats to achieve desired DFT. A consistent application method shall be used throughout the project.
Work stoppages and restarts are not recommended along a single abutment or pier. If necessary, coordinate product protection with manufacturer to ensure proper storage and reuse.
All information contained in the data sheets and application guides shall be strictly followed. All coatings shall be applied in the presence of the Engineer.
The Contractor shall monitor the surfaces where the coating was applied and remove any graffiti that appears before the curing period.
After the manufacturer's recommended curing period for the anti-graffiti coating, the Engineer will apply various types of graffiti materials to the coating. After three days the removal agent shall be used to remove the graffiti. If after graffiti removal the anti-graffiti coating is clean and undamaged with no evidence of ghosting, shadowing, or staining then the anti-graffiti coating shall be approved and accepted.
The Contractor shall supply the Engineer with an initial quantity of the removal agent and written instructions for its use, as recommended by the manufacturer for graffiti removal. The amount shall be furnished at the rate of 1 quart per 200 square feet of treated surface area.
Method of Measurement. Anti-graffiti coating will be measured in place in square feet.
Basis of Payment. This work will be paid for at the contract unit price per square foot of ANTI-GRAFFITI COATING, which price shall include all materials, equipment, and labor necessary to complete the work as specified.

SP 22. Structural Steel Removal

Description. This work shall consist of the satisfactory removal and disposal of structural steel members as shown on the plans. This work shall be performed according to Section 501 of the Standard Specifications.
Burning of existing rivets or bolts will only be allowed near steel surfaces which are to be removed and discarded. Burning of existing rivets or bolts will not be allowed for members to remain in place and members that are to be removed and reinstalled at a later date. When burning of rivets or bolts is not allowed the head of the rivet or bolt shall be sheared off and the shank driven or drilled out. Extreme care shall be taken while removing the rivets or bolts so as not to damage the existing structural steel which is to remain. Unless noted otherwise on the plans, the cost of rivet and bolt removal shall be included in this item. All damage to existing members which are to remain shall be repaired or the member replaced to the satisfaction of the Engineer. Repair or replacement of damaged members shall be at the Contractor's expense and at no additional cost to the State.
Method of Measurement. Structural steel removal will not be measured for payment. Payment will be based upon the pounds of structural steel removal shown on the plans.
Basis of Payment. This work will be paid for at the contract unit price per pound for STRUCTURAL STEEL REMOVAL.

SP 23. Drill And Grout Bars

Description. This item shall consist of furnishing all labor, tools, equipment, and materials required to drill and epoxy grout reinforcement bars into existing hardened concrete at locations shown on the plans or determined by the Engineer. Drilling and grouting reinforcement bars shall be in accordance with Section 584 of the Standard Specifications. Reinforcement bars shall be in accordance with Section 508 of the Standard Specifications and all reinforcement bars shall be epoxy coated in accordance with this section. Reinforcement bar lengths shall be as shown on the plans.

The reinforcement bars shall be furnished and paid for under item REINFORCEMENT BARS, EPOXY COATED.

Construction Requirements. *Drilled holes shall be roughened or scored per grout manufacturer's recommendations. Minimum embedment depth and diameter of holes shall be per the manufacturer's recommendations.*

Method of Measurement. Drilling and grouting of reinforcement bars shall be measured for payment in place complete per each.

Basis of Payment. Drilling and grouting of reinforcement bars shall be paid for at the contract unit price per each, including the drilling of bars and epoxy grout, for DRILL AND GROUT BARS. Payment shall include full compensation for all materials, labor, equipment and incidentals necessary to complete the work as shown on the plans or as directed by the Engineer regardless of bar size or the required embedment length.

SP 24. Railing Removal And Reinstallation

Description. This work shall consist of removal and re-installing the existing exterior and interior railings in accordance with plan details and this Special Provision.

Construction Requirements

General. The contract unit price bid per foot for Railing Removal and Reinstallation shall include all labor, materials and equipment required for removal and reinstallation of the existing exterior and interior railings where it inhibits access for repair work at the expansion joints. All work will be performed in accordance with the details on the plans, applicable portions of Section 509 of the Standard Specifications and as specified herein. All removal locations shall be approved by the Engineer prior to railing removal.

As required, the Contractor is to provide a temporary storage location for removed railing sections. The Contractor is responsible for transporting railing to and from the temporary storage location.

The duration sections of railing are removed shall be minimized and is subject to the approval of the Engineer. If locations of removed railing are to remain unsecured after working hours, the contractor shall ensure open sidewalk edges are protected. The location(s) of removed railing section(s) shall be protected as approved by the Engineer.

During the removal and reinstallation process, the Contractor shall avoid damaging the railing, including the existing anchor bolts to remain. Should damage occur, all necessary repairs, up to and including full replacement, shall be performed by the Contractor at no additional cost to the City.

Anchor bolts that are within the concrete removal limits shall be replaced with new anchor bolts per the details shown on the plans.

Method of Measurement. Railing removal and reinstallation work will be measured for payment in units of foot of railing removed, at locations approved by the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price per FOOT for RAILING REMOVAL AND REINSTALLATION which price shall be payment in full for all labor, materials, and equipment required to perform work as shown on the plans and specified herein. The cost to transport railing sections to and from the temporary storage location and to provide the temporary storage location is included in the contract price. The cost of the labor, materials, and equipment required to install new anchor bolts is included in the contract price.

State of Illinois
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EMPLOYMENT PRACTICES

In addition to all other labor requirements set forth in this proposal and in the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation, during the performance of this contract, the Contractor for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

I. SELECTION OF LABOR

The Contractor shall comply with all Illinois statutes pertaining to the selection of labor.

II. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract, the Contractor agrees as follows:

(1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry, age, marital status, physical or mental handicap or unfavorable discharge from military service, and further that it will examine all job, classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such under-utilization.

(2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.

(3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin, ancestry, age, marital status, physical or mental handicap or unfavorable discharge from military service.

(4) That it will send to each labor organization or representative of other workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and the City of Aurora and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

(5)That it will submit reports as required by the Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the City of Aurora, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.

(6) That it will permit access to all relevant books, records, accounts and work sites by personnel of the City of Aurora and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.

(7) That it will include verbatim or by reference the provisions of this clause in every subcontract so that such provisions will be binding upon every such Subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by all its Subcontractors; and further it will promptly notify the City of Aurora and the Illinois Department of Human Rights in the event any Subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any Subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

State of Illinois
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
WAGES OF EMPLOYEES ON PUBLIC WORKS

Effective: January 1, 1999
Revised: January 1, 2015

1. Prevailing Wages. All wages paid by the Contractor and each subcontractor shall be in compliance with The Prevailing Wage Act (820 ILCS 130), as amended, except where a prevailing wage violates a federal law, order, or ruling, the rate conforming to the federal law, order, or ruling shall govern. The Illinois Department of Labor publishes the prevailing wage rates on its website. If the Illinois Department of Labor revises the prevailing wage rates, the revised prevailing wage rates on the Illinois Department of Labor's website shall apply to this contract and the Contractor will not be allowed additional compensation on account of said revisions. The Contractor shall review the wage rates applicable to the work of the contract at regular intervals in order to ensure the timely payment of current wage rates. The Contractor agrees that no additional notice is required. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto.

2. Payroll Records. The Contractor and each subcontractor shall make and keep, for a period of not less than five years from the date of the last payment on a contract or subcontract, records of all laborers, mechanics, and other workers employed by them on the project; the records shall include information required by 820 ILCS 130/5 for each worker. Upon seven business days' notice, the Contractor and each subcontractor shall make available for inspection and copying at a location within this State during reasonable hours, the payroll records to the public body in charge of the project, its officers and agents, the Director of Labor and his deputies and agents, and to federal, State, or local law enforcement agencies and prosecutors.

3. Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15th day of each calendar month, file a certified payroll for the immediately preceding month with the public body in charge of the project, except that the full social security number and home address shall not be included on weekly transmittals. Instead the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). The certified payroll shall consist of a complete copy of the payroll records, except starting and ending times of work each day may be omitted.

   The certified payroll shall be accompanied by a statement signed by the Contractor or subcontractor or an officer, employee, or agent of the Contractor or subcontractor which avers that: (i) he or she has examined the certified payroll records required to be submitted by the Act and such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required; and (iii) the Contractor or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class A misdemeanor.
4. Employee Interviews. The Contractor and each subcontractor shall permit his/her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor.

CITY OF AURORA GENERAL SPECIFICATIONS
SECTION 1 - DEFINITION OF TERMS

1.1 ADVERTISEMENT

The word Advertisement shall mean and refer to the official notice as published in the Aurora Beacon News, a daily newspaper published in the City of Aurora, Illinois, inviting bids for the construction of this improvement.

1.2 A.S.T.M.

Wherever the letters A.S.T.M. are herein used, they shall be understood to mean the American Society of Testing Materials.

1.3 ATTORNEY

Wherever the word Attorney is used in these specifications or in the contract, it shall be understood to mean the Corporation Counsel of the City or designee.

1.4 BIDDER

Wherever the word Bidder is used, it shall be understood to mean the individual, firm, or corporation formally submitting a proposal for the work contemplated, or any portion thereof, acting directly or through an authorized representative.

1.5 BOARD

Wherever the word Board or a pronoun in the place of it occurs in these specifications, it shall be interpreted to mean the Board of Local Improvements of the City of Aurora, Illinois, and any of its authorized representatives provided, however, that such persons shall be understood to represent said Board to the extent of the special duties delegated to such representatives.

1.6 CITY CLERK

Wherever the term City Clerk is used herein, it shall be understood to mean the City Clerk of the City of Aurora, Illinois.

1.7 CITY COUNCIL OR COUNCIL

Wherever the term City Council, or Council, appears in these specifications it shall be taken to mean the City Council of the City of Aurora, Illinois.

1.8 CONTRACT

The term Contract shall be understood to mean the agreement covering the performance of the work covered by these general specifications, including the advertisement for bids, instructions to bidders, bid proposal, performance bond, these general specifications, supplemental specifications, special provisions, general and detailed plans for the work, standard specifications referred to in the special provisions, all supplemental agreements entered into and all general provisions pertaining to the work or materials thereof, all of which are collectively referred to as the “Contract Documents”.

1.9 CONTRACTOR

Wherever the word Contractor occurs in these specifications, it shall be interpreted to mean the person or persons, firm, or corporation who submits a proposal and thereafter enters into the contract governed by these specifications as party or parties of the second part, and the agents, employees, workmen, heirs, executors, administrators, successors, or assignees thereof.

1.10 ENGINEER

Wherever the word Engineer is used in these specifications, it shall be interpreted to mean the City Engineer or his designee charged with directing and having charge of a portion of the project limited by the particular duties entrusted to him.

1.11 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

The MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, latest edition, as adopted by the Illinois Department of Transportation.

1.12 PAYMENT BOND

The term Payment Bond shall be understood to mean the bond executed by the Contractor and his surety guaranteeing the payment of all sums of money due for any labor, materials, apparatus, fixtures, or machinery furnished to such principal for the purpose of performing the contract work.

1.13 PERFORMANCE BOND

The term Performance Bond shall be understood to mean the bond, executed by the Contractor and his surety, guaranteeing complete execution of the contract.

1.14 PLANS

Wherever the word plans is used in these specifications, it shall be understood to mean all drawings, sketches, and detailed plans or reproductions thereof pertaining to the construction involved.

1.15 PROPOSAL

Wherever the word Proposal is used, it shall be taken to mean the written proposal of the bidder on the form furnished for the work contemplated.

1.16 PROPOSAL GUARANTY

The term Proposal Guaranty shall be understood to mean the security designated in the Advertisement for Bids or Notice to Contractors to be furnished by the bidder as a guaranty of good faith to enter into a contract for the work contemplated

1.17 SPECIFICATIONS

Wherever the word Specifications is used it shall be understood to include all directions and requirements contained herein or referred to hereby, together with all special provisions and written agreements made or to be made pertaining to the work involved. All articles referred to in these general specifications when not qualified otherwise than by numbers, shall be understood to be articles from these general specifications.

1.18 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

The STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, latest edition, prepared by the Illinois Department of Transportation and adopted by said Department.

1.19 STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION

The STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION, latest edition, as adopted by the Illinois Society of Professional Engineers.

1.20 STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS

The STANDARD TRAFFIC SIGNAL SPECIFICATIONS, latest edition, as adopted by the Illinois Department of Transportation.

1.21 STATE

Wherever the word State is used herein, it shall mean the State of Illinois.

1.22 SURETY

The word Surety shall be understood to mean the individuals who are, or the corporate body which is bound with and for the Contractor for the acceptable performance of the contract, and for his payment of all debts pertaining to the work.

1.23 WORK

Wherever the word “Work” is used, it shall mean the work including all materials, labor, tools, appliances, equipment, and appurtenance necessary and incidental thereto to perform and complete everything specified or implied in the plans, specifications, and in the contract documents, in full compliance with all the terms and conditions thereof and in a good and workmanlike manner.

SECTION 2
AWARD AND EXECUTION OF CONTRACT

2.1 PUBLIC OPENING OF PROPOSALS

Proposals will be opened and read publicly at the time and place specified in the advertisement, or as soon thereafter as the business of the City Clerk permits. Bidders, their authorized agents, and other interested parties are invited to be present.

2.2 AWARD OF CONTRACT

The decision of the award of the contract will be made as may be decided upon by the Council after bids have been opened and tabulated. The Contract shall be governed by the laws of the State of Illinois. No contract shall provide for arbitration of the parties.

2.3 BONDS AND INSURANCE

The bidder to whom the award of contract is made will be required under this contract to furnish a Performance Bond acceptable to the Engineer in the amount of one hundred percent (100%) of the full contract price, a Payment Bond, Public Liability Insurance, and Workers Compensation Insurance; all of which shall be acceptable to the City of Aurora.

2.4 SUBLETTING OR ASSIGNMENT OF CONTRACT

The Contractor shall not sublet, sell, or assign all, or any portion of the contract, or of the work provided for therein, without the written consent and authorization of the City, and in no case shall such consent relieve said Contractor from either, any, or all of the obligations herein entered into, or change the terms of the obligations hereof.

2.5 FAILURE TO EXECUTE CONTRACT

In the event that said bidder fails or refuses to execute said contract and furnish said bonds within the period of ten (10) days after mailing notice of such award or within such additional number of days as the City may determine, then the sum deposited as a proposal guaranty by said bidder on the work so awarded may be retained by the City as liquidated damages and not a forfeiture. It is hereby agreed that said sum is a fair estimate of the amount of damages that the City will sustain in case said bidder fails to enter into the contract and furnish bonds as herein provided, said actual damages being uncertain in amount and difficult to determine in the event of such failure or refusal by the bidder.

2.6 VENUE FOR LEGAL ACTION

The venue for any legal action that may arise from this agreement shall be in Kane County, Illinois.

2.7 WAIVER OF TRAIL BY JURY

The Contractor agrees to waive trail by jury for itself and all of its contracts with sub-Contractors shall contain a provision waiving trial by jury in the event of any legal action which may arise from this agreement with the City of Aurora as a party litigant.

SECTION 3
SCOPE OF THE WORK

3.1 INTENT OF PLANS AND SPECIFICATIONS

The true intent of the plans and these specifications is to provide for the erection and completion in every detail of the work described herein, and it is understood that the Contractor will furnish all labor, materials, equipment, tools, transportation, and necessary supplies, such as may reasonably be required to execute the contract in a satisfactory and workmanlike manner and in accordance with the plans, specifications, and terms of the contract. Both parties must stipulate any deviation from these requirements in writing.

3.2 SPECIAL WORK

Should any construction conditions which are not covered by the plans and these specifications be anticipated or encountered during construction, Supplemental Specifications for such work will be prepared by the Engineer and shall be considered a part of these specifications, the same as though contained fully herein.

3.3 INCREASED OR DECREASED QUANTITIES

The right is reserved, without impairing the contract, to make such increase or decrease in the quantities of the work as may be considered necessary to complete fully and satisfactorily the work included in the contract. The compensation to the Contractor for such changes shall be adjusted as provided herein.

3.4 ALTERATIONS IN PLANS AND SPECIFICATIONS

The City reserves the right to make such changes in the plans and in the character of the work as may be necessary or desirable to ensure completion in the most satisfactory manner, provided such changes do not materially alter the original plans and specifications. Such changes shall not be considered as waiving or invalidating any conditions or provisions of the contract.

3.5 EXTRA WORK

The City reserves the right, without impairing the contract, to order the performance of such work, of a class not contemplated in the proposal as may be considered necessary to complete fully and satisfactorily the work included in the contract. The Contractor shall do such extra work when ordered and authorized in writing by the Engineer, and the Contractor shall be compensated for such extra work on the basis and in the amount as provided herein.

3.6 EASEMENTS, PERMITS, AND REGULATIONS

The Contractor shall keep himself fully informed of all Federal, State, Municipal and local regulations, private contracts, grants, easements, and permits, in any manner affecting the work herein specified and provided for. He shall at all times observe and comply with and cause all his Subcontractors, agents, and employees to observe and comply with each and all of the same. The Contractor does hereby assume any and all liability under the same and shall protect and indemnify the City and its officers and employees against any and all claims or liabilities arising from or based on the violation of, or failure to comply with either or all of the same.

3.7 FINAL CLEANING UP

Upon completion and before final acceptance of the work, the Contractor shall, in addition to the detailed work of grading, restoring ground surfaces, repairing roadways and pavements, and all other work specifically provided for in these specifications, remove all falsework, excess or useless excavated materials, rejected materials, rubbish, temporary buildings, temporary foundations, replace or renew any fences damaged, and restore in an acceptable manner all property, both public and private, which may have been damaged during the prosecution of the work, and shall leave the site of the work in a neat and presentable condition satisfactory to the Engineer.

SECTION 4
CONTROL OF THE WORK

4.1 AUTHORITY OF THE ENGINEER

The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work, and shall decide all questions which may arise as to the interpretation of the plans and specifications, and all questions as to the acceptable fulfillment of the terms of the contract.

4.2 PLANS AND WORKING DRAWINGS

General drawings, showing such details as are necessary to give a comprehensive idea of the construction contemplated, will be shown in the general plans, but the Contractor shall submit to the Engineer for approval such additional detailed shop drawings or working drawings, together with a detailed structural analysis of all component parts, as may be required for the construction of any part of the work and prior to the approval of such plans, any work done or material ordered shall be at the Contractor's risk.

The contract price shall include the cost of furnishing all working drawings and the Contractor will be allowed no extra compensation for such drawings.

4.3 DEVIATIONS FROM THE PLANS

No deviation from the general plans or the approved working drawings will be permitted without the written order of the Engineer. No allowance shall be made for work done other than is shown on the plans, profiles and drawings, and provided for in the specifications.

4.4 COORDINATION OF SPECIFICATIONS AND PLANS

In the event of any discrepancy between the plans and figures written thereon, the figures are to be considered as correct. In the case of any discrepancy between the plans and the specifications, the Engineer shall determine which are to govern. If there is a discrepancy between the general specifications and the supplemental specifications, the supplemental specifications are to govern.

The Contractor shall take no advantage of any apparent error or omission in the plans or specifications, but the Engineer shall be permitted to make such corrections and interpretations as may be deemed necessary for the fulfillment of the intent of the plans and specifications.

4.5 ORDER OF WORK

The order of sequence of the execution and/or conduct of the work shall be subject to the approval and/or direction of the Engineer, which approval and/or direction shall not in any way relieve the Contractor of any responsibility in connection with the prosecution to completion of the work under contract.

4.6 COOPERATION BY CONTRACTOR

The Contractor shall conduct his operation so as to interfere as little as possible with those of other Contractors, Subcontractors, the public, or adjoining property owners on or near the work site. The Contractor shall at all times during his absence from the work site have a competent superintendent or foreman capable of reading and thoroughly understanding the plans and specifications, as his agent on the work, who shall receive instructions from the Engineer or his authorized representative. The superintendent or foreman shall have full authority to execute the order and/or directions of the Engineer without delay and to promptly supply such materials, tools, plant equipment, and labor as may be required. The superintendent or foreman shall have a copy of the plans and specifications on the job at all time.

4.7 CONSTRUCTION STAKES

Reference lines and grade points for the location, alignment, and elevation of each structure will be determined and established by the Engineer, but the Contractor shall assume full responsibility for the alignment, elevations, and dimensions of each and all parts of the work with reference to the lines, points, and grades as established by the Engineer. For all structures, the Engineer shall furnish the Contractor with centerline and/or center points and such benchmarks or other points as are necessary to lay out the work correctly. The Contractor shall check all lines, points, and grades which may be given by the Engineer supplementary to the centerline, points, and control bench marks aforesaid, and shall be responsible for the accuracy of all measurements for grades and alignment of the work with reference to the centerline and/or points and bench marks established by the Engineer.

The Contractor shall exercise proper care in the preservation of alignment, grade, and reference stakes set for his use, or that of the Engineer. If such stakes are injured, lost, or removed by the Contractor's operations, they shall be reset at his expense.

4.8 INSPECTION

The Engineer or his representative shall be allowed access to all parts of the work at all times and shall be furnished such information and assistance by the Contractor as may be required to make a complete and detailed inspection thereof. Such inspection may include mill, plant, or shop inspection and any material furnished under these specifications is subject to such inspection.

SECTION 5
CONTROL OF MATERIALS

5.1 SPECIFICATIONS FOR MATERIALS

All materials used in this work shall conform in all respects to the specifications therefore as herein set forth. Where a specification for material to be used in this work is not specifically set forth in these specifications, such material shall conform in all respects to the specifications as set forth in the A.S.T.M. Standards and/or Tentative Standards adopted and in effect on the date of receiving bids.

5.2 SUBSTITUTION OF MATERIALS AND EQUIPMENT

Wherever in these specifications or on the plans for this work, materials or equipment are specified by trade names or catalog numbers of certain manufacturers, it is done for the purpose of establishing a standard of quality, durability, and/or efficiency, and not for any purpose of limiting competition. Wherever such definite reference is made in these specifications to any such material or equipment, is understood that any equivalent material or equipment may be provided, however, that the written approval and acceptance of the Engineer of such equivalent material or equipment must be obtained prior to its purchase and/or incorporation in any part of the work.

5.3 THE METHODS OF TESTING

All tests of materials or equipment used in the work shall be made in accordance with the methods described in these specifications or the method of test prescribed in any specification for material or equipment herein specifically referred to and designated to govern the quality of any material or equipment.

Where a method of test for any material or equipment is not specifically provided for, such material or equipment shall be tested in accordance with the methods prescribed and set forth in the A.S.T.M. Standards and Tentative Standards adopted and in effect on the date of receiving bids.

5.4 DEFECTIVE MATERIALS

All materials not conforming to the requirements of these specifications shall be considered as defective and all such materials, whether in place or not, shall be rejected and shall be removed immediately from the work by the Contractor at his expense unless otherwise permitted by the Engineer. No rejected materials, the defects of which have been subsequently corrected, shall be used until approval has been given. Upon failure on the part of the Contractor to immediately comply with any order of the Engineer relative to the provisions of this section, the Engineer shall have the authority to remove and replace such defective material and to deduct the cost of removal and replacement from any moneys due or which may become due to the Contractor.

SECTION 6
LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

6.1 COMPLIANCE WITH LAWS AND REGULATIONS

The Contractor shall at all times observe and comply with all Federal, State, Municipal and other local laws, ordinances, regulations, and requirements which in any manner affect the conduct of the work, and with all Federal, State and local laws and policies of non-discrimination, sexual harassment, prevailing wages and others applicable hereto; and all such orders or decrees as exist at the present and which may be enacted later, of bodies or tribunals having jurisdiction or authority over the work, and no plea of misunderstanding or ignorance thereof will be considered. He shall indemnify and save harmless the City and all its officers, agents, employees, and servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, requirement, order or decree, whether by himself or his employees.

6.2 PERMITS AND LICENSES

The Contractor shall take out and procure at his own expense all permits and licenses required by Federal, State or local public authorities, and he shall, without extra compensation from the City, pay all fees and charges and give notices required incident to the due and lawful prosecution of the work in relation thereto.

6.3 PATENTED DEVICES, MATERIALS, AND PROCESSES

It is mutually understood and agreed that without exception contract prices are to include all royalties and costs arising in the work. It is the intent that whenever the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the right of such use shall be provided for by suitable legal agreement with the patent owner. The Contractor and Surety in all cases shall indemnify and save harmless the City from any and all claims for infringement by reason of the use of any such patent design, device, materials, or process, to be performed or used under the contract, and shall indemnify and save harmless the said City for any costs, expenses, attorney's fees, and damages which it may be obligated to pay, by reason of any such infringement at any time during the prosecution or after the completion of the work.

6.4 BARRICADES, LIGHTS, AND SIGNS

The Contractor shall at his own expense and without further or other order provide, erect, and maintain at all times during the progress or suspension of the work, suitable barricades, fences, signs, or other adequate protection, and shall provide, keep, and maintain such lights, danger signals, and watchmen as may be necessary or as may be ordered by the Engineer to ensure the safety of the public, as well as those engaged in connection with the work. All barricades and obstructions shall be protected at night by signal lights, which shall be suitably placed, and which shall be kept burning from sunset to sunrise. Barricades shall be of substantial construction and shall be painted in such a way as to increase their visibility at night.
The Contractor shall be held responsible for all damage to the work due to failure of barricades, signs, lights, and watchmen to protect it, and whenever evidence of such damage is found prior to acceptance, the Engineer may order such damaged portion immediately removed and replaced by the Contractor without cost to the City if, in his opinion, such action is justified. The Contractor's responsibility for the maintenance of barricades, signs, and lights shall not cease until the project shall have been accepted.

6.5 USE OF EXPLOSIVES

The use of explosives shall be prohibited.

6.6 PROTECTION AND RESTORATION OF PROPERTY

It is understood that in the execution of the work herein provided for there may be interference with and/or damage to trees, shrubbery, crops, fences, railroad tracks, overhead structures such as poles, wires, cables, underground structures such as sewers, gas mains, telephone conduits and cables, water mains, drains, service connections, wires, pipes, conduits, located along, adjacent to, and/or crossing the locations of the work, and that it may be necessary to relocate or reconstruct certain of such structures, improvements, and installations and/or to make repairs to the same by reasons of doing the work herein provided for, and it is therefore particularly and specifically agreed that the Contractor, except as otherwise herein provided, shall do the work necessary for such relocation, reconstruction, and repair and shall bear and pay all of the cost and expense of such relocation, reconstruction, and/or repair of, and all damage done to any and all such pipe line and other structures, improvements, and installations, including service connections, if any, to adjacent property, existing at the date of the execution of the contract and/or existing, during the period of the work to be done under the contract, which may be interfered with, damaged, and/or necessarily relocated, reconstructed, or repaired in the performance of the work herein provided for, including the restoration and resurfacing of unpaved portions of public streets and alleys, rights-of-way, easements, and private property damaged or disturbed by the work, the same to be restored to as good condition as the same existed at the time of the commencement of any such work or relocation.

It is further agreed that the owners of any structures, improvements, installations, referred to in the preceding paragraph shall have the right to do the work or any part thereof necessary for the relocation, reconstruction, replacement, repair, and other work required by reason of any interference with and/or damage to such structures, improvements, installations, due to the prosecution of the work and upon completion of such work by them done, said owners may render bills to the Contractor for the cost and expense thereof, which bills shall be paid by the Contractor, without extra compensation therefore from the City, upon demand by said owners, or upon demand made by the City upon the Contractor for the payment thereof.

6.7 RESPONSIBILITY FOR DAMAGE CLAIMS

The Contractor agrees to indemnify and save harmless the City of Aurora, their agents, and employees from and against all loss and expenses (including costs and attorneys' fees) by reason of liability imposed by law or claims made upon the City of Aurora for damages because of bodily injury, including death at any time resulting therefrom sustained by any person or persons or on account of damage to property, including loss of use thereof, arising out of or in consequence of the performance of this work, whether such claims or injuries to persons or damage to property be due to the negligence of the Contractor, his Subcontractors or the City of Aurora.

The Contractor shall assume total risk and shall be responsible for any and all damages or losses caused by or in any way resulting from the work and provide all insurance necessary to protect and save harmless the City of Aurora and its employees. Said insurance shall include contractual liability equal to the limits hereinafter set forth.

The Contractor agrees to purchase a policy of insurance, which shall include the City of Aurora as an additional insured or provide separate coverage for the City with an owner's protective policy. All Insurance provided by Contractor, extending to owner as additional insurance, shall be primary and insurance maintained by owner shall be excess and not contributing with Contractor’s insurance. The minimum amounts of insurance shall be as follows, except that no restrictions on occurrence limits will be permitted:

Bodily Injury Liability	*Property Damage Liability*	
Each Occurrence	Each Occurrence	Aggregate
$3,500,000	$500,000	$7,000,000

The coverage and amounts above are minimum requirements and do not establish limits to the Contractor’s liability. Other coverage and higher limits may be provided at the Contractor’s option and expense.

Owner does not waive its subrogation rights against Contractor and/or any Subcontractor for damages due to losses to owner due to the fault or negligence of the Contractor and/or any Subcontractors during or as a result of the performance of the work.

All such insurance must include an endorsement whereby the insurer agrees to notify the City of Aurora at least thirty (30) days prior to non-renewal, reduction or cancellation. The Contractor shall cease operations on the project if the insurance is canceled or reduced below the required amount of coverage. All costs for insurance as specified herein will not be paid for separately, but shall be considered as incidental to the contract.

6.8 WORKERS COMPENSATION ACT

The Contractor further agrees to insure his employees and their beneficiaries and to provide the employees and the beneficiaries of any Subcontractor employed from time to time by him on said work, the necessary first-aid, medical, surgical, and hospital services and any compensation provided for in the Workers Compensation Act of the State of Illinois that is or may be in force in the State.

Such insurance shall be placed by said Contractor in a company or association (to be approved by the City and to be accepted by the Council thereof) authorized under the laws of the State of Illinois to insure the liability above specified.

Said Contractor hereby further agrees to indemnify, keep and save harmless said City from all action, proceedings, claims, judgments, awards, and costs, losses, damages, expenses, and attorney's fees which may in any way be brought against said City by reason of any accidental injuries or death suffered by any of his employees or the employees of any Subcontractor employed by him in and about the performance of the work provided for in the contract, and any and all liability resulting thereupon; and said Contractor, in case of any suit, action, or proceeding on account of any or all of the foregoing shall defend the same for and on behalf of said City and indemnify the City therefore and pay the amount of any and all awards and final judgments and/orders rendered and entered therein, together with all loss, costs, damages, attorney's fees, and expenses incurred therein. Said Contractor shall be the sole employer of its employees and workers, and in no way so shall the City be considered a joint employer of same under any circumstance.

6.9 LOCAL BIDDER PREFERENCE

O18-070, amended by O20-029 approved April 28, 2020 defines “Local business” to mean a vendor or contractor who has a valid, verifiable physical business address located within the corporate boundaries of the City of Aurora at least twelve months prior to a bid or proposal opening date, from which the vendor, contractor or consultant operates or performs business on a daily basis, including manufacturing production or distribution. The business must disclose the percentage of workforce in the City of Aurora; be registered with the City of Aurora, if applicable; be subject to City of Aurora taxes (inclusive of sales taxes); be current with property tax payments and sales tax payments; not have any outside cited code violations; not have any outstanding debts to the City of Aurora; have adequately qualified and trained staff to service the bid of interest.

SECTION 7
PROSECUTION AND PROGRESS OF WORK

7.1 SUBLETTING OR ASSIGNMENT OF WORK

If the Contractor sublets the whole or any part of the work to be done under the contract, with or without the written consent of the City, he shall not, under any circumstances, be relieved of his liabilities and obligations. All transactions of the Engineer shall be with the Contractor; Subcontractors shall be recognized only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competence. In case any party or parties, to whom any work under the contract shall have been sublet, shall disregard the directions of the Engineer or his duly authorized representatives, or shall furnish any unsatisfactory work or shall fail or refuse in any way to conform to any of the provisions or conditions of the contract, then in that case, upon the written order of the Engineer, the Contractor shall require said party or parties in default to discontinue work under the contract. Said work shall be corrected or made good and shall be continued and completed by the said Contractor or by such other party or parties as are approved by the Engineer, in the manner and subject to all of the requirements specified in the contract.

7.2 PROSECUTION OF WORK

The Contractor shall begin the work to be performed under the contract no later than ten (10) days after the execution and acceptance of the contract, unless otherwise provided. The work shall be conducted in such a manner and with sufficient materials, equipment and labor as is considered necessary to ensure its completion within the time specified in the contract. The Contractor shall solely be fully responsible for complying with state and local prevailing wage requirements in accordance with its Bidders Certification, and for all wage rate and hour regulations and applications

7.3 GUARANTEE AND MAINTENANCE OF WORK

The Contractor shall guarantee the work to be free from defects of any nature for a period of one year from and after the final acceptance and payment for the work by the City, and the Contractor shall maintain said work and shall make all needed repairs and/or replacements during this one year period which in the judgment of the Council, may be necessary to ensure the delivery of the work to the City in first-class condition and in full conformity with the plans and specifications therefore, at the expiration of the guarantee period.

7.4 PAYMENT

Basis of Payment

Payment of the CONTRACTOR for performance of the CONTRACT shall be made by the OWNER and shall be based on the value of the installation resulting from the CONTRACTOR’s operations.

The cost of all WORK incidental to the completion of the project in accordance with the Plans and Specifications, excepting authorized extra WORK, shall be included in the unit and lump sum prices stated in the CONTRACTOR’s accepted Proposal. The amount obtained by the summation of the products of the quantities of WORK performed or the respective unit or lump sum prices for several items listed in the proposal shall be payment in full, except for payment for authorized extra WORK, for delivering the completed project to the OWNER in accordance with the Plans and Specifications.

Submission of Bid Breakdown

Within 15 days after the execution of this CONTRACT, the CONTRACTOR must submit to the ENGINEER in duplicate an acceptable breakdown of the lump sums and unit prices bid for items of the CONTRACT, showing the various operations to be performed under the CONTRACT, and the value of each of such operations, the total of such items to equal the total price bid. The CONTRACTOR shall also submit such other information relating to the bid prices as may be required and shall revise the bid breakdown as directed. Thereafter, the breakdown may be used for checking the CONTRACTOR's applications for partial payments hereunder but shall not be binding upon the OWNER or the ENGINEER for any purpose whatsoever.

Partial Payments

When not otherwise provided for under the Specifications for an item of WORK or a complete project, and if the rate of progress is satisfactory to the ENGINEER, partial payments will be made the CONTRACTOR by the OWNER during progress of construction. The amount of each partial payment shall be limited to ninety (90) percent (unless otherwise provided in the Instructions to Bidders) of the value of the WORK shown in the Engineer's periodic estimate to have been done and installed in place by the CONTRACTOR subsequent to the time of commencing WORK or of making the last preceding partial payment on account of WORK done. An amount greater than ninety (90) percent of the value of a largely completed project may be paid the CONTRACTOR at the option of the OWNER.

The CONTRACTOR's request for payment shall be in the form of an invoice, submitted to the OWNER through the ENGINEER, setting forth amounts due for WORK completed on payment items set forth in the CONTRACTOR's Proposal, and shall be accompanied by:

(1) CONTRACTOR's Sworn Statement setting forth the Subcontractors and material suppliers, the amount requested for each of the Subcontractors or material suppliers, and the amount of the subcontract or material to be completed.

(2) Subcontractor or material suppliers waivers of lien for amounts requested on previous payment requests.

(3) CONTRACTOR's waivers of lien.

The CONTRACTOR's request will be reviewed by the ENGINEER and if the ENGINEER is in agreement with the value of WORK completed, as requested by the CONTRACTOR, and if the request is accompanied by the CONTRACTOR's Sworn Statement, Subcontractor and material suppliers waiver of lien as stated above, and by the CONTRACTOR's waiver of lien, the ENGINEER will recommend payment to the OWNER.

Partial payment made to the CONTRACTOR by the OWNER for WORK performed shall in no way constitute an acknowledgement of the acceptance of the WORK nor in any way prejudice or affect the obligation of the CONTRACTOR, at his expense, to repair, correct, renew or replace any defects or imperfections in the construction of the WORK under CONTRACT and its appurtenances, nor any damage due or attributable to such defect, damage and the CONTRACTOR shall be liable to the OWNER for failure to correct the same as provided herein.

Payment in full or in part may be withheld for reasons which include but are not limited to: (1) the existence of defective work which is not remedied; (2) the existence of third party claims filed or reasonable evidence indicating probable filing of such claims; (3) the failure of the CONTRACTOR to make payments properly to Subcontractors or for labor, materials or equipment; (4) the existence of reasonable evidence that the WORK cannot be completed for the unpaid balance of the contract sum; (5) damage to the OWNER; (6) the existence of reasonable evidence that the WORK will not be completed within the CONTRACT time, and that the unpaid balance will not be adequate to cover actual or liquidated damages for the anticipated delay; or, (7)

persistent failure to carry out the work in accordance with the contract documents. If within a reasonable time not to exceed 45 days CONTRACTOR has not remedied any condition for which payment in full has been withheld, then OWNER may make such payments as OWNER deems necessary to remedy such situation from said funds withheld and pay the balance to CONTRACTOR, or if, sums are still due to remedy the situation, CONTRACTOR will remit any balances due to OWNER within 10 days of notice of same.

ACCEPTANCE AND FINAL PAYMENT

Whenever the CONTRACT shall have been completely performed on the part of the CONTRACTOR, and all parts of the WORK have been approved by the ENGINEER and accepted by the OWNER, including the resolution of all matters of dispute, a final estimate showing the value of the WORK will be prepared by the ENGINEER as soon as the necessary measurements and computations can be made, all prior estimates upon which payments have been made being approximate only and subject to corrections in the final payments.

The CONTRACTOR shall submit a final payment request showing the total quantities completed for the entire project and all previous payouts. This payment request shall be accompanied by a sworn affidavit listing all Subcontractors and material suppliers and the total payments to each. Final Waivers of Lien from the Subcontractors and material suppliers as well as the CONTRACTOR shall also be furnished at this time.

A final payment including all amounts of money shown by the final estimate to be due the CONTRACTOR shall be made by the OWNER as soon as practicable after the final acceptance of the WORK, provided the CONTRACTOR has furnished the OWNER satisfactory evidence that all sums of money due for labor, materials, apparatus, fixtures or machinery furnished for the purpose of performing the Contract have been paid or that the person or persons to whom the same may respectively be due have consented to such final payment.

Illinois Department of Transportation

Local Agency Proposal Bid Bond

Route Various
County Kane
Local Agency City of Aurora
Section _____

RETURN WITH BID

PAPER BID BOND

WE _____ as PRINCIPAL,

and _____ as SURETY,

are held jointly, severally and firmly bound unto the above Local Agency (hereafter referred to as "LA") in the penal sum of 5% of the total bid price, or for the amount specified in the proposal documents in effect on the date of invitation for bids whichever is the lesser sum. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly pay to the LA 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 LA acting through its awarding authority for the construction of the work designated as the above section.

THEREFORE if the proposal is accepted and a contract awarded to the PRINCIPAL by the LA for the above designated section and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish evidence of the required insurance coverage, all as provided in the "Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the LA determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the LA acting through its awarding authority 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 _____

Principal

_____ (Company Name)

By: _____ (Signature and Title)

_____ (Company Name)

By: _____ (Signature and Title)

(If PRINCIPLE is a joint venture of two or more contractors, the company names, and authorized signatures of each contractor must be affixed.)

Surety

_____ (Name of Surety)

By: _____ (Signature of Attorney-in-Fact)

STATE OF ILLINOIS,
COUNTY OF _____

I. _____ , a Notary Public in and for said county,
do hereby certify that _____
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instruments as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ day of _____

My commission expires _____

_____ (Notary Public)

ELECTRONIC BID BOND

☐ **Electronic bid bond is allowed (box must be checked by LA if electronic bid bond is allowed)**

The Principal may submit an electronic bid bond, in lieu of completing the above section of the Proposal Bid Bond Form. By providing an electronic bid bond ID code and signing below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the LA under the conditions of the bid bond as shown above. (If PRINCIPAL is a joint venture of two or more contractors, an electronic bid bond ID code, company/Bidder name title and date must be affixed for each contractor in the venture.)

Electronic Bid Bond ID Code

_____ (Company/Bidder Name)

_____ (Signature and Title)

_____ Date

Bid Number 24-068

PROPOSAL

TO: THE HONORABLE MAYOR AND CITY COUNCIL
CITY OF AURORA
44 EAST DOWNER PLACE
AURORA, ILLINOIS 60507

1. Proposal of _____
for the improvement known as the **2024 Bridge Rehabilitation Program (Bid 24-068)**

2. The plans and specifications for the proposed improvements are those prepared by the City of Aurora Engineering Division and approved by the City Council of Aurora, Illinois.

3. In submitting this proposal, the undersigned declares that the only persons or parties interested in the proposal as principals are those named herein, and that the proposal is made without collusion with any person, firm, or corporation.

4. The undersigned further declares that he has carefully examined the proposals, plans, specifications, form of contract and contract bond, and special provisions, if any, and that he has inspected in detail the site of the proposed work and that he has familiarized himself with all of the local conditions affecting the contract and detailed requirements of construction, and understands that in making this proposal he waives all right to plead any misunderstanding regarding the same.

5. The undersigned further understands and agrees that if the proposal is accepted, he is to furnish and provide all necessary machinery, tools, apparatus and other means of construction and to do all of the work and to furnish all of the materials and labor required.

6. The undersigned declares that he understands that the quantities mentioned are approximate only, and that they are subject to increase or decrease; that he will take in full payment therefore the amount of the summation of the actual quantities, as finally determined, and multiplied by the unit prices shown in the schedule of prices contained herein.

7. The undersigned agrees that the unit prices submitted herewith are for the purpose of obtaining a gross sum and for use in computing the value of extras and deductions; that if there is a discrepancy between the gross sum bid and that resulting from the summation of the quantities multiplied by their respective unit prices, the latter shall apply.

8. The undersigned agrees that if the City decides to extend or shorten the improvement, or otherwise alter it by extras or deductions, including the elimination of any one or more of the items, as provided in the specifications, he will perform the work as altered, increased or decreased, at the contract unit prices without claim for profits lost as a result of any work or items eliminated by the City of Aurora.

9. The undersigned agrees that the Engineer may, at any time during the progress of the work covered by this contract, order other work or materials incidental thereto, and that all such work and materials as do not appear in the proposal or contract as a specific item accompanied by a unit price, and which are not included under the bid price for other items in this contract, shall be performed as extra work, and that he will accept as full compensation therefore the actual cost plus ten percent (10%), the actual cost to be determined as provided for in the specifications.

10. The undersigned further agrees to execute a contract, a contract bond satisfactory to and in the form prescribed by the City in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract within **fifteen (15)** days after receiving the notice of award of the contract.

11. The undersigned further agrees to begin work not later than **ten (10)** calendar days after the execution or by the date stated within the contract documents and approval of the contract and contract bond, unless

otherwise provided, and to prosecute the work in such a manner and with sufficient materials, equipment, and labor as will insure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the contract.

12. The undersigned agrees to complete the work within the time stipulated in the Special Provisions.

13. All work shall be completed to the satisfaction of the Engineer by the above dates unless the Engineer in accordance with the specifications grants additional time. In case of failure to complete the work within the time named herein, or within such extra time as may have been allowed by extensions, the undersigned agrees that the City shall withhold from such sums as may be due him under the terms of the contract the liquidated damages as set forth in the Standard Specifications, which costs shall be considered and treated not as a penalty, but as damages due the Municipality from the undersigned by reason of inconvenience to the public, added cost of engineering and supervision, and other items which have caused an expenditure of public funds resulting from the failure of the undersigned to complete the work within the time specified in the contract.

14. If this proposal is accepted and the undersigned shall fail to execute a contract and contract bond as required herein, it is hereby agreed that the amount of the check or draft or bidder's bond substituted in lieu thereof shall become the property of the City and shall be considered not as a penalty but as payment of liquidated damages due to delay and other causes suffered by the City because of the failure to execute said contract and contract bond, otherwise said check or draft or bidder's bond substituted in lieu thereof shall be returned to the undersigned.

15. Accompanying this proposal is either a **5% Bid Bond** or a proposal guaranty check, complying with the specifications, made payable to the City Treasurer of the City of Aurora. The amount of the check is $ _____

16. The undersigned submits herewith his schedule of prices covering the work to be performed under this contract, he understands that he must show in the schedule the unit prices for which he proposes to perform each item of work, that the extensions must be made by him, and that if not so done, his proposal may be rejected as irregular or non-responsive.

17. The undersigned agrees to conform to Section 100 of the Standard Specifications and to Article 107.27 of that section indemnifying and saving harmless the City of Aurora and its officers, agents, and employees. The Contractor shall provide insurance with limits as stated in the Article 6.7 of the *City of Aurora - General Specifications.*

18. The City of Aurora reserves the right to reject any or all of the bids and to waive any and all irregularities and technicalities. The City of Aurora shall either award the project or reject the bids within sixty (60) calendar days after the bid opening. This time frame may be extended upon mutual agreement of the City and the Bidder.

19. The undersigned of this proposal agrees that he or she has examined all sections of this Proposal, Specifications, and Bidding Documents and hereby understands and accepts the provisions for access, or the lack of access, to the construction site and shall claim no compensation other than the prices as bid for this condition of accessibility.

20. The undersigned further agrees that the unit prices submitted herewith are for the complete item constructed, including all labor, equipment, material and other necessary incidental work.

21. The undersigned agrees to indemnifying and saving harmless the City of Aurora, its officers, agents, employees, and servants by filing with the City, prior to the execution of the contract, copies of completed Certificates of Insurance satisfactory to the City, with the City of Aurora named as co-insured; automobile liability insurance covering owned, non-owned, and hired vehicles with limits of liability as stated in the City of Aurora - General Specifications Article 6.7.

22. No bid shall be considered unless the party offering it shall furnish evidence satisfactory to the City of Aurora that he has been previously engaged in the quality construction of improvements of the same character as the one herein specified, and that he has the necessary facilities, equipment, experience, and ability and pecuniary resources to fulfill the conditions of the contract

23. No contract will be awarded to any bidder where that bidder or any principal or supervisory personnel of the bidder has been personally involved with another business that has been delinquent or unfaithful in any former contract with the City or where that bidder or any supervisory personnel of the bidder has been personally involved with another business that is a defaulter as surety or otherwise upon obligation to the City.

24. The Illinois Freedom of Information Act (FOIA) has been amended and effective January 1, 2010, adds a new provision to Section 7 of the Act which applies to public records in the possession of a party with whom the City of Aurora has contracted. The City of Aurora will have only a very short period of time from receipt of a FOIA request to comply with the request, and there is a significant amount of work required to process a request including collating and reviewing the information. The undersigned acknowledges the requirements of FOIA and agrees to comply with all requests made by the City of Aurora for public records (as that term is defined by Section 2(c) of FOIA) in the undersigned's possession and to provide the requested public records to the City of Aurora within two (2) business days of the request being made by the City of Aurora. The undersigned agrees to indemnify and hold harmless the City of Aurora from all claims, costs, penalty, losses and injuries (including but not limited to, attorney's fees, other professional fees, court costs and/or arbitration or other dispute resolution costs) arising out of or relating to its failure to provide the public records to the City of Aurora under this agreement.

25. **In submitting this Offer, the Bidder acknowledges:**

    All bid documents have been examined: Instructions to Bidders, Specifications and the following addenda:

    No. _____, No. _____, No. ____, No. ____ (Bidder to acknowledge addenda here).

26. The undersigned submits herewith this **Schedule of Prices** covering the work to be performed under this contract:

SCHEDULE OF PRICES

RFB 24-068 (2024 Bridge Rehabilitation Program)

#	Items	Unit	Quantity	Unit Price	Total
1	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	14		
2	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	2		
3	WELDED WIRE REINFORCEMENT	SQ YD	216		
4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	216		
5	PROTECTIVE COAT	SQ YD	4163		
6	PAVEMENT REMOVAL	SQ YD	230		
7	COMBINATION CURB AND GUTTER REMOVAL	FOOT	42		
8	PREFORMED JOINT STRIP SEAL	FOOT	97		
9	MANHOLES TO BE ADJUSTED WITH NEW TYPE 11 FRAME AND GRATE	EACH	1		
10	FRAMES AND GRATES, TYPE 11	EACH	1		
11	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	42		
12	GRAFFITI REMOVAL	SQ YD	822		
13	BOLT REPLACEMENT	EACH	3		
14	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1		
15	CONCRETE REMOVAL	CU YD	15.6		
16	SLOPE WALL REMOVAL	SQ YD	260		
17	CONCRETE SUPERSTRUCTURE	CU YD	15.3		
18	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3630		
19	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1		
20	REINFORCEMENT BARS, EPOXY COATED	POUND	2060		
21	PEDESTRIAN RAILING	FOOT	22		
22	SLOPE WALL 4 INCH	SQ YD	260		
23	GRANULAR BACKFILL FOR STRUCTURES	CU YD	261		
24	CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	SQ YD	4		
25	ANTI-GRAFFITI COATING	SQ FT	7395		
26	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, NO. 1	L SUM	1		
27	BRIDGE CLEANING AND PAINTING WARRANTY	L SUM	1		
28	STRUCTURAL STEEL REMOVAL	POUND	3630		
29	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	761		
30	DRILL AND GROUT BARS	EACH	60		
31	RAILING REMOVAL AND RE-INSTALLATION	FOOT	263		
32	SIDEWALK REMOVAL	SQ FT	334		
33	PORTLAND CEMENT CONCRETE SIDEWALK (6 INCH)	SQ FT	334		
34	TURF REINFORCEMENT MAT	SQ YD	16		

Bid Number 24-068

35	FURNISHED EXCAVATION	CU YD	3		
36	SIGN PANEL, TYPE 1	SQ FT	3		
37	EPOXY CRACK INJECTION	FOOT	20		
38	LANDSCAPE RESTORATION	L SUM	1		
39	TRAFFIC CONTROL AND PROTECTION, SPECIAL	L SUM	1		
40	ITEMS TO BE ORDERED BY THE ENGINEER	ALLOWANCE	1	$100,000.00	$100,000.00
				TOTAL	

Signatures

(If an individual)

Signature of Bidder _____

Business Address _____

_____

(If a partnership)

Firm Name _____

Signed by _____

Business Address _____

_____

Insert Names and Addresses of All Partners

_____

_____

_____

_____

(If a corporation)

Corporate Name _____

Signed By _____
President

Business Address _____

_____

President _____

Secretary _____

Treasurer _____

Attest: _____
Secretary

BIDDER'S CERTIFICATION

I/We hereby certify that:

A. A complete set of bid papers, as intended, has been received, and that I/We will abide by the contents and/or information received and/or contained herein.

B. I/We have not entered into any collusion or other unethical practices with any person, firm, or employee of the City which would in any way be construed as unethical business practice.

C. I/We have adopted a written sexual harassment policy which is in accordance with the requirements of Federal, State and local laws, regulations and policies and further certify that I/We are also in compliance with all other equal employment requirements contained in Public Act 87-1257 (effective July 1, 1993) 775 ILCS 5/2-105 (A).

D. I/We are in compliance with the most current "Prevailing Rate" of wages for laborers, mechanics and other workers as required by the State of Illinois Department of Labor.

E. I/We operate a drug free environment and drugs are not allowed in the workplace or satellite locations as well as City of Aurora sites in accordance with the Drug Free Workplace Act of January, 1992.

F. The Bidder is not barred from bidding on the Project, or entering into this contract as a result of a violation of either Section 33E-3 or 33E-4 of the Illinois Criminal Code, or any similar offense of "bid rigging" or "bid rotating" of any state or the United States.

G. I/We will submit with our bid, for all contracts in excess of $25,000.00, a certificate indicating participation in apprenticeship and training programs approved and registered with the United Sates Department of Labor.

☐ Contractor shall check the box indicating that a copy of applicable program certification is attached.

H. I/We have obtained IDOT prequalification as described in Check Sheet LRS6 in the "Supplemental Specifications and Recurring Special Provisions" in the categories appropriate for the type of work proposed for this project.

☐ Contractor shall check the box indicating that a copy of the IDOT prequalification certification for the appropriate categories is attached.

I. I/We will abide by all other Federal, State and local codes, rules, regulations, ordinances and statutes.

J. I/We will abide by the "Illinois Preference Act" which requires contractors to use at least 90% Illinois laborers on all public works projects that receive State funds or funds administered by the State during a period of "excessive unemployment" (Employment of Illinois Workers on Public Works Act, 30 ILCS 570/).

COMPANY NAME _____

ADDRESS _____

CITY/STATE/ZIP CODE _____

NAME OF CORPORATE/COMPANY OFFICIAL _____
PLEASE TYPE OR PRINT CLEARLY

TITLE _____

AUTHORIZED OFFICIAL SIGNATURE _____

DATE _____

TELEPHONE (_____)_____

FAX No. (_____)_____

E-MAIL ADDRESS _____

Subscribed and Sworn to

Before me this _____ day

of _____, 21___

_____
Notary Public

Apprenticeship or Training Program Certification

Return with Bid

All contractors are required to complete the following certification:

☐ For this contract proposal or for all groups in this deliver and install proposal.

☐ For the following deliver and install groups in this material proposal:

_____

_____

_____

_____

The City of Aurora policy, adopted in accordance with the provisions of the Illinois Highway Code, requires this contract to be awarded to the lowest responsive and responsible bidder. In addition to all other responsibility factors, this contract or deliver and install proposal requires all bidders to disclose participation in apprenticeship or training programs that are approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training, and applicable to the work of the above indicated proposals or groups. Therefore, all bidders are required to complete the following certification:

I. Except as provided in paragraph IV below, the undersigned bidder certifies that it is a participant, either as an individual or as part of a group program, in an approved apprenticeship or training program applicable to each type of work or craft that the bidder will perform with its own employees.

II. The undersigned bidder, by inclusion in the list in the space below, certifies the official name of each program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's employees. The list shall also indicate any type of work or craft job category for which there is no applicable apprenticeship or training program available.

_____

_____

_____

_____

III. Except for any work identified above, any bidder that shall perform all or part of the work of the contract or deliver and install proposal solely by individual owners, partners or members and not by employees to whom the payment of prevailing rates of wages would be required, check the following box, and identify the owner/operator workforce and positions of ownership. ☐

_____

_____

_____

_____

The requirements of this certification and disclosure are a material part of the contract. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. **The City of Aurora requires a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors be included with the bid in order to qualify to bid on the project.**

Bidder: _____ By: _____
(Signature)

Address: _____ Title: _____

STATE OF ILLINOIS)
) ss.
County of Kane)

BIDDER'S TAX CERTIFICATION

(BIDDER'S EXECUTING OFFICER), being first duly sworn on oath, deposes and states that all statements made herein are made on behalf of the Bidder, that this despondent is authorized to make them and that the statements contained herein are true and correct.

Bidder deposes, states and certifies that Bidder is not barred from contracting with any unit of local government in the State of Illinois as result of a delinquency in payment of any tax administered by the Illinois Department of Revenue unless Bidder is contesting, in accordance with the procedures established by the appropriate statute, its liability for the tax or the amount of the tax, all as provided for in accordance with 65 ILCS 5/11-42.1-1.

DATED this _____ day of _____, 20____.

By _____
(Signature of Bidder's Executing Officer)

_____
(Print name of Bidder's Executing Officer)

_____
(Title)

ATTEST/WITNESS:

By _____

Title _____

Subscribed and sworn to before me this
_____ day of _____, 20____.

_____
Notary Public

(SEAL)

City of Aurora, IL - Local Vendor Preference Application

The business identified below is requesting to be placed on the City of Aurora, Illinois Local Vendor Preference list, in accordance with ordinance O18-070, amended with ordinance O20-029 approved April 28, 2020.

1) Date Submitted: _____
2) Name of Business: _____
3) Address of Local Office: _____
4) City, State, Zip: _____
5) Company's Web Address: _____
6) Phone: _____ Fax: _____
7) County your Local Business is Located In: _____

Submitted By (Signature): _____

Print Name and Title: _____

Email Address: _____

Sec. 2-410.-Prequalification; local bidder.

(a) If an interested business would like to prequalify as a "local business", such a business shall complete and submit the prequalification application along with supporting documentation, as listed below, and the applicable fee as set by the City Council, to the Finance Department:
   a. Evidence that the business has established and maintained a physical presence in the City of Aurora, by virtue of the ownership or lease of all or a portion of a building for a period of not less than twelve (12) consecutive months prior to the submission of the prequalification application; and
   b. Evidence demonstrating that the business is legally authorized to conduct business within the State of Illinois and the City of Aurora, and has a business registered to operate in the City if required; and
   c. Evidence that the business is not a debtor to the City of Aurora. For purposes of this subparagraph, a debtor is defined as having outstanding fees, water bills, sales tax or_restaurant/bar tax payments that are thirty (30) days or more past due, or has outstanding weed or nuisance abatements or liens, has failure to comply tickets or parking tickets that are not in dispute as to their validity and are not being challenged in court or other administrative processes.

Back up documentation for (a) a. and (a) b. must accompany this submittal or application will be rejected.
Please note for (a) c. above the City of Aurora will verify internally that your company does not have any outstanding fees. Your company should make sure that to the best of its knowledge all bills are current.

Return completed application, with all required backup documentation to:
City of Aurora, Attn: Purchasing Division, 44 E. Downer Place, Aurora, IL 60507
Or email to: PurchasingDL@Aurora-il.org

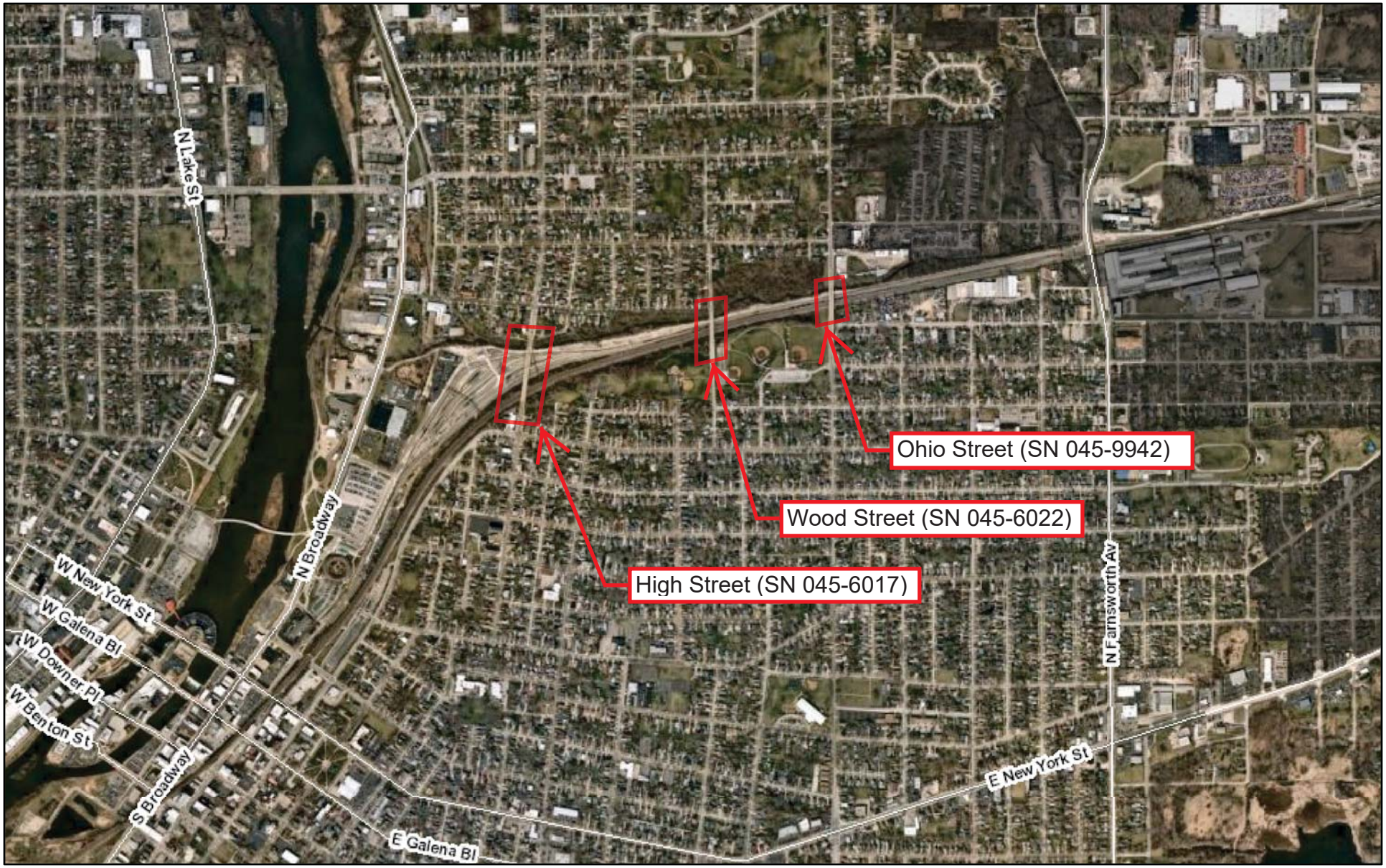
Do not write below this line: For City of Aurora use ONLY

(a) a.
(a) b.
(a) c.

Date: _____

Approved: _____ Denied: _____
Letter Sent: _____ Initials: _____

Overall Location Map



8/1/2024, 10:23:22 AM

1:21,120

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Copyright nearmap 2015, County of Will, Kane County, IL/EagleView, Maxar, The City of Aurora GIS and Engineering Department.

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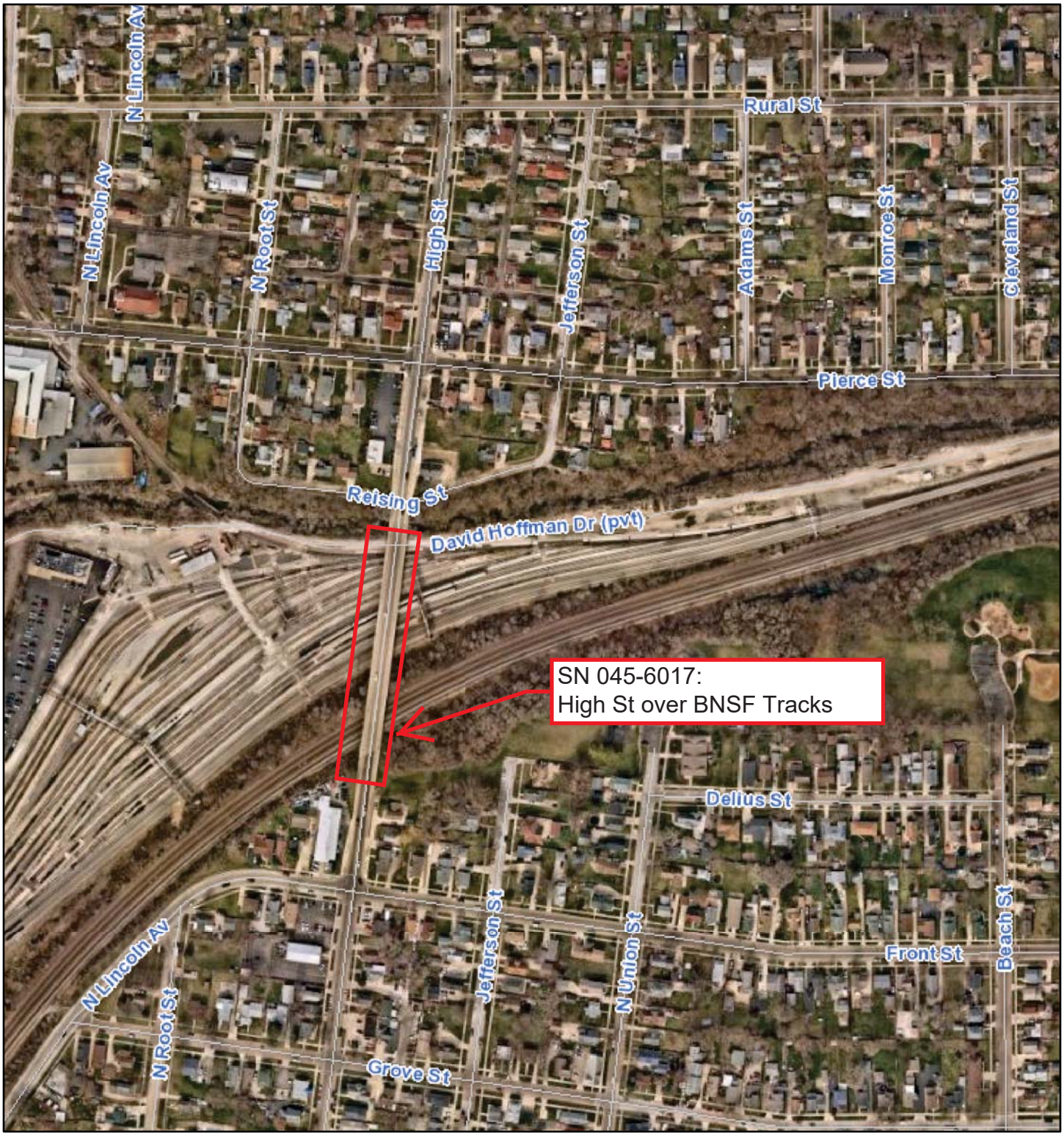
High St Bridge Plans

(SN 045-6017)

High St Location Map



8/1/2024, 10:29:07 AM

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0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

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GENERAL NOTES:

1. All materials and construction methods shall conform to the "Standard Specifications for Road and Bridge Construction" adopted January 1, 2022 by the Illinois Department of Transportation, including all current supplemental specifications and recurring special provisions, unless otherwise specified.

2. These contract documents have been prepared based on field inspection, existing plans, and other information available at the time. Actual field conditions may require modifications to construction details and work quantities. It shall be the Contractor's responsibility to verify the plan dimensions and details in the field and make necessary (approved by City of Aurora) adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation or a change in the scope of work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

3. Once on site, the Contractor shall complete a survey of the project site to verify the existing conditions. Any conditions found by the Contractor that were not anticipated on the Contract Plans and that will affect the cost or implementation of the reconstruction specified shall be immediately brought to the attention of the City of Aurora.

4. The Contractor shall exercise caution during all construction operations to prevent any damage to adjacent structures, buildings, and structural components not within the scope of this project. Structures, building members, and structural components not within the scope of the reconstruction and improvements that are damaged during the reconstruction operations shall be repaired or replaced at the expense of the Contractor to the satisfaction of the City of Aurora.

5. The Contractor shall submit detailed shop drawings, calculations, procedure, and sequences of the proposed construction work to the Engineer for approval prior to starting any work. The Contractor shall be responsible for all methods and procedures necessary to achieve the plan details. All cost shall be included in the cost of the contract.

6. All debris resulting from the removal of the existing structure, containment of non-lead paint cleaning residues, or created while performing the specified work shall be removed from the project site. All cost related to this work shall be included in the cost of the contract.

7. The Contractor shall perform all work with care such that all materials which are to remain in place will not be damaged. If the Contractor damages any materials which are to remain in place, the damaged materials shall be repaired or replaced by the Contractor in a satisfactory manner to the Engineer at no additional expense to the City.

8. All available existing plans will be provided to the Contractor in electronic format and can be obtained from the City of Aurora.

9. The Contractor shall obtain all necessary permits from the City of Aurora, the State of Illinois, U.S. Army Corps of Engineers, and other jurisdictional agencies prior to commencing construction. All cost related to this work shall be included in the cost of the contract.

10. The Contractor shall not scale dimensions from the contract plans for construction purposes.

11. The Contractor shall immediately notify the City of Aurora of any damage to city owned and maintained traffic signs, signals, guardrails, fences, etc.

12. Reinforcement bars designated (E) shall be epoxy coated.

PAINTING NOTES:

1. The Contractor shall take all necessary precautions to ensure the protection of vehicular and pedestrian traffic as well as adjacent property while cleaning and painting. All debris and spattered paints shall be removed from all public ways and structures.

2. Prior to starting work, the Contractor shall submit for the Engineer review and acceptance:
   a. Plans and information required for the Contractor's quality/control assurance program.
   b. Traffic control plan and permit application.
   c. Project schedule followed by weekly progress reports.
   d. All submittals associated with the Special Provisions for Cleaning and Painting Existing Steel Structures and Containment and Disposal of Non-Lead Paint Cleaning Residues.
   e. Work cannot proceed until the submittals are accepted by the Engineer.

3. The Contractor shall submit calculations and details demonstrating the structural integrity of the bridge is maintained under the additional imposed loads of the containment system. See Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues.

PAINTING NOTES (CONTINUED):

4. A minimum of 1 air monitor will be required to monitor abrasive blasting operations at this site. See Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues.

5. Containment of cleaning residue is required to control nuisance dust. The cost of this work shall be included in the pay item "Containment and Disposal of Non-Lead Paint Cleaning Residues No. 1". See Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues.

6. After construction operations have been completed, all excess materials and trash shall be removed and disposed of at the offsite waste facility. The site shall be broom cleaned and washed down, leaving the premises in a clean and safe condition. The cost of this work shall be included in the pay item "Cleaning and Painting Structural Steel, Location 1".

7. All new structural steel shall be shop primed and painted, and faying surfaces shall be prepared in accordance with the Special Provision Cleaning and Painting Contact Surface Areas of Existing Steel Structures.

8. Containment and disposal of non-lead paint cleaning residues shall follow the Special Provision Containment and Disposal of Non-Lead Paint Cleaning Residues.

9. See Sheets S12, S13, and S15 thru S19 for painting limits and additional notes.

EXPANSION JOINT NOTES:

1. The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 5 inches.

2. The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

3. The manufacturer's recommended installation methods shall be followed.

4. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

5. The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

6. The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

7. Cost of parapet sliding plates, sidewalk sliding plates, embedded plates, anchorage studs, and expansion anchors included with "Preformed Joint Strip Seal".

8. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required.

9. Expansion joint shall be installed in accordance with the manufacturer's written instructions and recommendations.

10. Existing reinforcement specified to remain shall be cleaned and incorporated into the new construction. Cost included with "Concrete Removal".

11. Any reinforcement bars that are damaged during concrete removal shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
CONCRETE REMOVAL	CU YD	15.6
SLOPE WALL REMOVAL	SQ YD	260
CONCRETE SUPERSTRUCTURE	CU YD	15.3
PROTECTIVE COAT	SQ YD	3,947
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3,630
CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1
REINFORCEMENT BARS, EPOXY COATED	POUND	2,060
PEDESTRIAN RAILING	FOOT	22
SLOPE WALL 4 INCH	SQ YD	260
PREFORMED JOINT STRIP SEAL	FOOT	97
GRANULAR BACKFILL FOR STRUCTURES	CU YD	259
GRAFFITI REMOVAL	SQ YD	322
CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	EACH	4
ANTI-GRAFFITI COATING	SQ FT	2,895
CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, NO. 1	L SUM	1
BRIDGE CLEANING AND PAINTING WARRANTY	L SUM	1
STRUCTURAL STEEL REMOVAL	POUND	3,630
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	693
DRILL AND GROUT BARS	EACH	60
RAILING REMOVAL AND RE-INSTALLATION	FOOT	263
ITEMS REQUESTED BY ENGINEER	L SUM	1

SCOPE OF WORK

1. Remove and replace the expansion joints at the North and South Abutments. Remove and reconstruct the interior separation barriers at the expansion joints.

2. Remove and replace south concrete slopewall and backfill eroded soil.

3. Remove and replace end diaphragms, gusset plates, and bent plates at abutments.

4. Perform structural repair of concrete at the curbs, parapets, piers, and abutments.

5. Clean and paint girder ends, bearings, bearing stiffeners, and connection plates at both abutments.

6. Clean and paint light pole bases.

7. Place Protective Coat on deck, approach slab, sidewalks, and vertical and top faces of the curbs and parapets.

8. Clean clogged deck scuppers and downspouts.

9. Remove graffiti and apply anti-graffiti coating to abutment stems and pier crashwalls.

PRE-FINAL

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS/KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 7/18/2024	CHECKED - DMS/KJN	REVISED -

CITY OF AURORA
KANE COUNTY

GENERAL NOTES AND TOTAL BILL OF MATERIAL
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S1 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	1
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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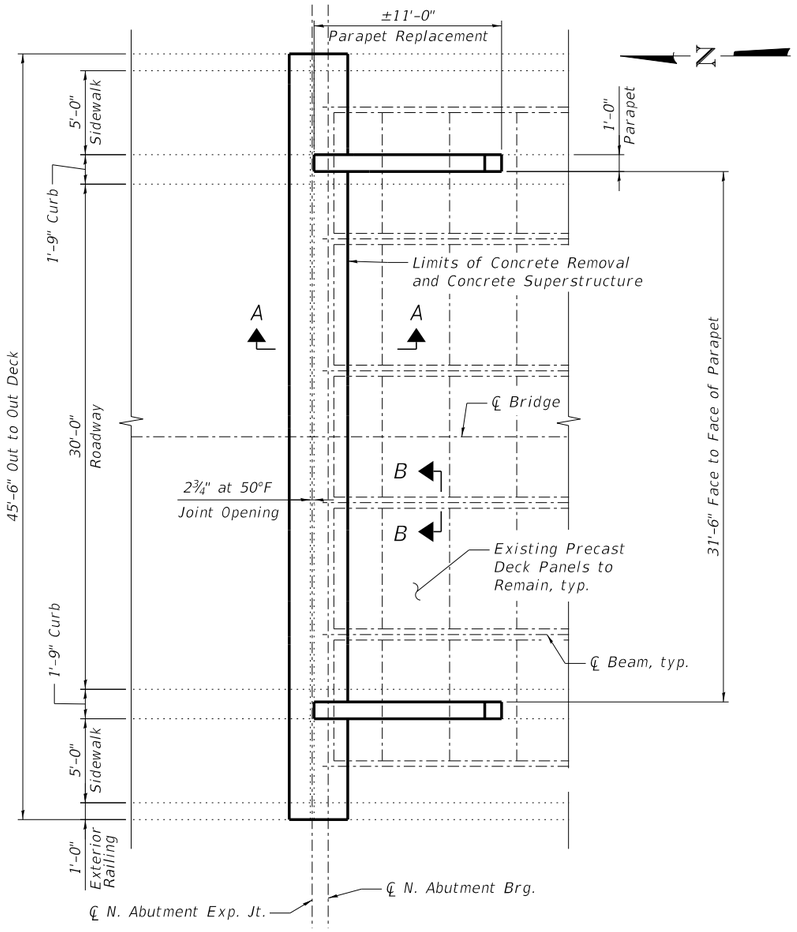
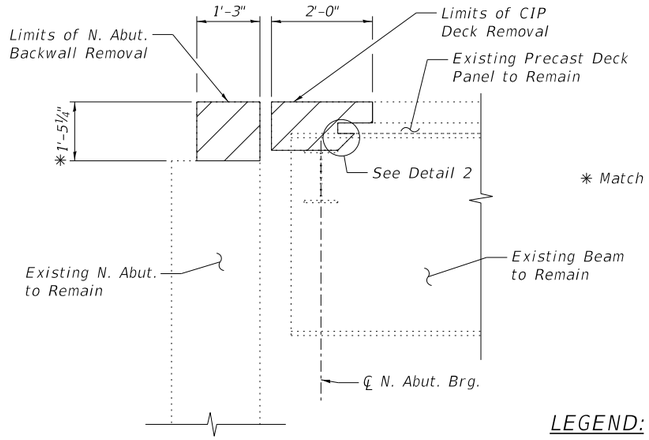
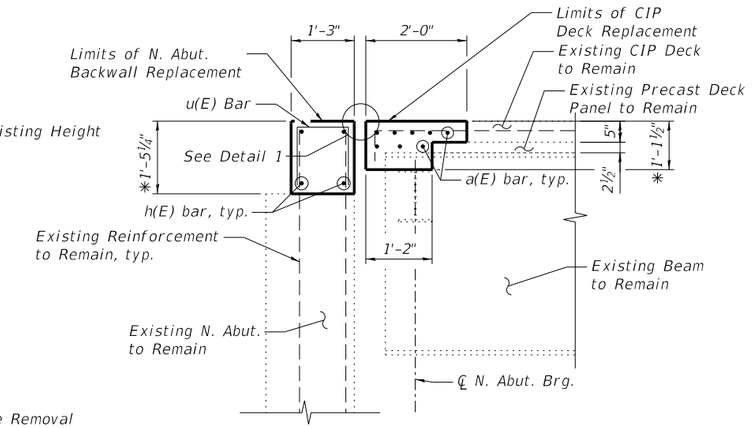


NORTH ABUTMENT EXPANSION JOINT
PROPOSED PARTIAL PLAN
(Reinforcement not shown for clarity)



SECTION A-A REMOVAL

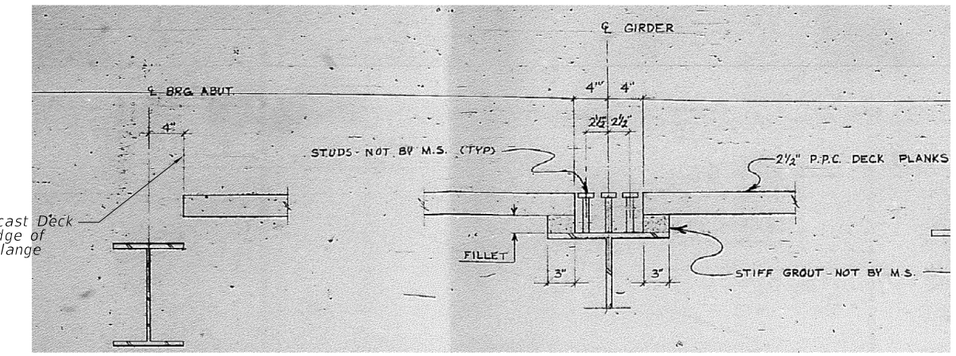
NOTE:
See Sheet S1 for notes.



SECTION A-A REPLACEMENT

LEGEND:

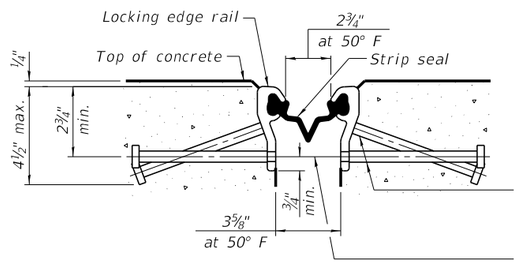
Concrete Removal



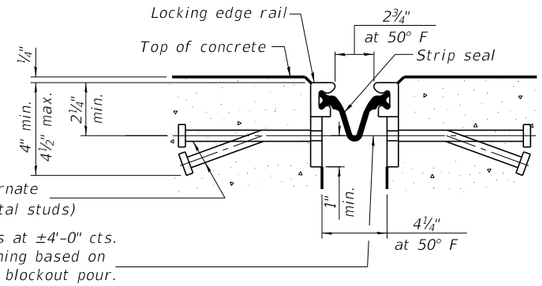
DETAIL 2

SECTION B-B

EXISTING PRECAST DECK PANEL DETAILS
(For Information Only)



SHOWING ROLLED RAIL JOINT



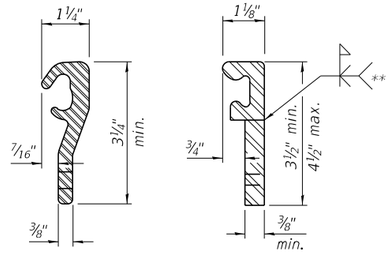
SHOWING WELDED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅞" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the joint blockout pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

DETAIL 1

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED
(EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

PRE-FINAL

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

N. ABUTMENT EXPANSION JOINT REPLACEMENT (1 OF 3)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017

SHEET NO. S2 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

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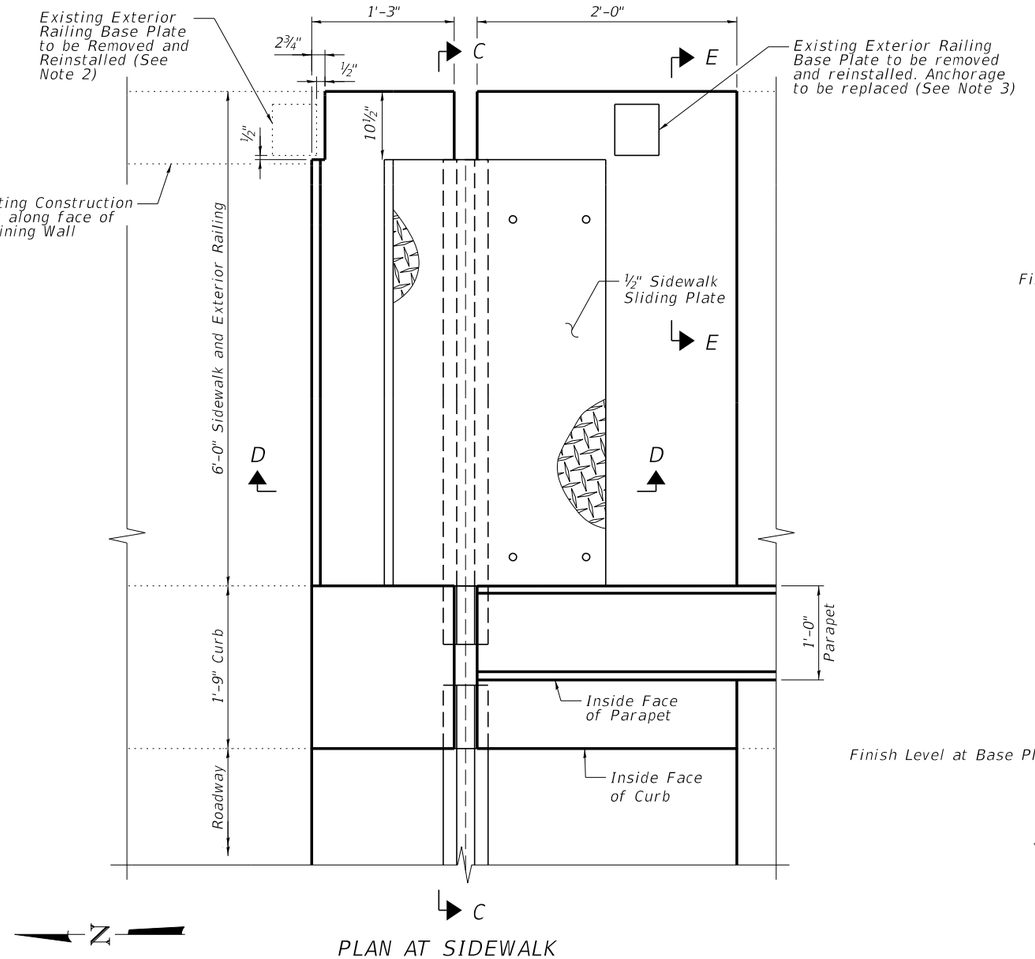
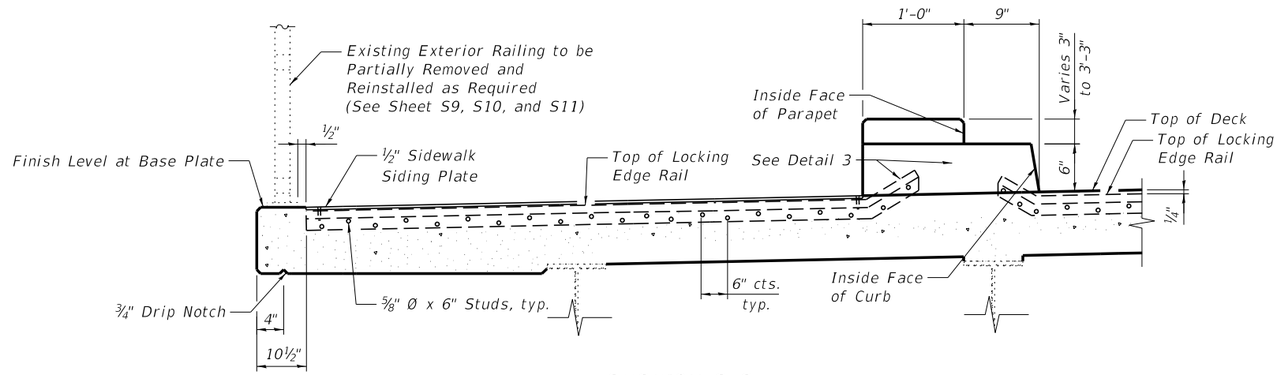


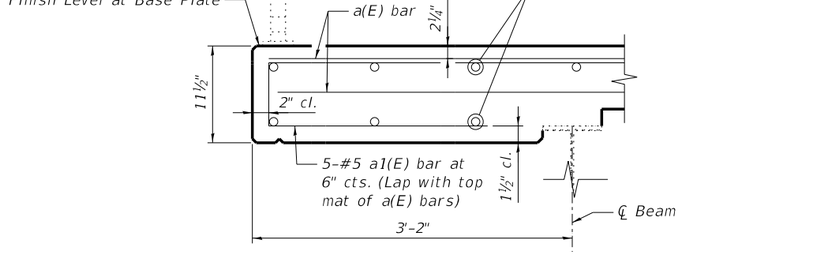
PLAN AT SIDEWALK

(East Sidewalk shown, West Sidewalk similar)

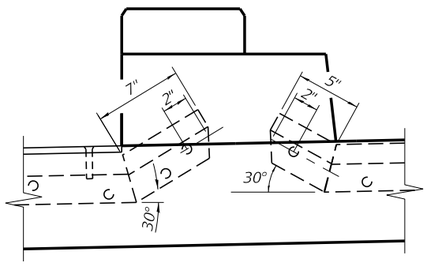


SECTION C-C

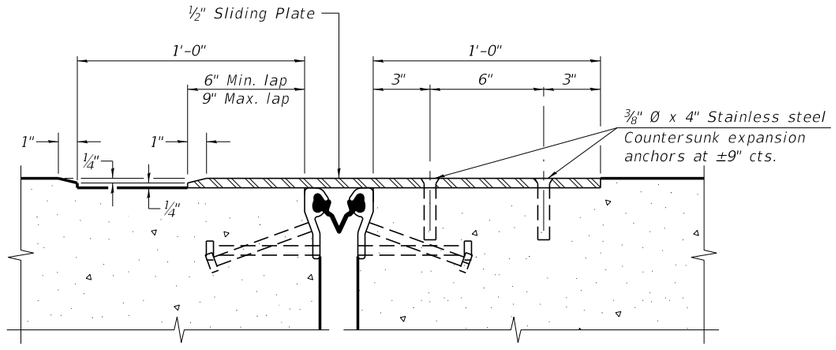
(Reinforcement not Shown for Clarity)



SECTION E-E



DETAIL 3



SECTION D-D

PRE-FINAL

NOTES:

1. See Sheet S1 for notes.
2. The exterior railings north of the expansion joint may be removed and reinstalled between existing railing splices as required.
3. The east and west exterior railings south of the joint will be removed and reinstalled between existing railing splices. The anchor bolts at the first railing post south of the joint are within the limits of Concrete Removal and thus will be removed during the joint replacement. New exterior railing anchor bolts at these two post locations shall be installed with the cost to be included with "Railing Removal and Re-Installation". Proposed anchorage shall match the existing anchorage shown on Sheet S11.

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

N. ABUTMENT EXPANSION JOINT REPLACEMENT (2 OF 3)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017

SHEET NO. S3 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

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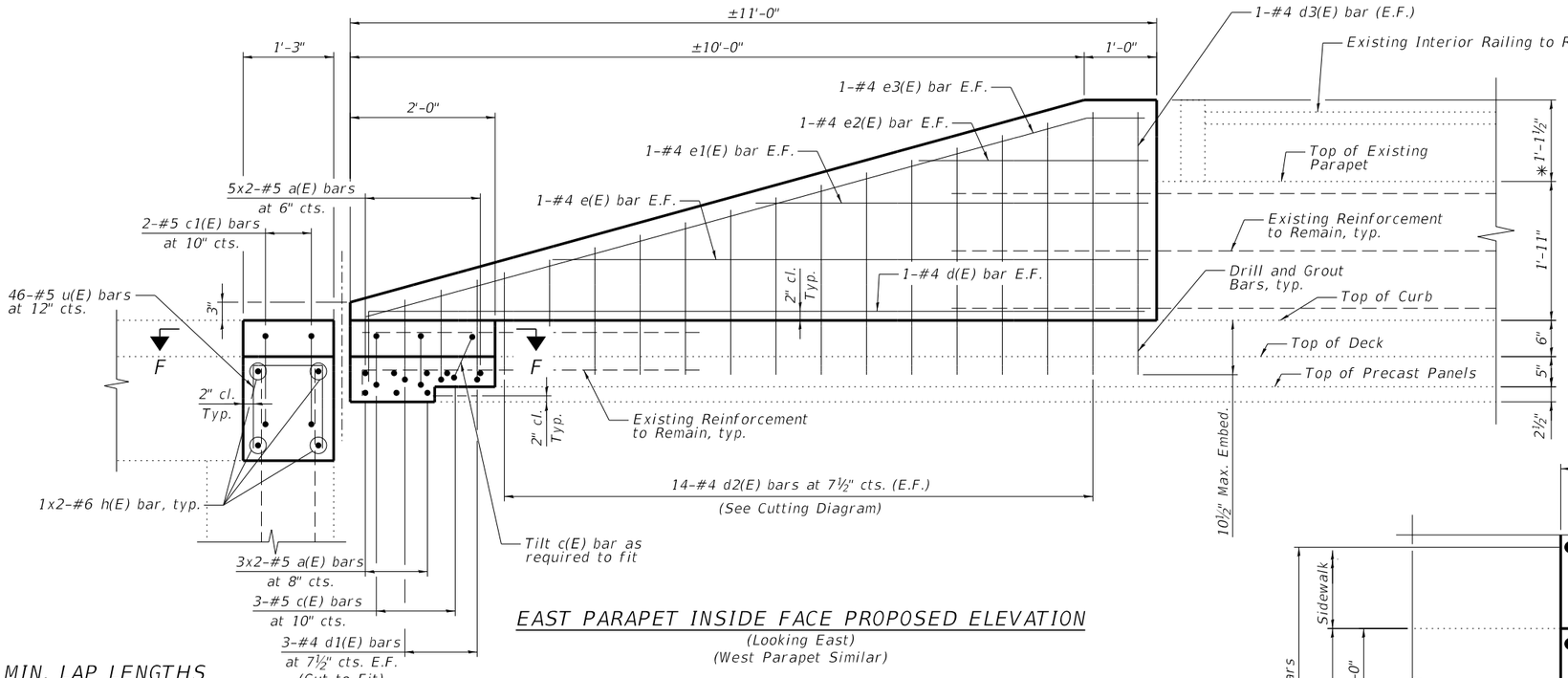
6:36:06 PM
6/27/2024

BILL OF MATERIAL

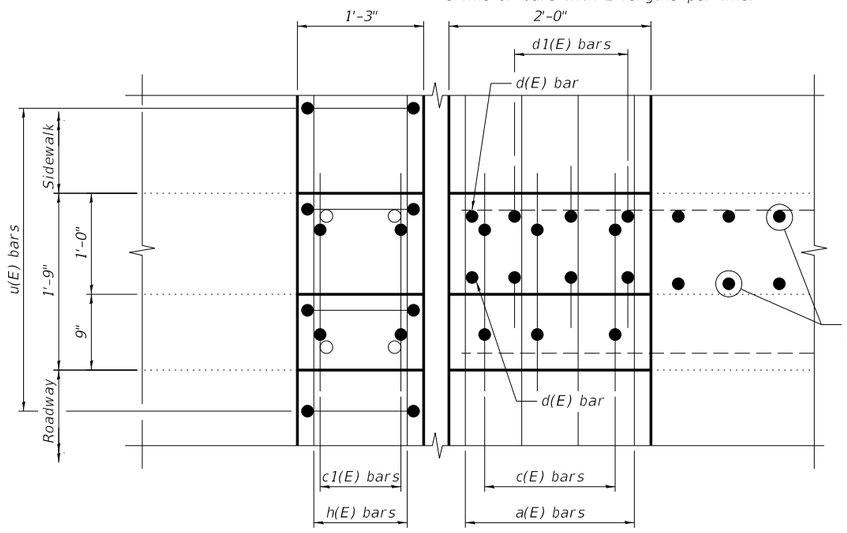
Bar	No.	Size	Length	Shape
a(E)	16	#5	24'-6"	
a1(E)	10	#5	7'-9"	
c(E)	6	#5	4'-1"	
c1(E)	4	#5	5'-5"	
d(E)	4	#4	11'-9"	
d1(E)	12	#4	1'-9"	
d2(E)	28	#4	5'-0"	
d3(E)	4	#4	3'-7"	
e(E)	4	#4	8'-3"	
e1(E)	4	#4	5'-5"	
e2(E)	4	#4	3'-3"	
e3(E)	4	#4	11'-2"	
h(E)	8	#6	25'-0"	
u(E)	46	#5	3'-1"	
Concrete Removal			Cu. Yd.	7.8
Concrete Superstructure			Cu. Yd.	7.5
Drill and Grout Bars			Each	60
Preformed Joint Strip Seal			Foot	43
Reinforcement Bars, Epoxy Coated			Pound	1,210
Railing Removal and Reinstallation			Foot	109

Bars indicated thus 1 x 2 -#5 etc. indicates 1 line of bars with 2 lengths per line.



EAST PARAPET INSIDE FACE PROPOSED ELEVATION

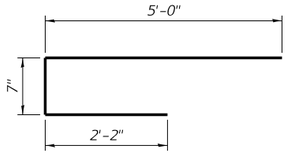
(Looking East)
(West Parapet Similar)



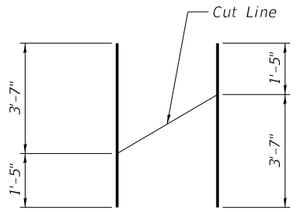
SECTION F-F

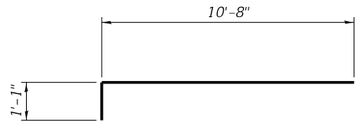
MIN. LAP LENGTHS

#5 Bar = 3'-2"
#6 Bar = 4'-4"

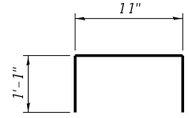


a1(E) Bar





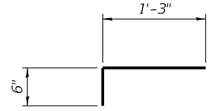
d(E) Bar



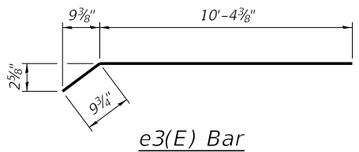
u(E) Bar

FIELD CUTTING DIAGRAM d2(E) BAR

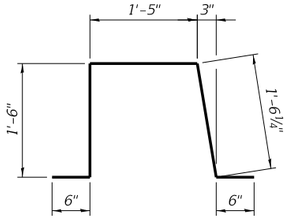
Order 14-d2(E) bars full length per parapet.
Cut as shown and use remainder of bars on the opposite face of the parapet.



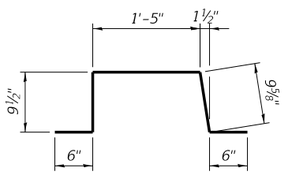
d1(E) Bar



e3(E) Bar



c1(E) Bar



c(E) Bar

NOTE:

See Sheet S1 for notes.

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Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

N. ABUTMENT EXPANSION JOINT REPLACEMENT (3 OF 3)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S4 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	4
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S4_N. Abut. Parapet
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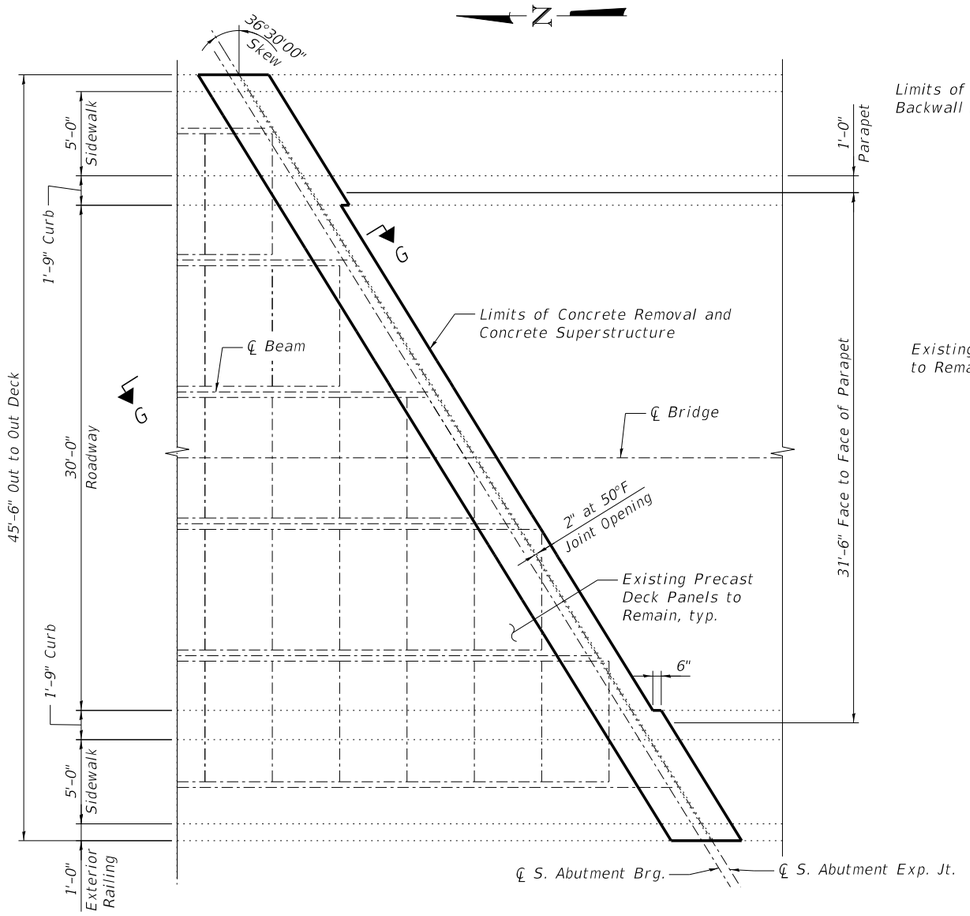
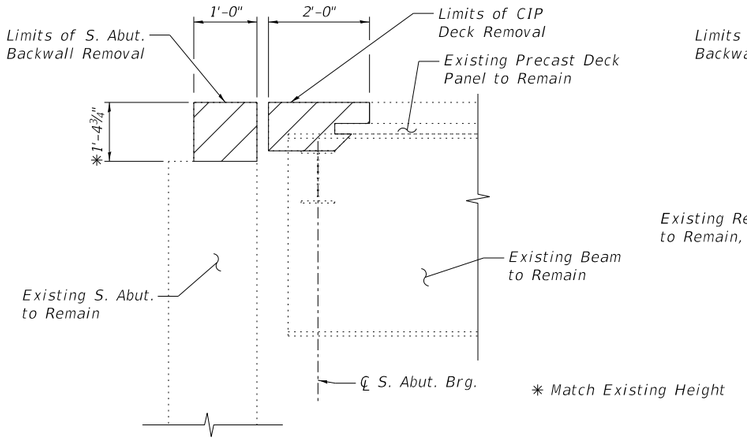
6/27/2024



SOUTH ABUTMENT EXPANSION JOINT PROPOSED PARTIAL PLAN

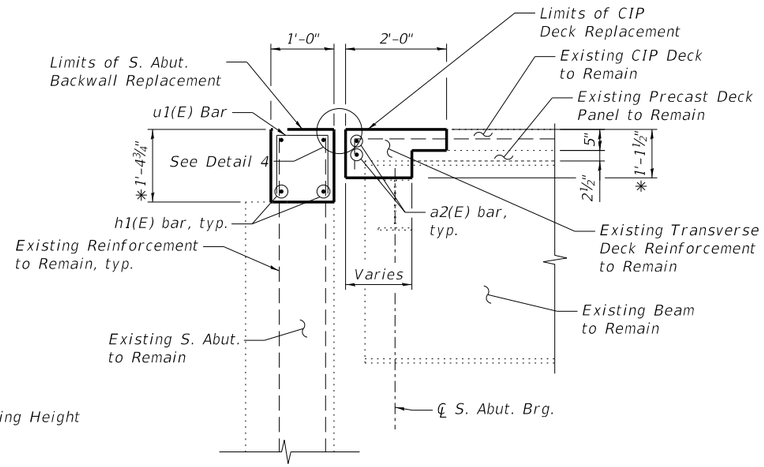
(Reinforcement not Shown for Clarity)



SECTION G-G REMOVAL

(Perpendicular to ℄ of Joint)

✳ Match Existing Height



SECTION G-G REPLACEMENT

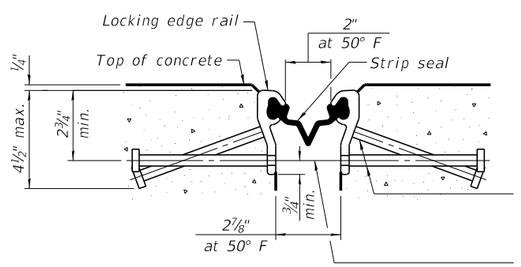
(Perpendicular to ℄ of Joint)

LEGEND:

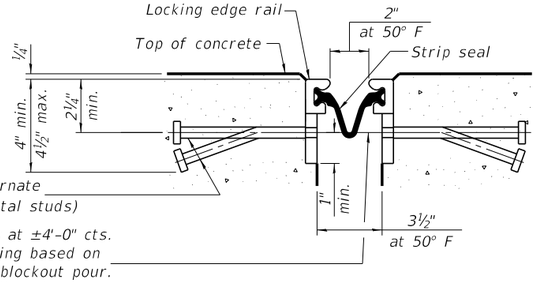
Concrete Removal

NOTES:

1. See Sheet S1 for notes.
2. See Sheet S2 for precast deck panel details.



SHOWING ROLLED RAIL JOINT



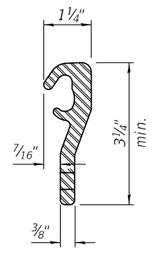
SHOWING WELDED RAIL JOINT

** ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

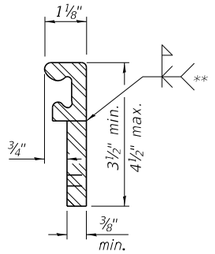
⅜" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the joint blockout pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

DETAIL 4

** Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



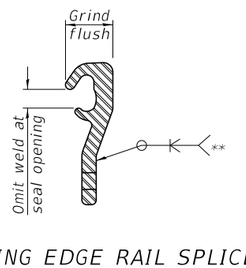
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

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	PLOT SCALE =	DRAWN - WKK	REVISED -
	PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

S. ABUTMENT EXPANSION JOINT REPLACEMENT (1 OF 3)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S5 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	5
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S5_S. Abut. Exp. Jt. Plan
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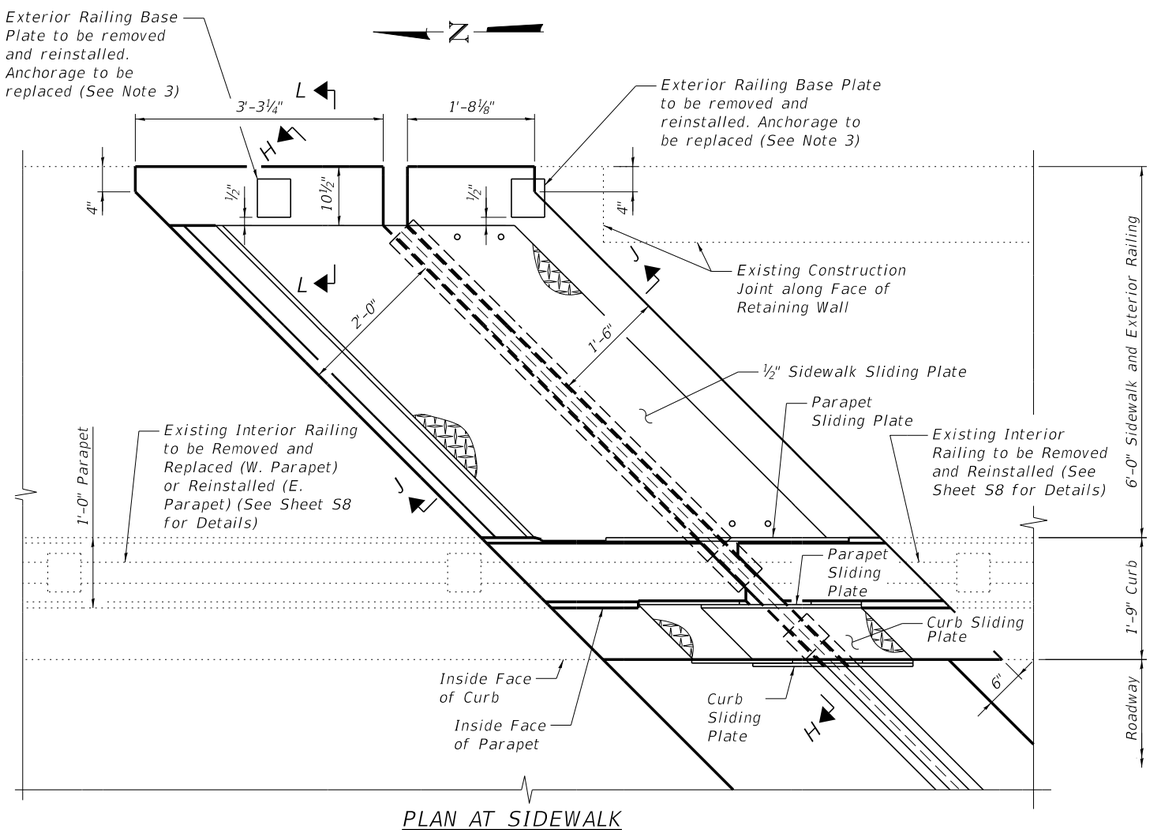
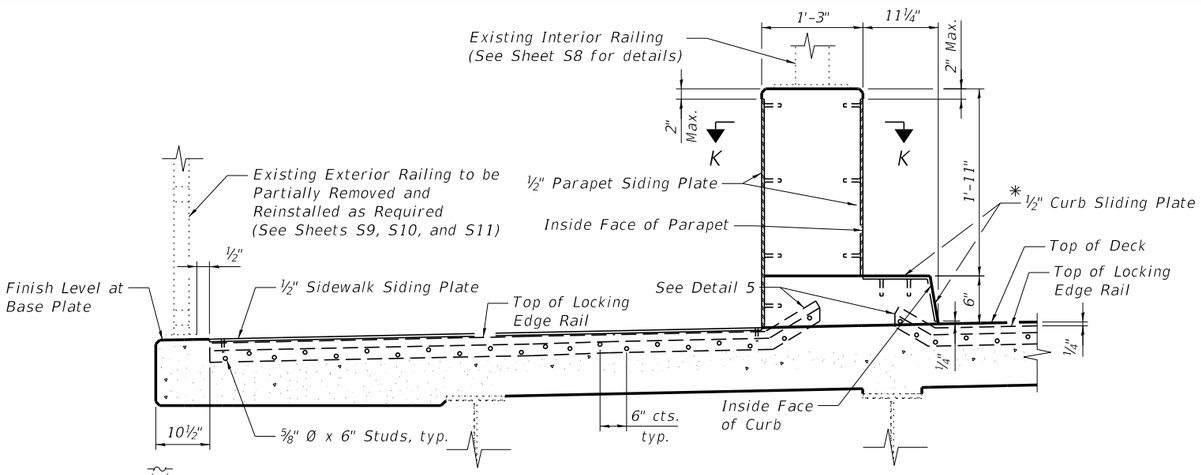
6/27/2024

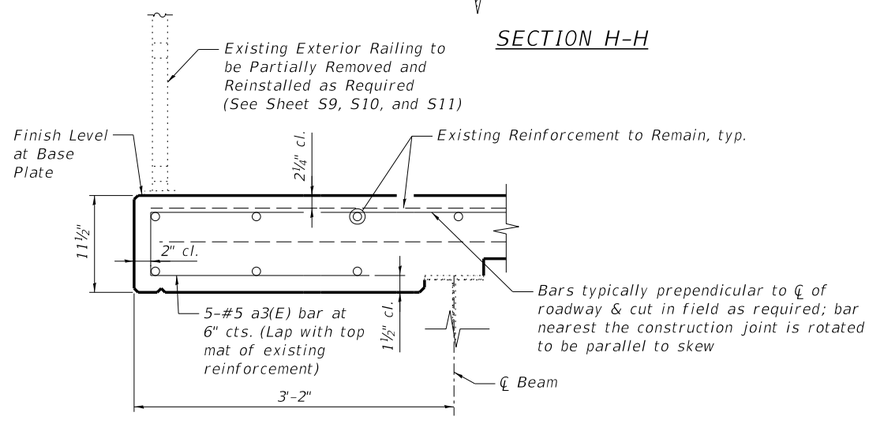


PLAN AT SIDEWALK
(E. Shown, W. Similar)

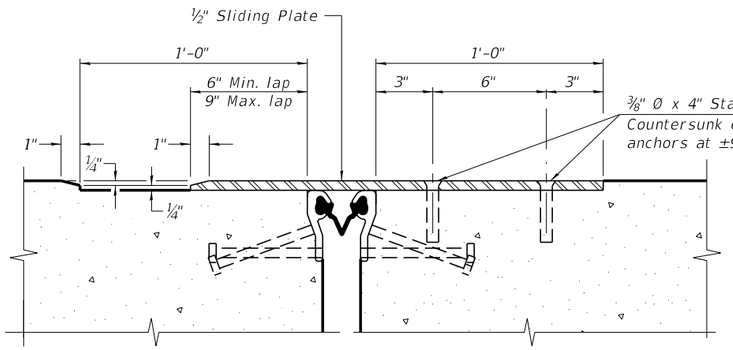


SECTION H-H

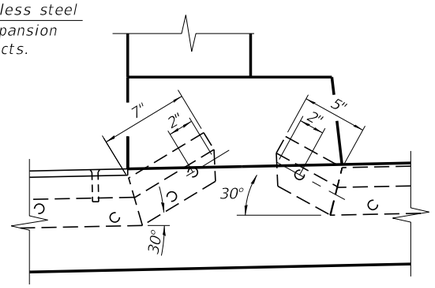
*Raised Pattern Optional on Vertical Face.



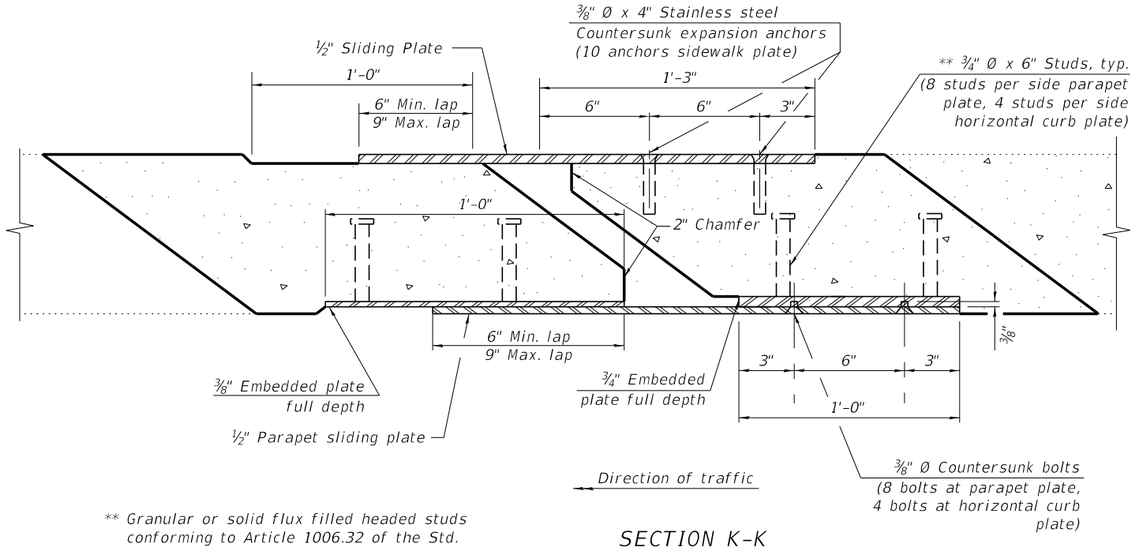
SECTION L-L



SECTION J-J



DETAIL 5



SECTION K-K

** Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

NOTES:

1. See Sheet S1 for notes.
2. See Sheet S8 for details on the interior railings north and south of the expansion joint.
3. For the east and west exterior railings, the anchor bolts at the first railing posts north and south of the joint are within the limits of Concrete Removal and thus will be removed during the joint replacement. New exterior railing anchor bolts at these four post locations shall be installed with the cost to be included with "Railing Removal and Re-Installation". Proposed anchorage shall match the existing anchorage shown on Sheet S11.

PRE-FINAL

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630-577-9100 Job No. 10483.08

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	CHECKED - DMS	REVISED -	
PLOT SCALE =	DRAWN - WKK	REVISED -	
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -	

CITY OF AURORA
KANE COUNTY

S. ABUTMENT EXPANSION JOINT REPLACEMENT (2 OF 3)
HIGH STREET BRDIGE STRUCTURE NO. 045-6017
SHEET NO. S6 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	6
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S6.S. Abut. Exp. Jt. Details
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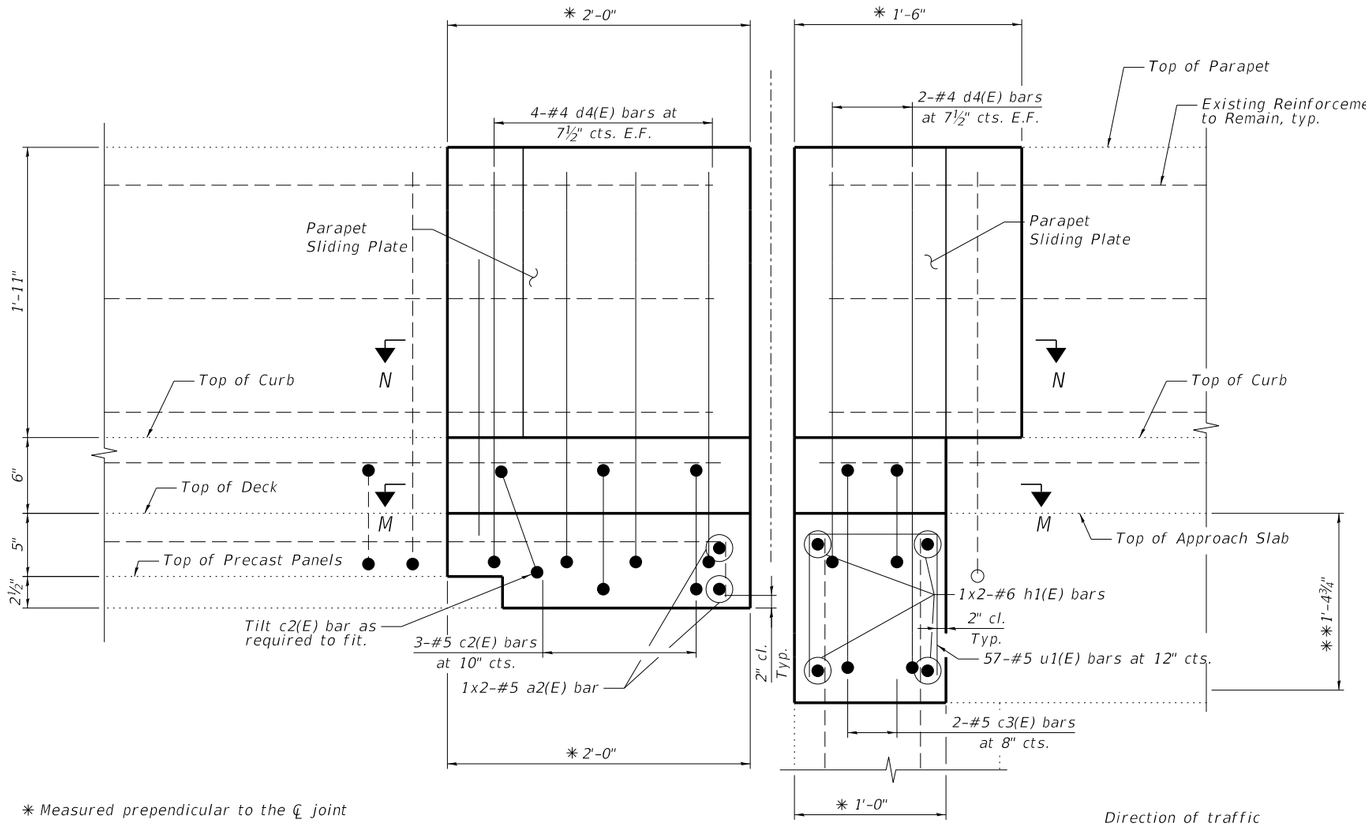
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	4	#5	30'-0"	
a3(E)	10	#5	7'-9"	
c2(E)	6	#5	4'-4"	
c3(E)	4	#5	5'-9"	
d4(E)	24	#4	3'-2"	
h1(E)	8	#6	30'-6"	
u1(E)	57	#5	2'-10"	
Concrete Removal			Cu. Yd.	7.8
Concrete Superstructure			Cu. Yd.	7.8
Preformed Joint Strip Seal			Foot	54
Reinforcement Bars, Epoxy Coated			Pound	850
Railling Removal and Reinstallation			Foot	154
△ Pedestrian Railing			Foot	22

Bars indicated thus 1 x 2 -#5 etc. indicates 1 line of bars with 2 lengths per line.

∗∗ Match Existing Height

△ West Parapet Only



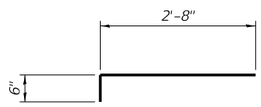
∗ Measured prependicular to the ℄ joint

INSIDE FACE EAST PARAPET PROPOSED ELEVATION

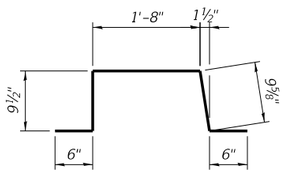
(Looking East)
(West Parapet Similar)
(Existing Interior Railing not Shown for Clarity)

MIN. LAP LENGTH

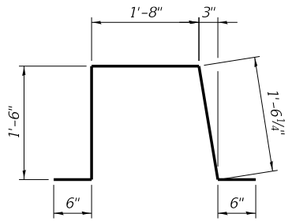
#5 Bar = 3'-2"
#6 Bar = 4'-4"



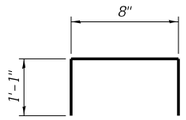
d4(E) Bar



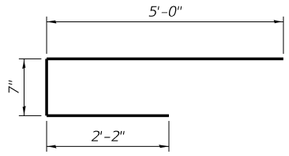
c2(E) Bar



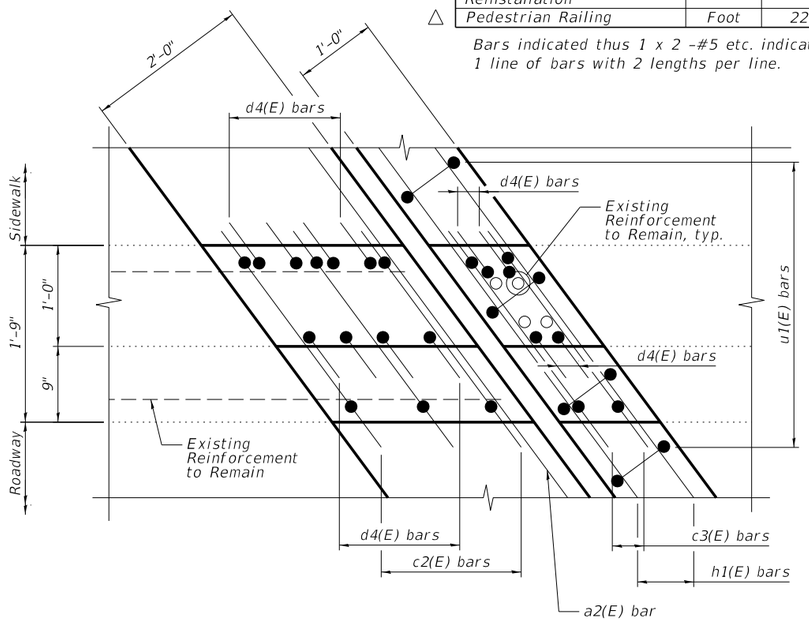
c3(E) Bar



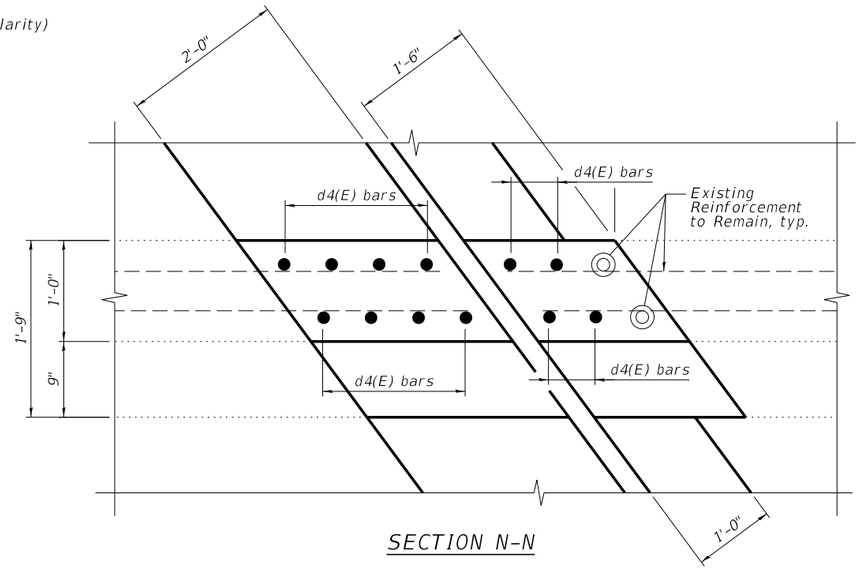
u1(E) Bar



a3(E) Bar



SECTION M-M



SECTION N-N

NOTES:

1. See Sheet S1 for notes.
2. If the existing name plate is impacted by the parapet removal and replacement, the name plate shall be removed and replaced. Cost to be included with "Concrete Removal".
3. See Sheet S8 for interior railing details.

PRE-FINAL

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USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

S. ABUTMENT EXPANSION JOINT REPLACEMENT (3 OF 3)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S7 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	7
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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WEST INTERIOR RAILING END POST AT SOUTH EXPANSION JOINT
(Looking Down)

WEST INTERIOR RAILING END POST AT SOUTH EXPANSION JOINT
(Looking East)

WEST INTERIOR RAILING REPAIRS:

1. At the South Expansion Joint on the west parapet, the existing interior railing post north of the joint would land on the proposed parapet joint opening. To fix this issue, the affected section of railing (railing splice to railing splice) shall be removed and replaced.
2. The limits of the removed and replaced railing shall be one section of the railing north of the joint until the first railing splice.
3. The removed section of railing shall be disposed of and any abandoned anchor bolts shall be cut flush with the top of the parapet.
4. Proposed anchor bolts shall be installed as to miss existing reinforcement.
5. The post spacing shall be adjusted such that the last post is clear of the joint blockout. A minimum edge distance of 6" from the edge of concrete to the anchor bolts shall be provided for proposed interior railing. Rail posts shall be installed with a maximum spacing of 9'-0".
6. The proposed railing, posts, and anchorage shall match the existing interior railing, posts, and anchorage shown on Sheets S10 & S11.

NOTES:

1. See Sheet S1 for notes.
2. All work to furnish and erect the proposed west interior railing at the South Expansion Joint shall be performed per Section 509 of the Standard Specifications and paid for under the pay item "Pedestrian Railing".
3. On the west parapet, the existing interior railing post south of the existing parapet open joint at the South Expansion Joint does not require relocation and can be removed and reinstalled.
4. The interior railing on the east parapet at the South Expansion Joint does not require relocation and can be removed and reinstalled.
5. See Sheets S9 thru S11 for railing details.

PRE-FINAL

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Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

INTERIOR RAILING REPAIRS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S8 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	8
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S8_Railing Repairs
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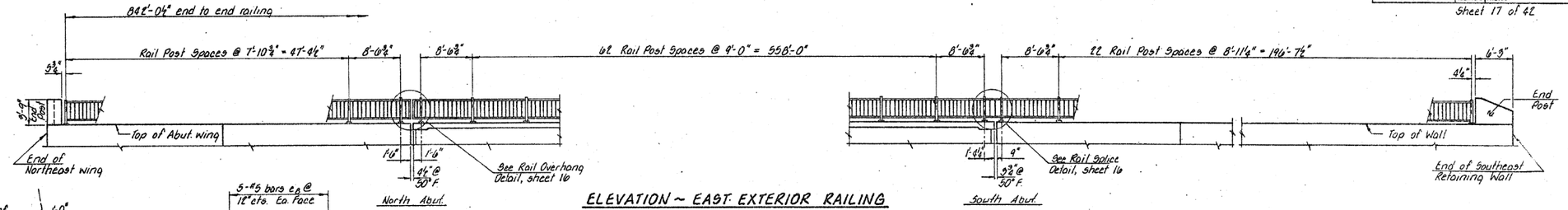
6/27/2024

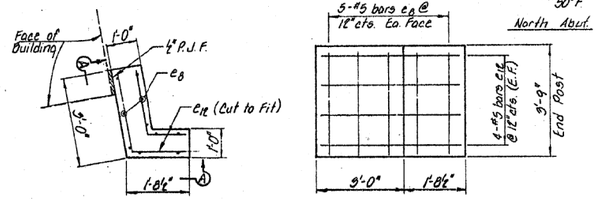
ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	83-00155-00-BR	AURORA	60	35
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Sheet 17 of 62



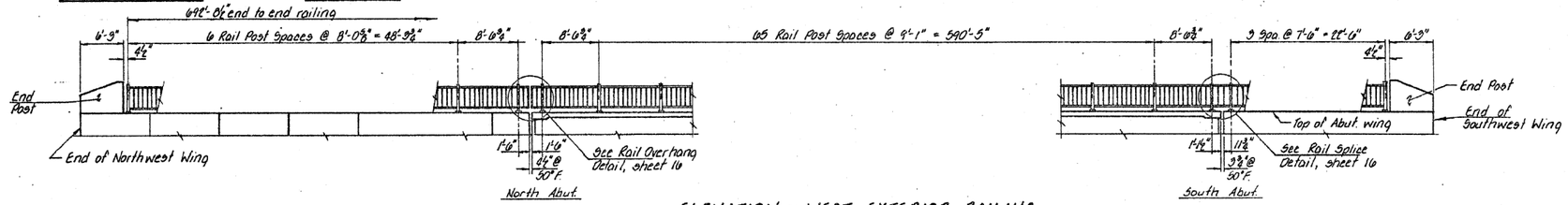
ELEVATION ~ EAST EXTERIOR RAILING

LOOKING EAST



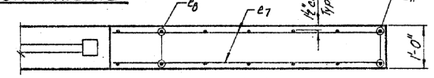
CORNER DETAIL

VIEW A-A

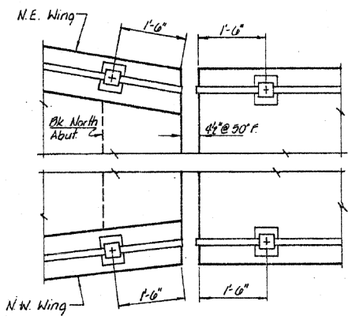


ELEVATION ~ WEST EXTERIOR RAILING

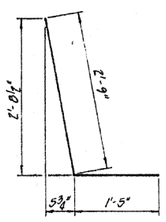
LOOKING EAST



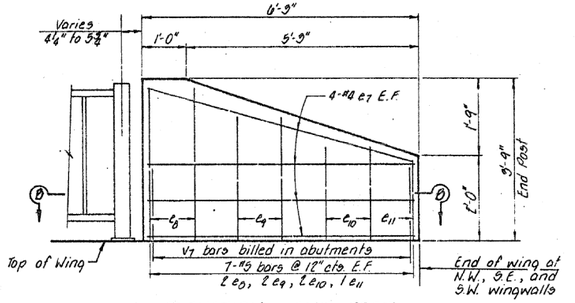
SECTION B-B



PLAN VIEW AT RAIL OVERHANG



BAR e12



ELEVATION ~ END POST

Note ~ Concrete end posts shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
e7	24	#8	6'-0"	—
e9	22	#5	3'-7"	—
e9	18	#5	2'-11"	—
e10	12	#5	2'-3"	—
e11	0	#5	1'-11"	—
e12	8	#5	4'-2"	L
Reinforcement Bars (Epoxy Coated)		Pound	290	
Class X Concrete		Cu. Yd	2.7	
Aluminum Railing, Exterior		Lin Ft.	1,595	

All reinforcement listed above shall be epoxy coated.

Work this sheet with sheets 16 & 18

EXTERIOR RAILING DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S. CHECKED A.R.K.
DRAWN M.G. DATE 8-17-84 NO 18112

10-1-84

PRE-FINAL

FOR INFORMATION ONLY

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1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

EXTERIOR RAILING DETAILS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S9 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	9
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S9_Exterior Railing Details
FILE NAME: ...\Plans\045-6017-plans_dgn.dgn

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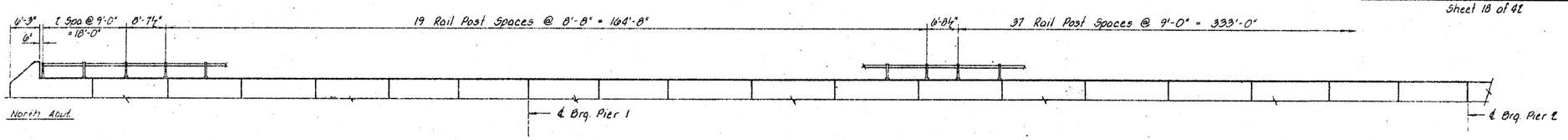
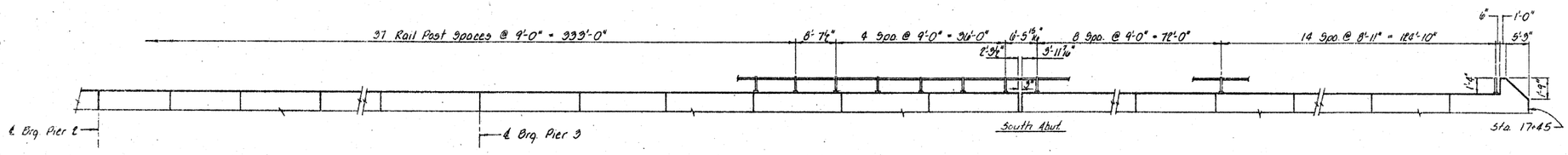
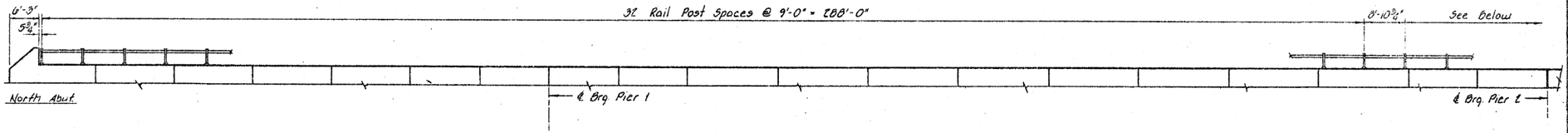
ROUTE NO	SECTION	CITY	TOTAL SHEETS	SHEET NO
HIGH STREET	83-00155-00-BR	AURORA	60	36
FED ROAD DIST NO 1	ILLINOIS PROJECT			

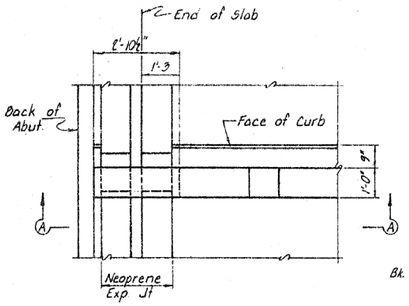
Sheet 18 of 42





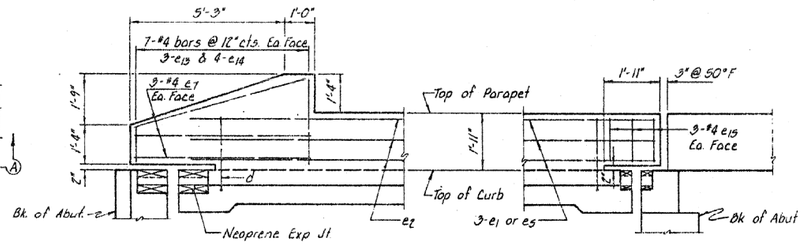
ELEVATION - EAST INTERIOR RAILING
LOOKING EAST





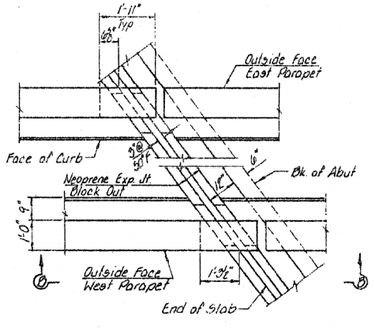
PLAN - PARAPET OVERHANG
NORTH ABUTMENT

ELEVATION - WEST INTERIOR RAILING
LOOKING EAST



SECTION A-A

SECTION B-B



PLAN - PARAPET OVERHANGS
SOUTH ABUTMENT

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Aluminum Railing, Interior	Lin. Ft.	1,510

Work this sheet with sheets 16 & 17.

INTERIOR RAILING DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S	CHECKED R.M.B		
DRAWN M.G	DATE 8-17-84	NO 1811 C	

IC-1-84

PRE-FINAL

FOR INFORMATION ONLY

MODEL: S10.Interior Railing Details
FILE NAME: ...\Plans\045-6017-plans.dgn

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

INTERIOR RAILING DETAILS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S10 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	10
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

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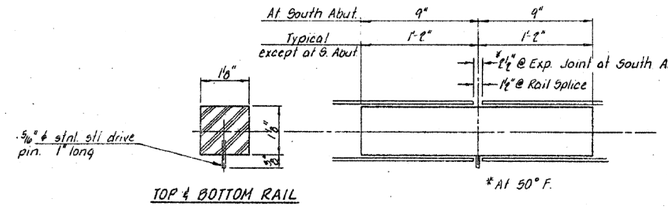
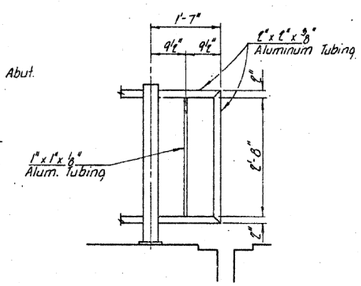
ROUTE NO	SECTION	CITY	TOTAL SHEETS	SHEET NO
HIGH STREET	83-00155-00-BR	AURORA	60	34
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Sheet 11 of 42

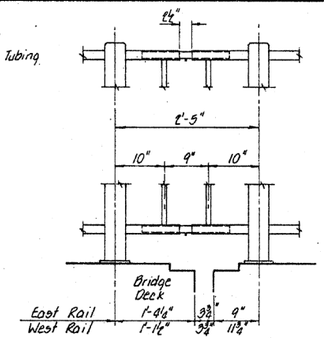


TOP & BOTTOM RAIL SPLICE BAR

RAIL SPLICE



RAIL OVERHANG AT NORTH ABUT.



RAIL SPLICE AT SOUTH ABUT.

EXTERIOR RAILING DETAILS AT ABUTMENTS

NOTES

All posts shall be normal to parapet or curb.

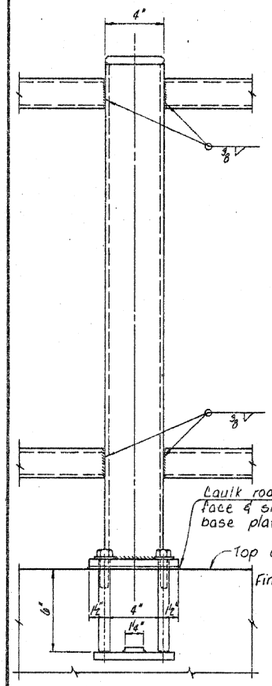
All joints in rail shall be spliced per detail. Splices shall be provided at the one quarter points of the horizontal rail span between posts and not more than three posts shall be included between any two splices.

Provide 1/8" and 2/16" Aluminum Shims for 25% of the posts. Horizontal rail elements shall be parallel to grade. High spots shall be ground and low spots shimmed.

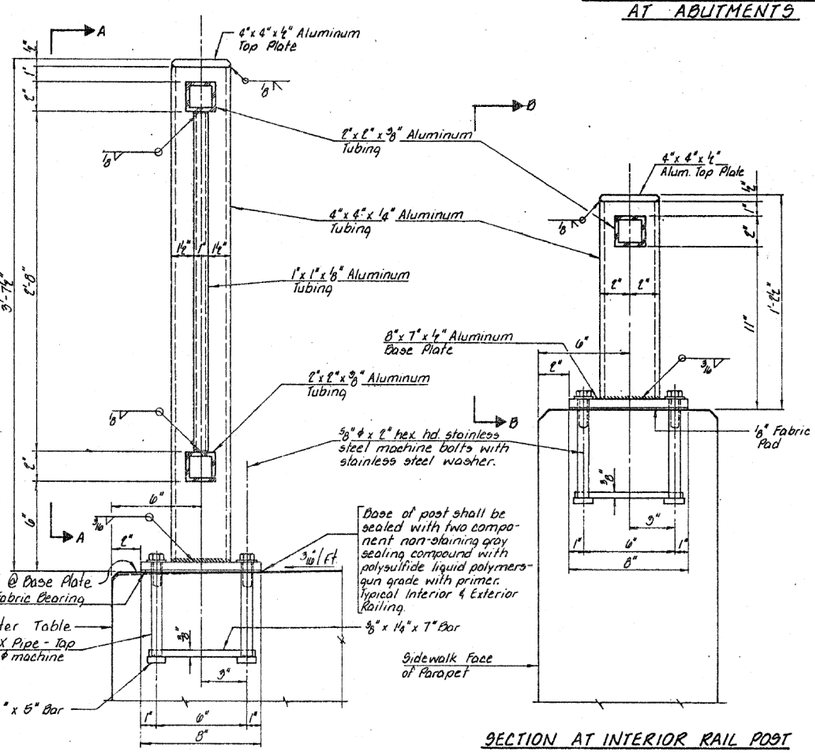
Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for ALUMINUM RAILING.

Aluminum alloy extruded rail shall conform to ASTM B221 alloy 6061-T6 or 6351-T5 with minimum yield 35 ksi, minimum tensile 38 ksi, and elongation of 10% in 2 inches.

Aluminum surfaces to come in contact with steel shall be painted in accordance with Section 1.3.4 of the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" published by the American Association of State Highway and Transportation Officials. Members which are covered by this specification are the Rail Post Base Plates.

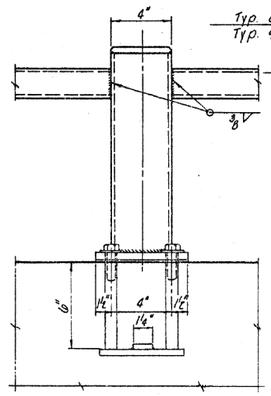


VIEW A-A



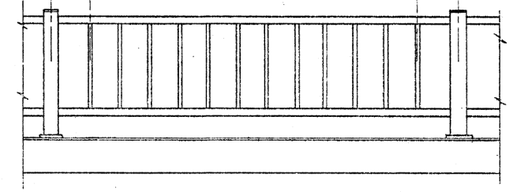
SECTION AT EXTERIOR RAIL POST

SECTION AT INTERIOR RAIL POST

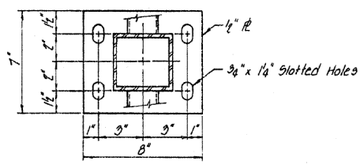


VIEW B-B

Typ. 7'-6"	9"	9 spaces @ 8" = 6'-0"	9"
Typ. 7'-10¾"	11⅜"	9 spaces @ 8" = 6'-0"	11⅜"
Typ. 8'-0⅝"	8⅝"	10 spaces @ 8" = 6'-8"	8⅝"
Typ. 8'-6⅝"	11⅞"	10 spaces @ 8" = 6'-8"	11⅞"
Typ. 8'-11¼"	9⅝"	11 spaces @ 8" = 7'-4"	9⅝"
Typ. 9'-0"	10"	11 spaces @ 8" = 7'-4"	10"
Typ. 9'-1"	10¼"	11 spaces @ 8" = 7'-4"	10¼"



TYPICAL EXTERIOR RAILING SECTION



BASE PLATE

Work this sheet with sheet 17 & 18.

RAILING DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S. CHECKED A.R.K.
DRAWN M.G. DATE 8-17-84 NO. 10112

10-1-84

PRE-FINAL

FOR INFORMATION ONLY

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - DMS	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - DMS	REVISED -

CITY OF AURORA
KANE COUNTY

RAILING DETAILS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S11 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	11
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

MODEL: S11_Railing Details
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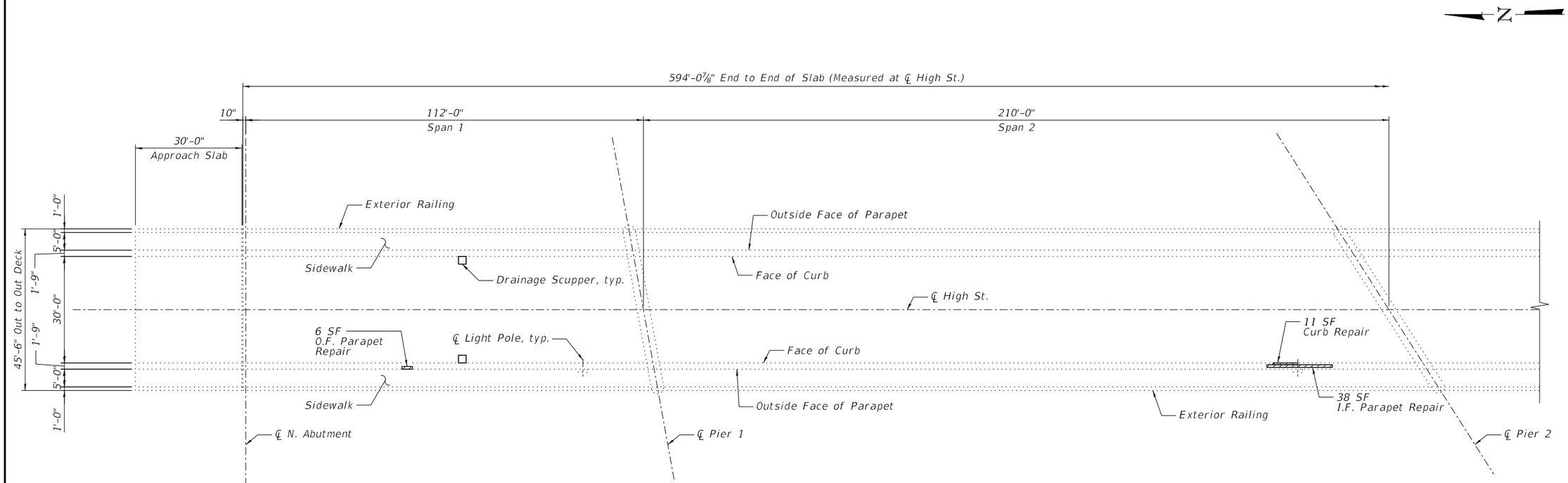
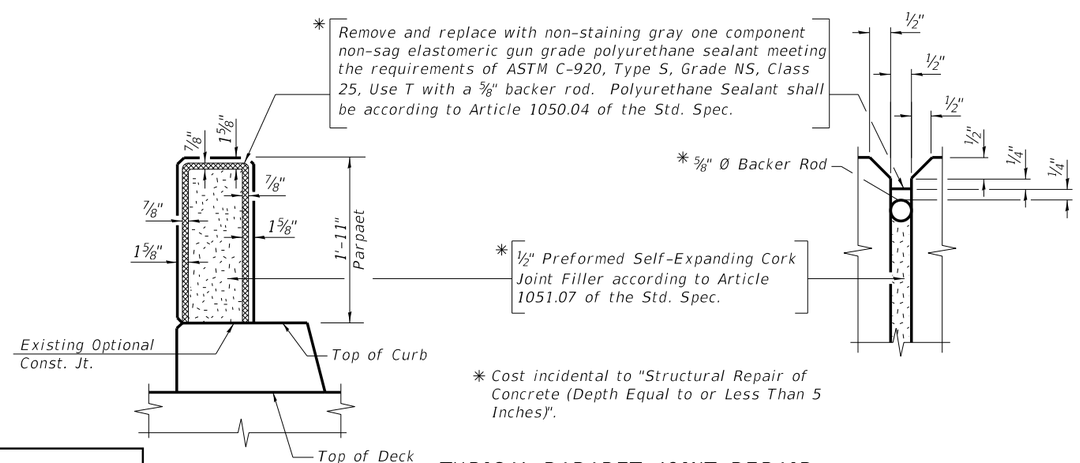


GENERAL PLAN - SPANS 1 & 2



* Cost incidental to "Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)".

TYPICAL PARAPET JOINT REPAIR

(Adjacent to concrete repairs)

PRE-FINAL

LEGEND:

Structural Repair of Concrete

NOTES:

1. Light standard bases shall be cleaned and painted. Cost included with "Cleaning and Painting Structural Steel, Location 1". See Sheet S19 for limits of painting.
2. Drainage scuppers and downspouts shall be cleaned.
3. See Sheet S13 for Bill of Materials.
4. If existing interior railing interferes with Structural Repair of Concrete limits, the interior railing shall be removed and reinstalled.
5. Contractor to sawcut parapet joint, remove, replace, reshape, renose joint during structural repair of concrete, replace cork joint filler and reseal. Sawcut joints to be full height or full thickness of parapet. Minimum depth and width of all repair areas shall be 2".

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630-577-9100 Job No. 10483.08

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	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

GENERAL PLAN (1 OF 2)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S12 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	12
		CONTRACT NO.		
ILLINOIS FED. AID PROJECT				

MODEL: S12_General Plan
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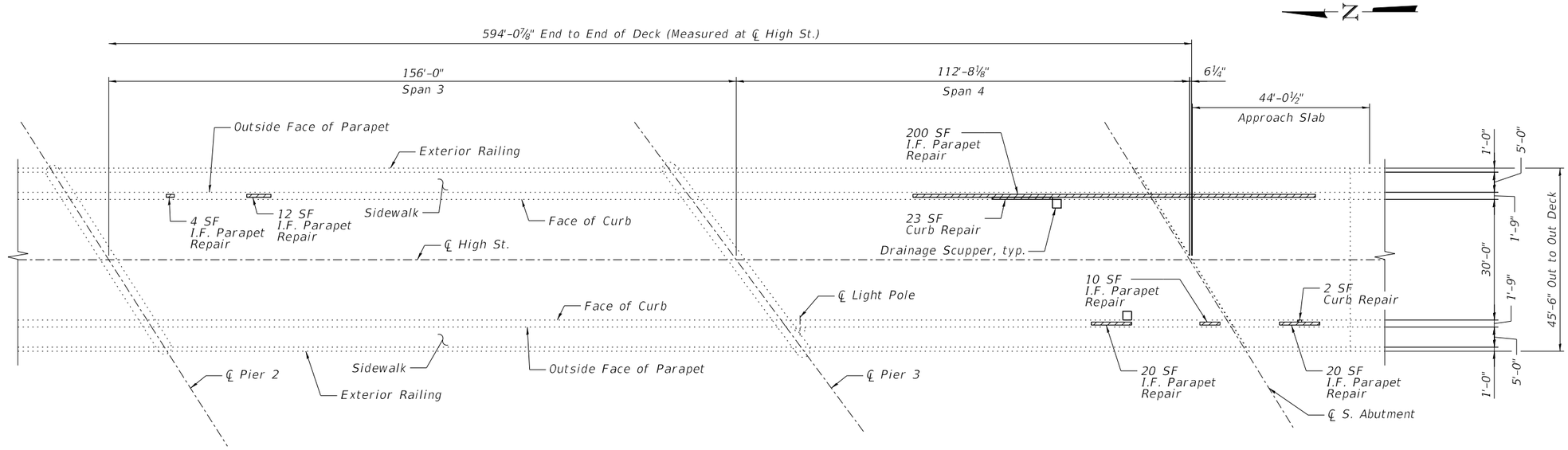
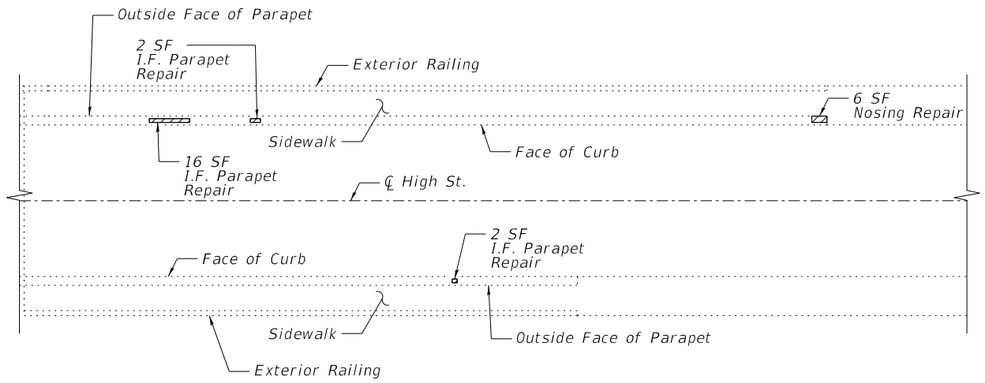


GENERAL PLAN – SPANS 3 & 4



GENERAL PLAN – SOUTH APPROACH PAVEMENT

LEGEND:

Structural Repair of Concrete

BILL OF MATERIAL

ITEM	UNIT	TOTAL
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	372
CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	EACH	4

NOTES:

1. Light standard bases shall be cleaned and painted. See Sheet S19 for limits of painting.
2. Drainage scuppers and downspouts shall be cleaned.
3. If existing interior railing interferes with Structural Repair of Concrete limits, the interior railing shall be removed and reinstalled.

PRE-FINAL

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Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

GENERAL PLAN (2 OF 2)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S13 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	13
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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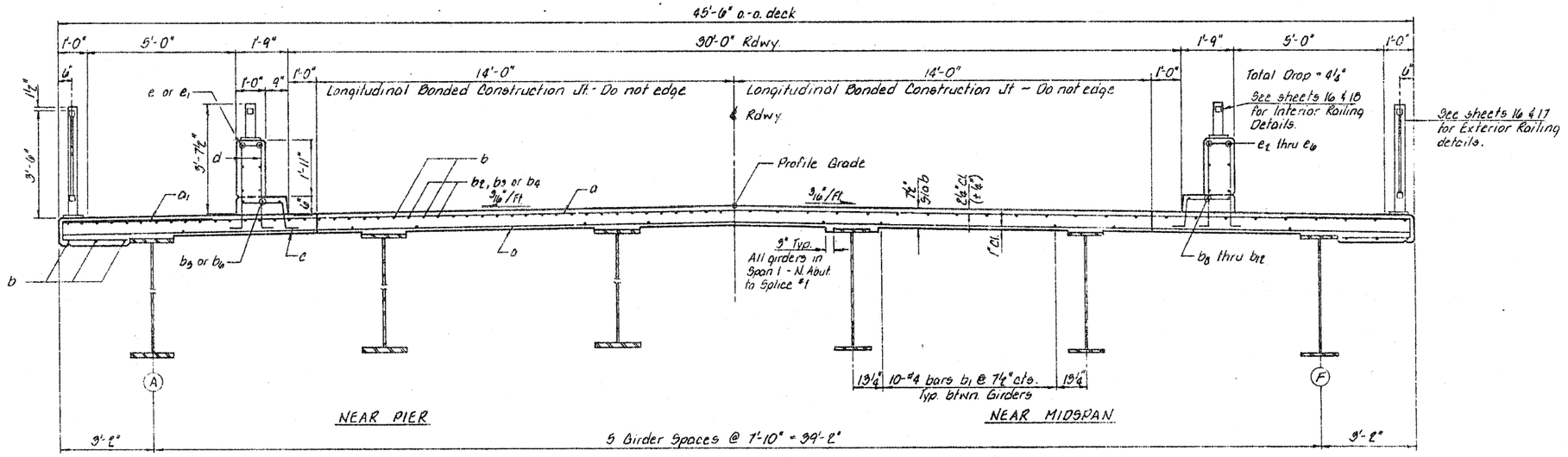
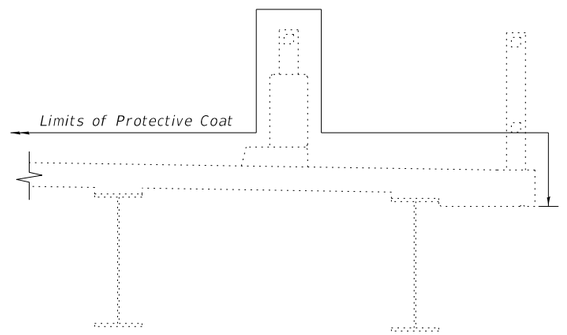


CROSS SECTION
(LOOKING SOUTH)



LIMITS OF PROTECTIVE COAT
(Application of Protective Coat is Symmetric about the ℄ of Roadway)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
PROTECTIVE COAT	SQ YD	3,947

NOTE:
Place Protective Coat on deck, approach slabs, sidewalks, and vertical and top faces of the curbs and parapets.

PRE-FINAL

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

PROTECTIVE COAT DETAILS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S14 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	14
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: S14_Limits of Protective Coat
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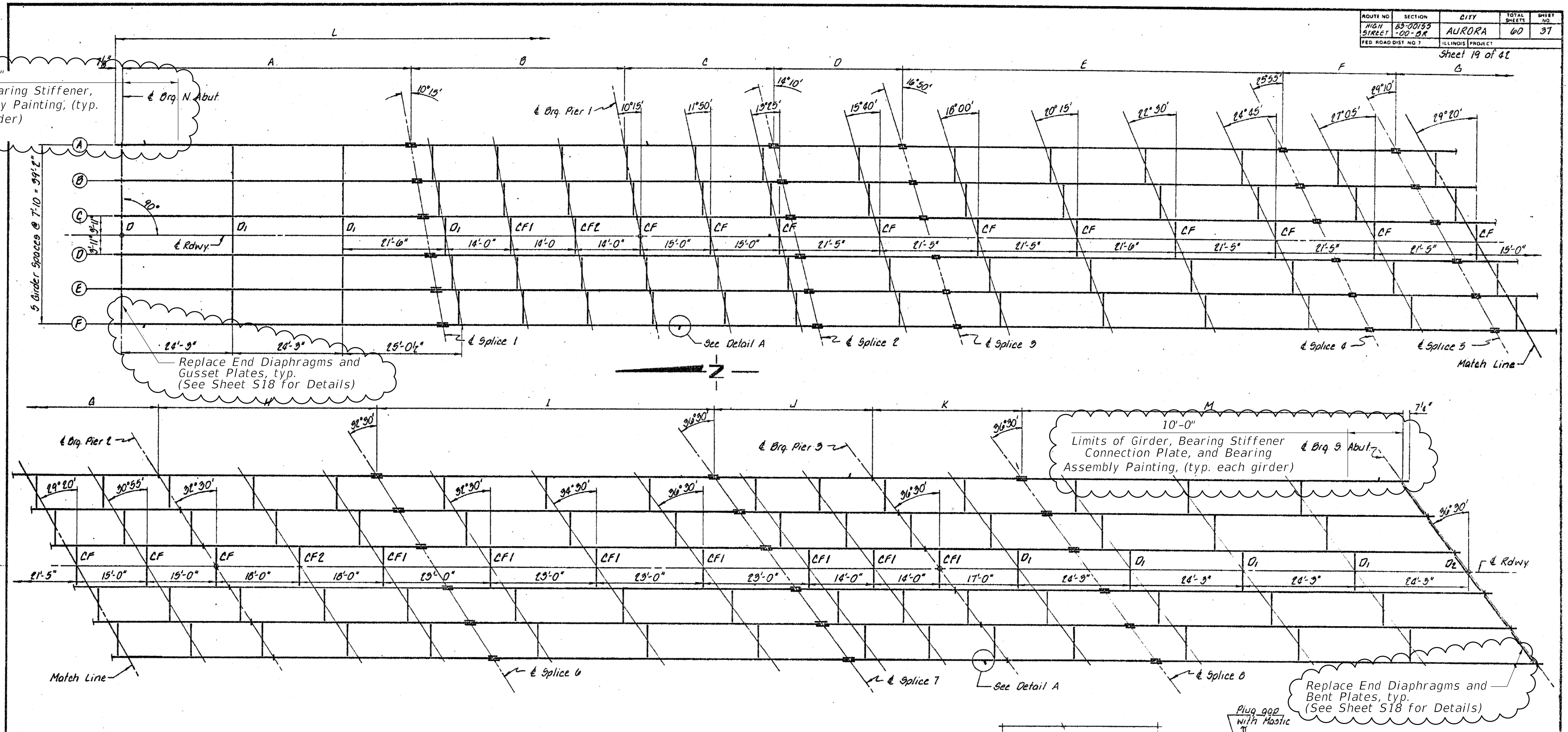
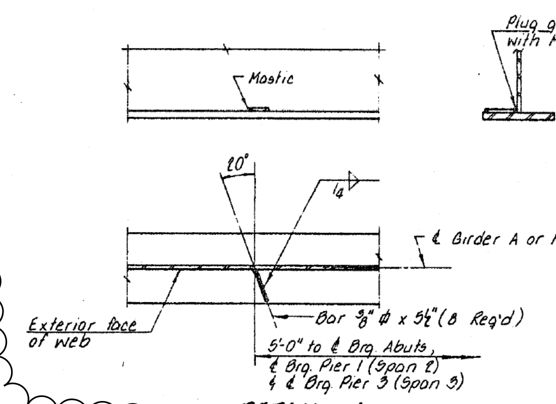


FRAMING PLAN



DETAIL A

FRAMING PLAN
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77
COLLINS AND RICE CONSULTING ENGINEERS

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	Pound	3,630
Cleaning and Painting Structural Steel, Location 1	L Sum	1
Containment and Disposal of Non-Lead Paint Cleaning Residues, No. 1	L Sum	1
Bridge Cleaning and Painting Warranty	L Sum	1
Structural Steel Removal	Pound	3,630

PRE-FINAL

SIGNS ON FASCIA BEAMS AT NORTH ABUTMENT

NOTES:

1. See Sheet S1 for painting notes.
2. The girder ends, bearings, bearing stiffeners, and connection plates shall receive a SSPC-SP10 surface preparation and an IDOT Paint System 1 per the Special Provision for Cleaning and Painting Existing Steel Structures. All steel shall be painted dark maroon to match existing color.
3. At the North and South Abutments, the end diaphragms labled D and D2 shall be removed and replaced in kind. See Sheet S18 for diaphragm details.
4. Existing signs on the fascia beams at North Abutment within the limits of cleaning and painting shall be removed and reinstalled. Cost included with "Cleaning and Painting Structural Steel, Location 1".

benesch	USER NAME = kkenny	DESIGNED - WKK	REVISED -	CITY OF AURORA KANE COUNTY	FRAMING PLAN HIGH STREET BRIDGE STRUCTURE NO. 045-6017
Alfred Benesch & Company, 1230 E Diehl Rd Suite 109, Naperville, Illinois 60563, 630-577-9100, Job No. 10483.08	PLOT SCALE =	CHECKED - KJN	REVISED -		SHEET NO. S15 OF S25 SHEETS
	PLOT DATE = 6/27/2024	DRAWN - WKK	REVISED -		
		CHECKED - KJN	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	15

CONTRACT NO.

ILLINOIS FED. AID PROJECT

MODEL: S15_Framing Plan
FILE NAME: ...\Plans\045-6017-plans.dgn.dgn

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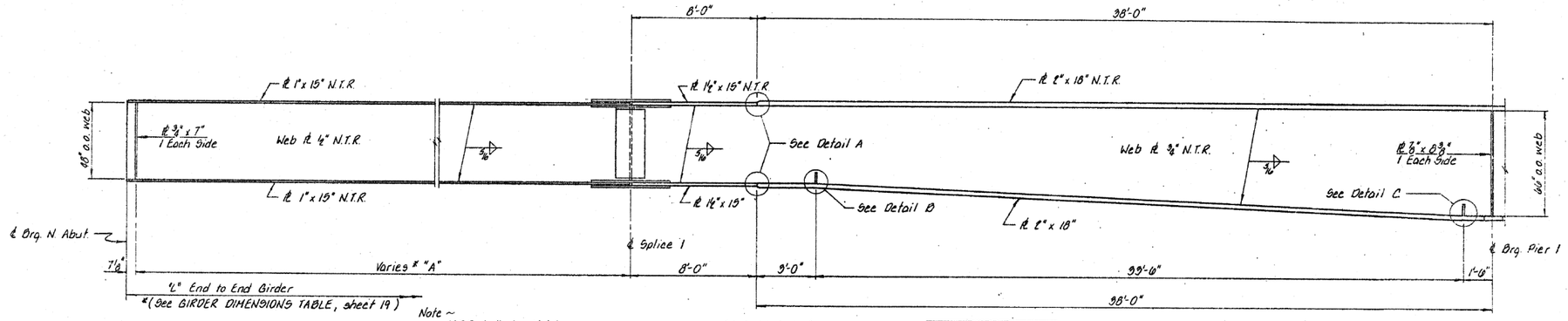
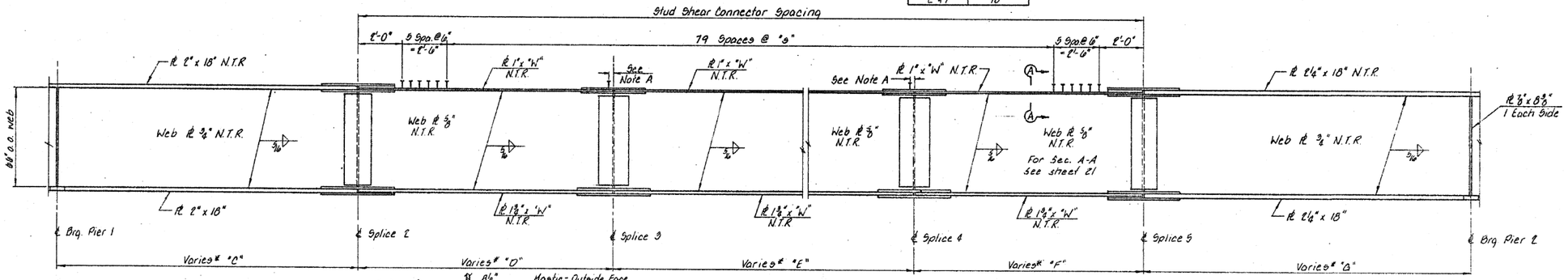
ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	83-00155-00-BR	AURORA	60	38
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT		



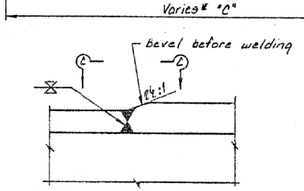
Note ~
N.T.R. indicates Notch Toughness Requirements, Zone 2.

ELEVATION
SPAN 1

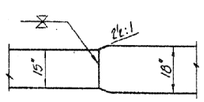
GIRDERS	"W"
A & B	14"
C & D	16"
E & F	18"



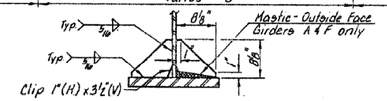
ELEVATION
SPAN 2



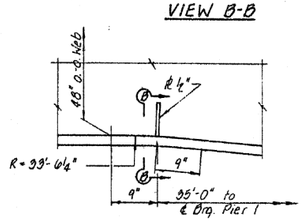
DETAIL A



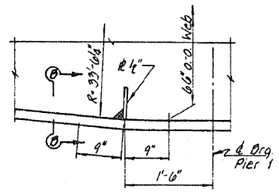
VIEW C-C



VIEW B-B



DETAIL B



DETAIL C

SHEAR CONNECTOR SPACING "S"

GIRDER	"S"
A	± 1'-7"
B	± 1'-7⅜"
C	± 1'-7⅛"
D	± 1'-8"
E	± 1'-8⅛"
F	± 1'-8⅜"

Note A ~ Connector row spacing "S" shall be adjusted by the engineer in the field if required within the limits of flange splice plates @ Splices 3 & 4 to provide a minimum clearance of 6" between the ℄ of splice and nearest connector row to the ℄ of splice.

GIRDER DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED A.R.K. CHECKED W.R.W.
DRAWN M.G. DATE 8-17-84 No. 1811.2

10-1-84

NOTES:
1. See Sheet S15 for limits of girder painting.
2. See Sheet S1 for painting notes.

PRE-FINAL

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

GIRDER ELEVATION (1 OF 2)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S16 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	16
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: S16_Girder Elevation 1
FILE NAME: ...\Plans\045-6017-plans.dgn.dgn

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6/27/2024

ROUTE NO	SECTION	CITY	TOTAL SHEETS	SHEET NO
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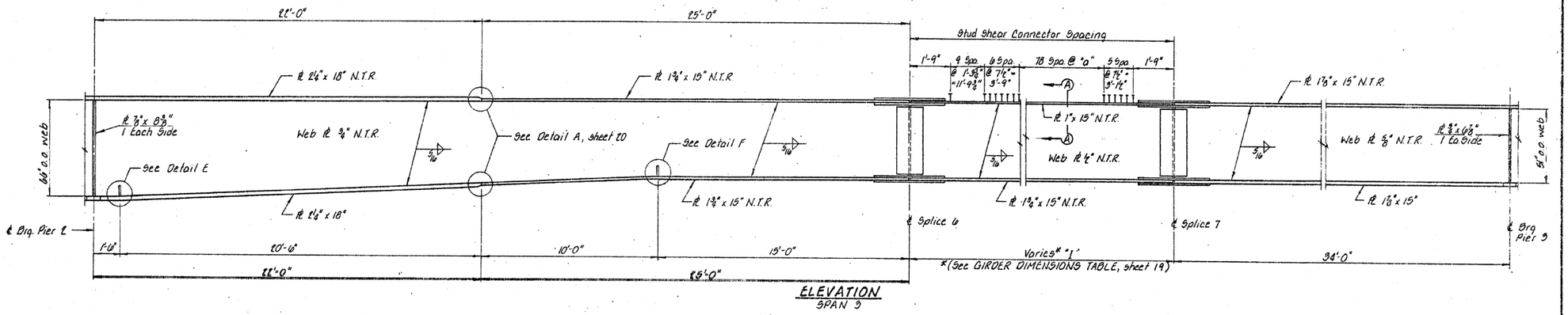
FED. ROAD DIST NO 7		ILLINOIS PROJECT		

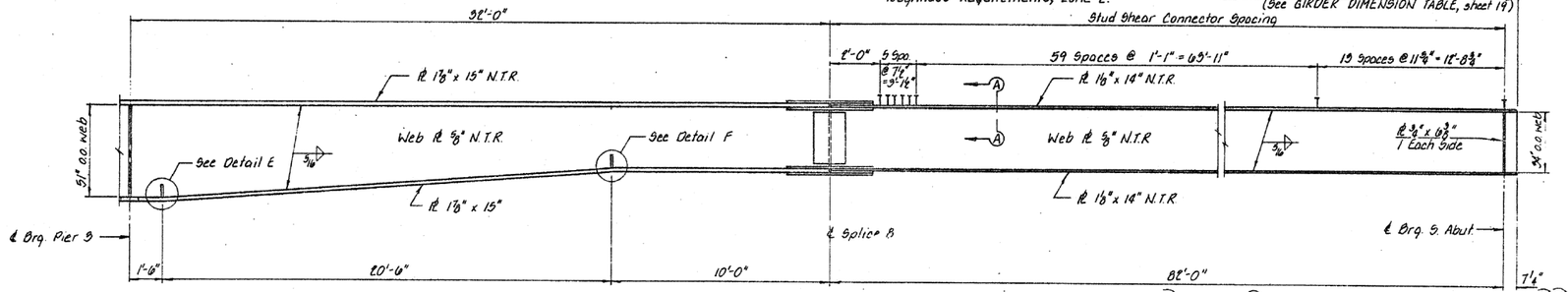
Sheet 21 of 41



ELEVATION
SPAN 3

Note ~
N.T.R. indicates Notch Toughness Requirements, Zone 2.

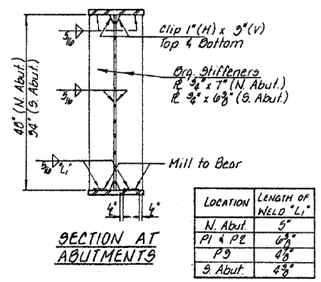
"L" End to End Girder (See GIRDER DIMENSION TABLE, sheet 19)



ELEVATION
SPAN 4

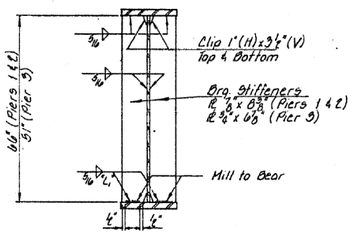
SHEAR CONNECTOR SPACING "Q"

GIRDER	"Q"
A	± 1⅞"
B	± 8"
C	± 8⅛"
D	± 8⅛"
E	± 8⅜"
F	± 8½"

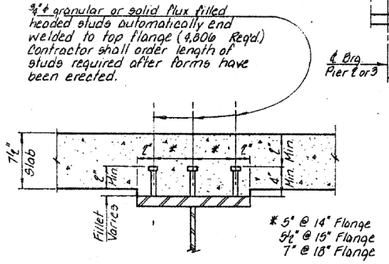


SECTION AT ABUTMENTS

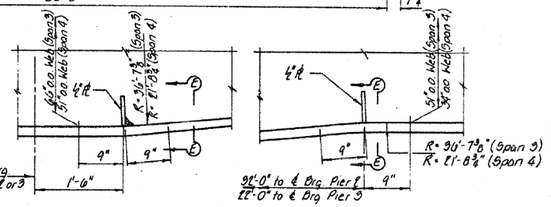
LOCATION	LENGTH OF WELD "L"
N. Abut.	5"
P1 & P2	6⅝"
P3	4⅞"
S. Abut.	4⅜"



SECTION AT PIERS

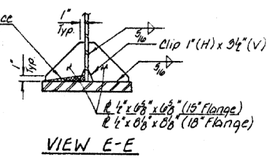


SECTION A-A



DETAIL E

DETAIL F



VIEW E-E

GIRDER DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED A.R.K
DRAWN M.G
CHECKED W.R.W
DATE 8-17-04 NO 1811.2

10-1-24

NOTES:
1. See Sheet S15 for limits of girder painting.
2. See Sheet S1 for painting notes.

PRE-FINAL

benesch
Altrec Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

GIRDER ELEVATION (2 OF 2)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S17 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	17
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: S17-Girder Elevation 2
FILE NAME: ...\Plans\045-6017-plans.dgn

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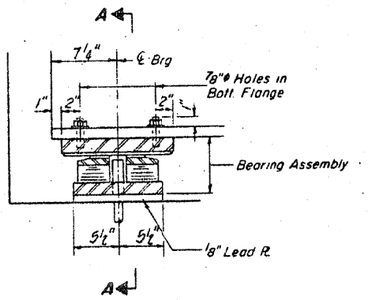
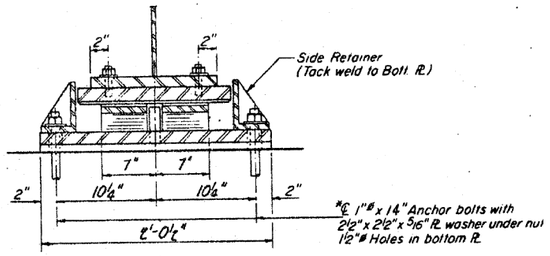
6/27/2024



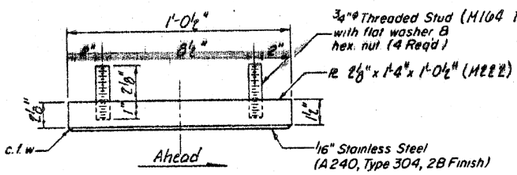
SECTION AT ABUT.



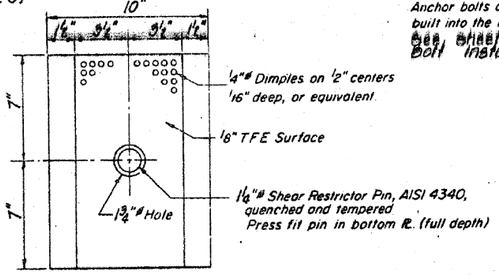
SECTION A-A

TYPE III ELASTOMERIC EXP. BRG.

6 Required

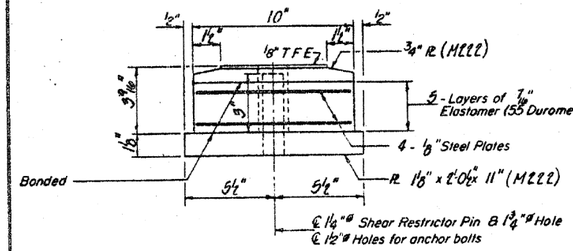


TOP BEARING ASSEMBLY



PLAN-TFE ELASTOMERIC BRG.

*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See Sheet S6 for Anchor Bolt Installation.

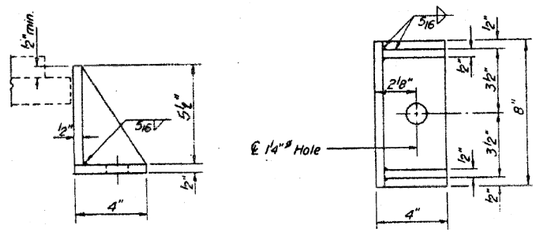


BOTTOM BEARING ASSEMBLY

SECTION THRU TFE

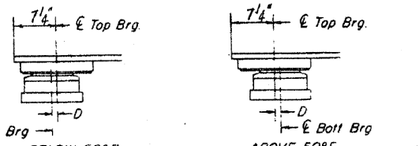
Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces

Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer



SIDE RETAINER (M222)

Equivalent rolled angles with stiffeners may be used in lieu of welded plates.

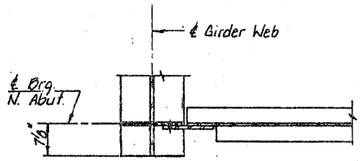


BELOW 50°F (Move bott brg. away from fixed brg.)

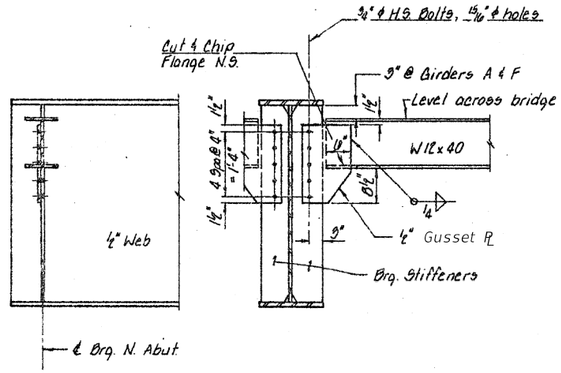
ABOVE 50°F (Move bott brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F

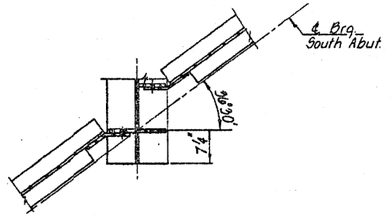


GUSSET PLATE CONNECTION

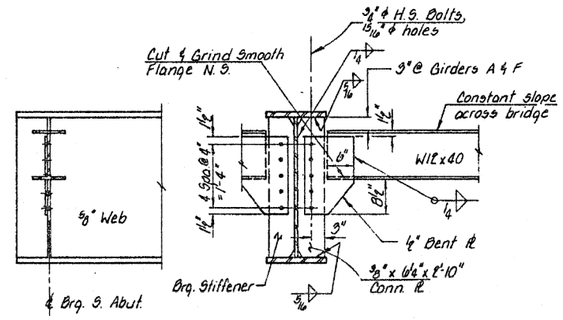


DIAPHRAGM D

5 Required



BENT PLATE CONNECTION



DIAPHRAGM D2

5 Required

NOTES

Fasteners shall be ¾"ø high strength bolts, open holes 15/16"ø, unless otherwise noted. Hardened washers shall be required over 15/16"ø holes (℄ per bolt).

NOTES:

1. End diaphragms and attached gusset plates (Diaphragm D) and bent plates (Diaphragm D2) shall be replaced in kind with ASTM A588 steel. The diaphragms and attached gusset/bent plates shall be painted with an Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System in the shop to match the dark maroon color of the existing paint.
2. Fasteners shall be ASTM A325 Type I, mechanically galvanized bolts (AASHTO M164 Bolts, Type 1). All steel bolts, nuts, and washers shall be galvanized in accordance with AASHTO M232.
3. All bolts shall be tightened in accordance with IDOT SSRBC Section 505.04.d "Turn-of-the-Nut" Method.
4. All contact surfaces between new and existing steel, including connections bolts, nut or washer contact areas, shall be free of scale, burrs, dirt or other foreign material, as well as oil, previously applied paint, lacquer, or other coatings that would prevent solid seating of the connected parts. The contact surfaces shall be cleaned and primed with Organic Zinc-Rich Primer in accordance with the Special Provision, Cleaning and Painting Contact Surface Areas of Existing Steel Structures. All connections must be considered primary connections.
5. End diaphragms and ½" gusset/bent plates shall be removed and replaced during the abutment expansion joint replacement when the deck has been removed (See Sheet S2 and S5).

PRE-FINAL

SOUTH ABUTMENT BEARINGS (SHOWN)

(North Abutment Bearings Similar)

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
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630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

BEARING AND DIAPHRAGM DETAILS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S18 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	18
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S18_Diaphragm Details
FILE NAME: ...\Plans\045-6017-plans.dgn

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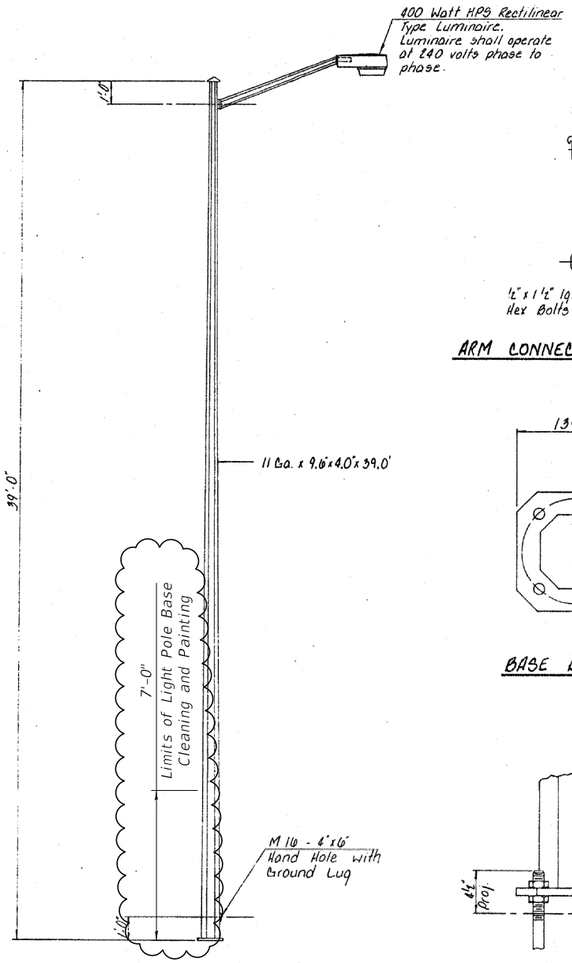
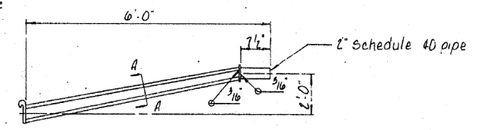
6/27/2024

ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO
HIGH STREET	83-00155-00-BR	AURORA	60	19
FED ROAD DIST NO)	ILLINOIS	PROJECT		

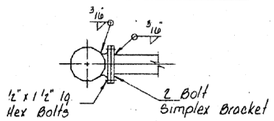


LIGHT STANDARD

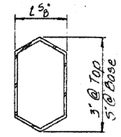
Note
Material - High Strength Low Alloy Steel per ASTM A588 or A606 50,000 psi. min. yield.
Finish - Self Weathering



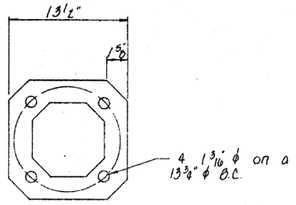
ARM DETAIL



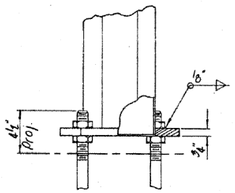
ARM CONNECTION DETAIL



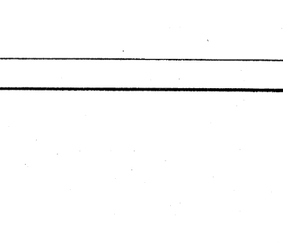
SECTION A-A



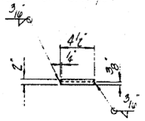
BASE DETAIL



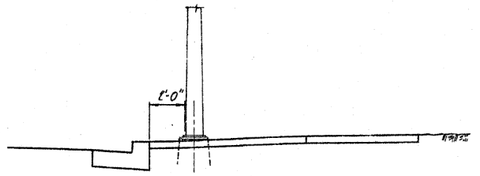
BASE CONNECTION DETAIL



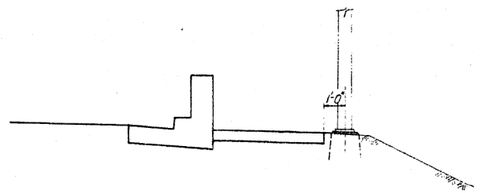
ANCHOR BOLT OFF BRIDGE
See sheet 10 of 25 for anchor bolt details on bridge



HAND HOLE



CROSS SECTION
Sta. 6+70, 8+50 & 18+25



CROSS SECTION
Sta 16+50

NOTES:

1. See Sheet S1 for painting notes.
2. See Sheet S12 and S13 for locations of light poles to be painted.
3. Light pole bases, including posts, base plates, handhole covers, and hardware, shall receive a SSPC-SP3 surface preparation and an IDOT Paint System 2 per the Special Provision for Cleaning and Painting Structural Steel. Light pole bases shall be painted gray to match the existing color.
4. The two northern light poles have signs attached to them within the limits of the painting. These signs shall be removed and reinstalled with the cost included in "Cleaning and Painting Structural Steel, Location 1".

LIGHTING DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED FS CHECKED R
DRAWN RN DATE 9-26-84 NO. 18112

PRE-FINAL

benesch
Alfred Benesch & Company
1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

LIGHT POLE DETAILS
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S19 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	19
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S19-Light Pole Details
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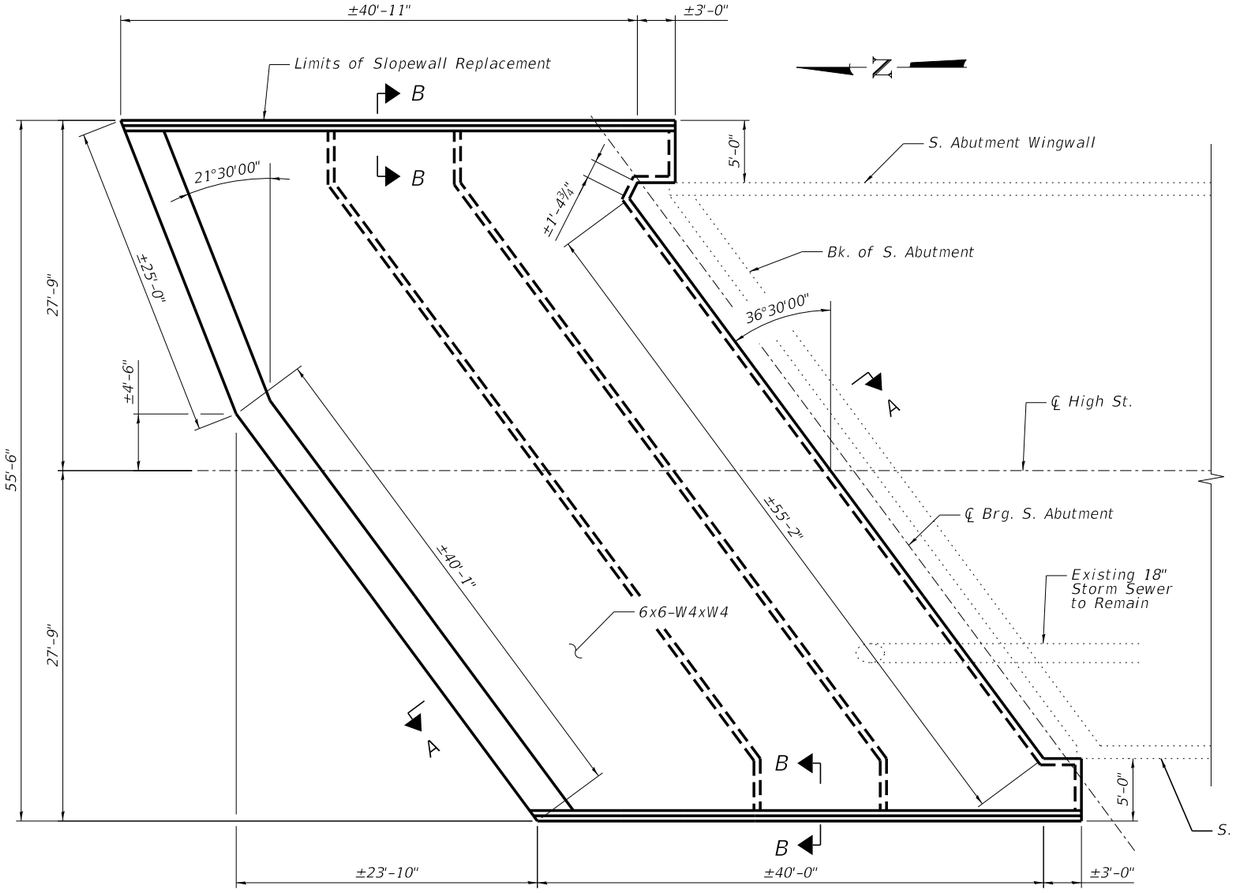
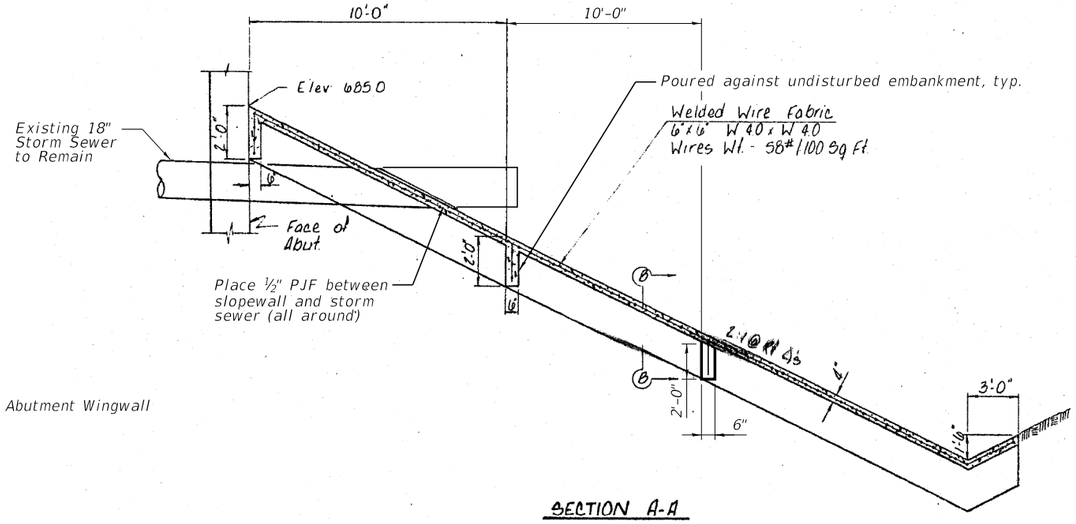
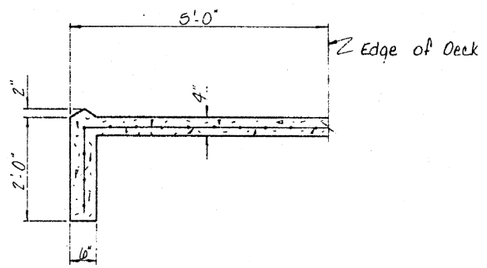


SOUTH SLOPEWALL PLAN

STORM SEWER EXTENSION THROUGH SLOPEWALL



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	TOTAL
SLOPE WALL REMOVAL	SQ YD	260
SLOPE WALL 4 INCH	SQ YD	260
GRANULAR BACKFILL FOR STRUCTURES	CU YD	259

PRE-FINAL

NOTES:

1. Limits of slopewall removal are the same as the limits of slopewall replacement.
2. After the removal of existing slopewall and prior to pouring the proposed slopewall, the Contractor shall place and compact select fill in lifts no greater than 12" to restore the elevation of the proposed slopewall to the elevation of the existing slopewall. The backfill shall be paid for under the pay item "GRANULAR BACKFILL FOR STRUCTURES".
3. Welded wire reinforcement shall be epoxy-coated.
4. Cost of welded wire reinforcement shall be included in the cost of "SLOPE WALL 4 INCH".
5. Prior to removing and replacing the slopewall, the Contractor shall assess the stability of the existing storm sewer and determine any required support system with the approval of the Engineer to be paid for under the pay item "Slope Wall Removal".

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Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/27/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

SOUTH SLOPEWALL REPLACEMENT
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S20 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	20
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S20_Slopewall Replacement
FILE NAME: ...\Plans\045-6017-plans.dgn.dgn

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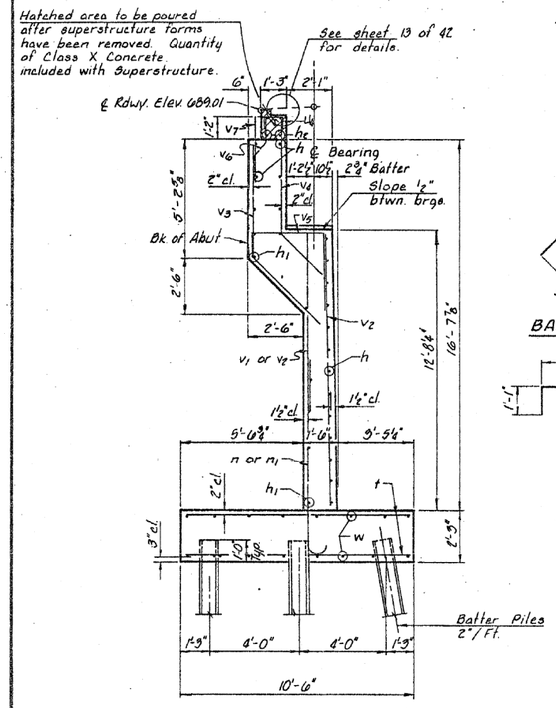
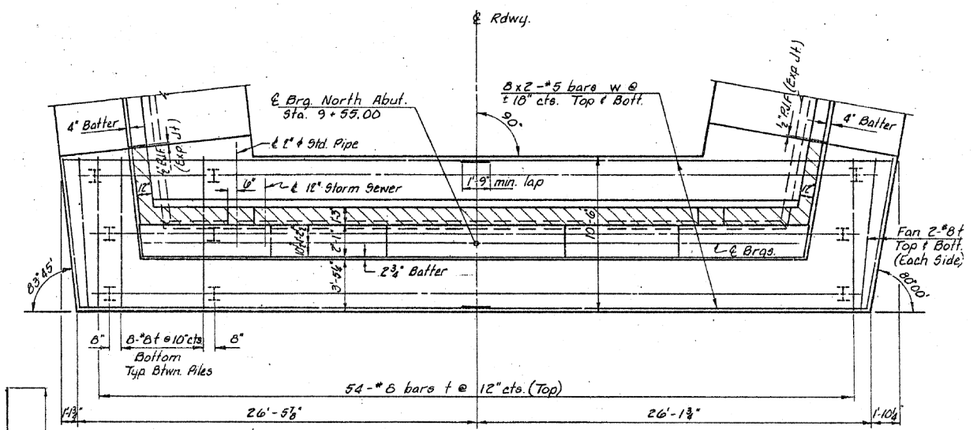
ROUTE NO	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	83-00133 -00-BR	AURORA	60	30
FED ROAD DIST NO 1	ILLINOIS	PROJECT		

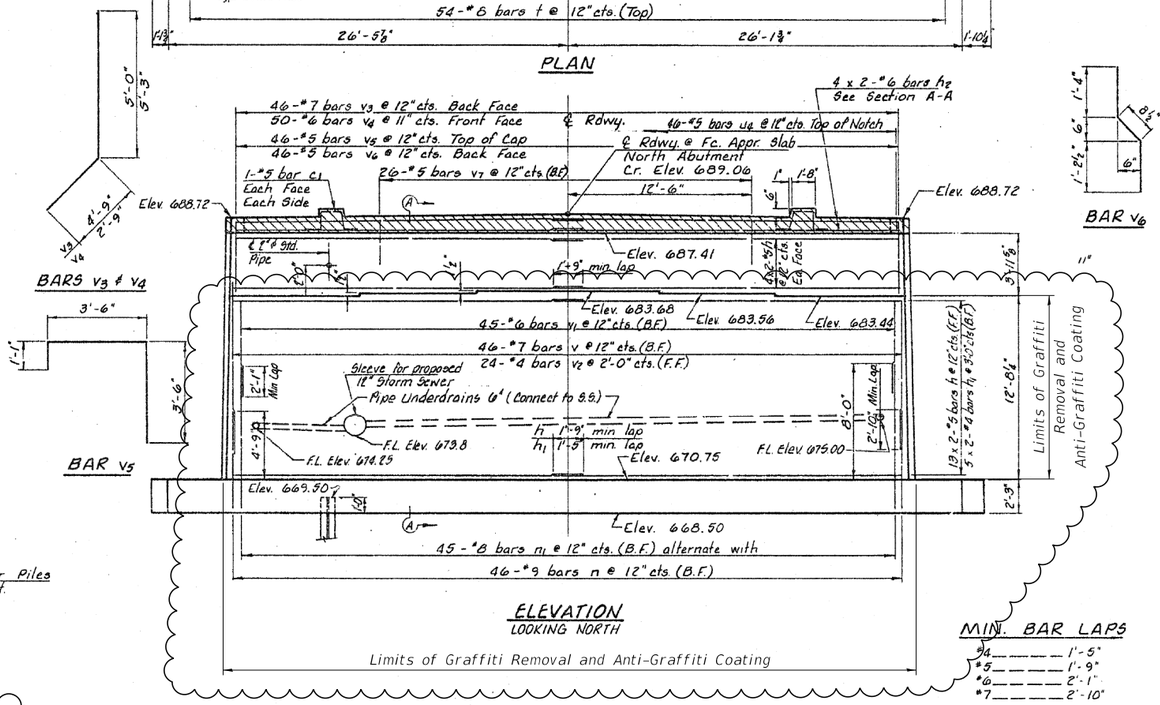
Sheet 9L of 42



SECTION A-A

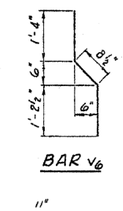


PLAN



ELEVATION
LOOKING NORTH

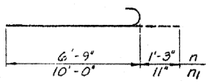
Limits of Graffiti Removal and Anti-Graffiti Coating



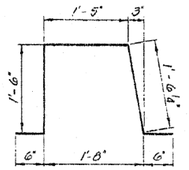
BAR V6

MIN. BAR LAPS

#4	1'-5"
#5	1'-9"
#6	2'-1"
#7	2'-10"



BARS n & n1



BAR c1

BILL OF MATERIAL - NORTH ABUT.

BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
c1	4	#5	5'-5"	
h	42	#5	23'-6"	
h1	10	#4	23'-6"	
h2	8	#6	23'-8"	
n	46	#9	8'-0"	
n1	45	#8	10'-11"	
t	118	#8	10'-2"	
u4	46	#5	2'-1"	
V	46	#7	11'-0"	
V1	45	#6	7'-0"	
V2	24	#4	12'-6"	
V3	46	#7	9'-9"	
V4	50	#6	8'-0"	
V5	46	#5	8'-1"	
V6	46	#5	3'-3"	
V7	26	#5	3'-0"	
W	32	#5	28'-6"	
Structure Excavation			Cu. Yd.	550
Class X Concrete			Cu. Yd.	246.0
Reinforcement Bars			Pound	30,940
Steel Piles HP 10x42			Lin. Ft.	504
Test Pile Steel HP10x42			Each	1
Porous Granular Embank			Ton	2,046
Pipe Underdrains 6"			Lin. Ft.	170

Note: Reinforcement bars indicated thus 3 x 2 - #6 bars indicates 3 lines of bars with 2 lengths per line.

Work this sheet with sheets 31, 33 & 34 of 42

NORTH ABUTMENT
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED J K K CHECKED F & I W R W
DRAWN M G DATE 6-17-84 NO 1811.2

10-1-Rd

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Graffiti Removal	SQ YD	57
Anti-Graffiti Coating	SQ FT	509
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	SQ FT	99

PRE-FINAL

NOTES:

1. Remove Graffiti and apply Anti-Graffiti Coating on the face of abutments from the groundline to the abutment seats.
2. Spalled and delaminated quantities were determined during a Routine NBIS Inspection on 5/24/2023. The quantities are for information only, and the Contractor shall verify actual repair areas in the field with approval from the Engineer.

benesch
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630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 7/18/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

NORTH ABUTMENT PLAN AND ELEVATION
HIGH STREET BRIDGE STRUCTURE NO. 045-6017

SHEET NO. S21 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	21
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: S21_North Abutment
FILE NAME: ...\Plans\045-6017-plans.dgn

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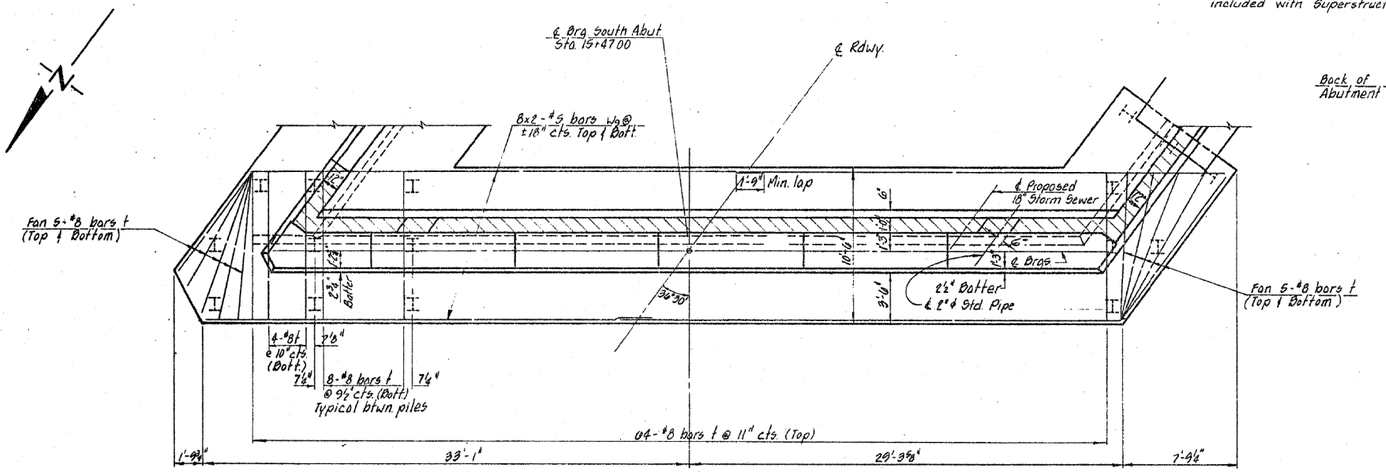
ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	83-00155-00-BR	AURORA	60	54
FED. ROAD DIST NO. 1	ILLINOIS PROJECT			

Sheet 36 of 42

Hatched area to be poured after superstructure forms have been removed Quantity of Class X Concrete included with Superstructure.



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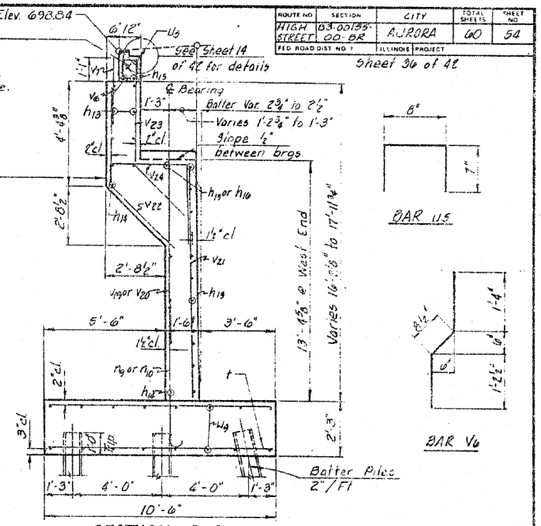
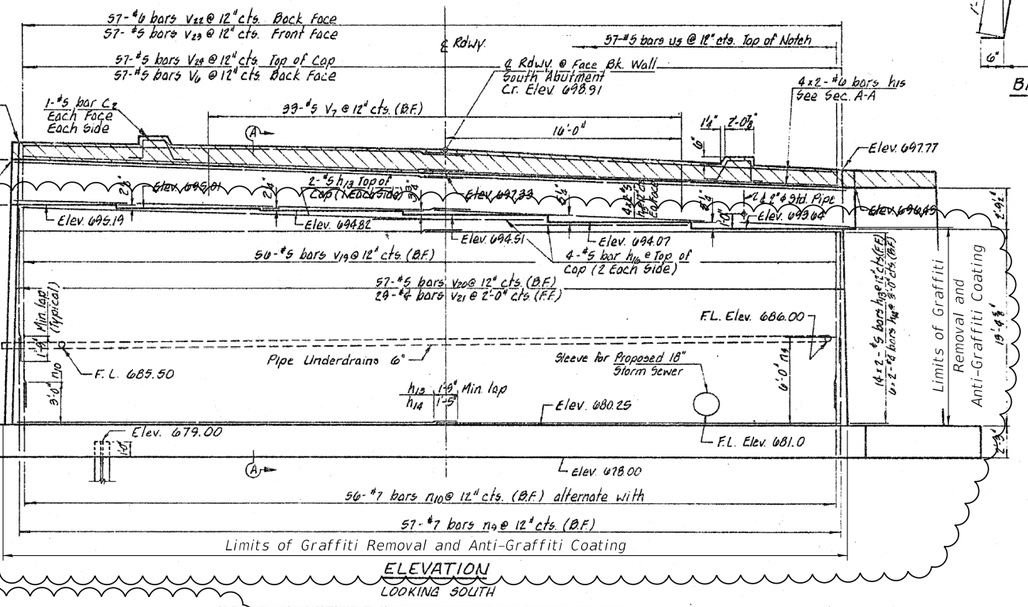


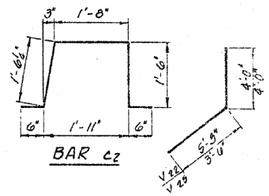
SECTION A-A

BAR U5

BAR V6

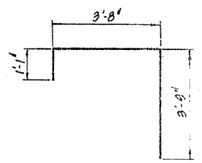


ELEVATION LOOKING SOUTH

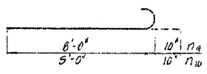


BAR C2

BARS V22 & V23



BAR V24



BARS n9 & n10

MIN. BAR LAPS

#4	1'-5"
#5	1'-9"
#6	2'-1"

BILL OF MATERIAL - SOUTH ABUT.

BAR	No. Req'd	SIZE	LENGTH	SHAPE
C2	4	#5	5'-8	
h19	44	#5	29'-9"	
h18	12	#4	2'-1"	
h15	8	#6	26'-7"	
h16	4	#5	11'-6"	
n9	57	#7	8'-10"	
n10	56	#7	5'-10"	
T	132	#8	10'-2"	
U5	57	#5	1'-10"	
V4	57	#5	3'-3"	
V7	99	#5	3'-0"	
V19	50	#5	13'-0"	
V20	57	#5	10'-0"	
V21	29	#6	19'-3"	
V22	57	#6	9'-2"	
V23	57	#5	7'-0"	
V24	57	#5	8'-0"	
W4	32	#5	36'-2"	
Class X Concrete			Cu.Yd	350.0
Reinforcement Bars			Pound	33,480
Steel Piles HP 10x42			Lin.Ft	3,206
Test Pile Steel HP10x42			Each	4
Porous Granular Embankment			Ton	4,294
Structure Excavation			Cu.Yd	400
Pipe Underdrains 6"			Lin.Ft	302

Note: Reinforcement bars indicated thus 9x2-#6 bars indicates 3 lines of bars with 2 lengths per line.

Work this sheet with sheets 23, 37 & 38 of 42

SOUTH ABUTMENT
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+71

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED J.K.K. CHECKED A.R.K.
DRAWN T.S. DATE 8-17-84 NO 1811.2

10-1-84

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Graffiti Removal	SQ YD	78
Anti-Graffiti Coating	SQ FT	698
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	SQ FT	39

PRE-FINAL

NOTES:

1. Remove Graffiti and apply Anti-Graffiti Coating on the face of abutments from the groundline to the abutment seats.
2. Spalled and delaminated quantities were determined during a Routine NBIS Inspection on 5/24/2023. The quantities are for information only, and the Contractor shall verify actual repair areas in the field with approval from the Engineer.

benesch
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Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - KJN	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 7/18/2024	CHECKED - KJN	REVISED -

CITY OF AURORA
KANE COUNTY

SOUTH ABUTMENT PLAN AND ELEVATION
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S22 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	22
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

MODEL: S22-South Abutment
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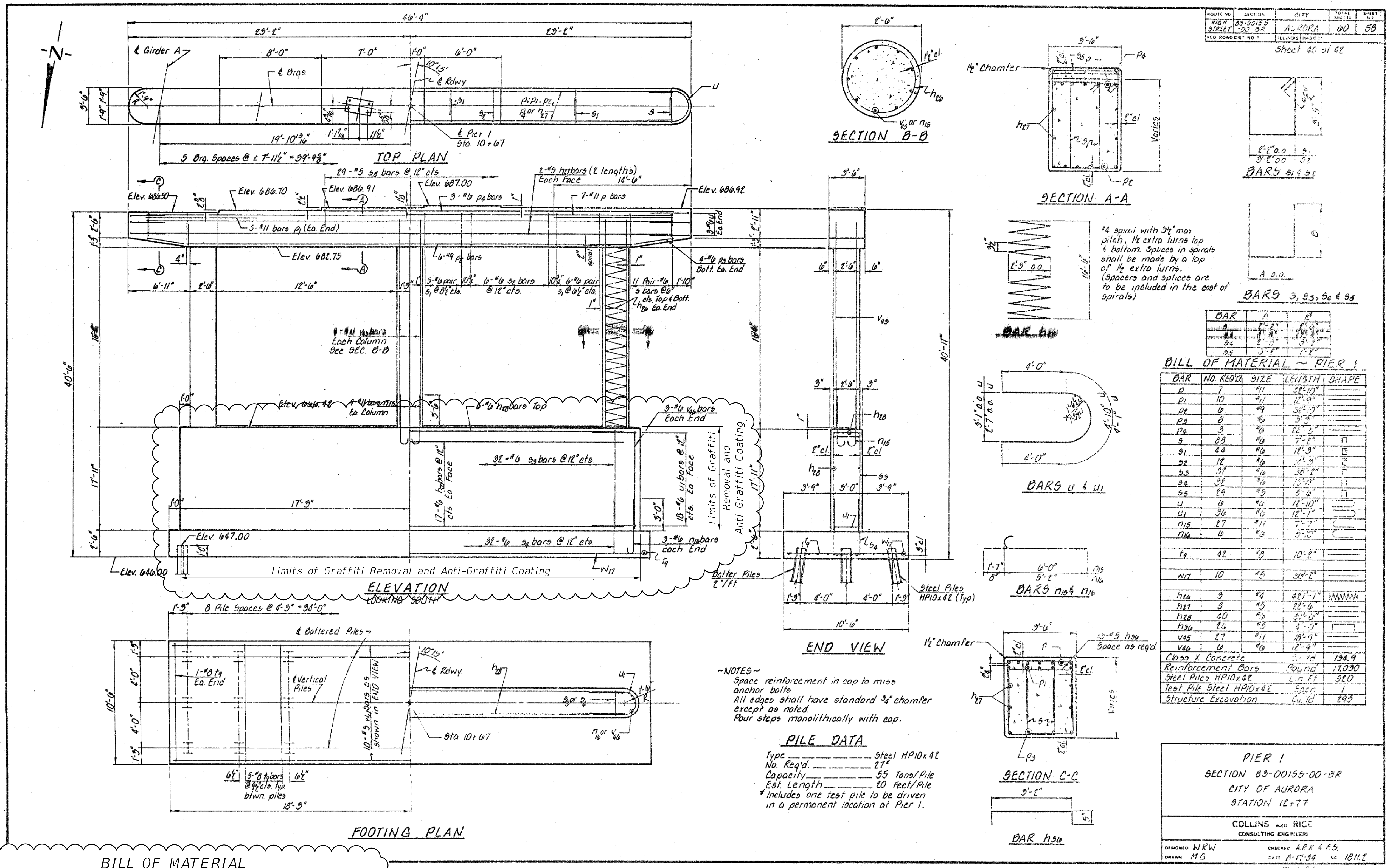

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Graffiti Removal	SQ YD	56
Anti-Graffiti Coating	SQ FT	507
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	SQ FT	121

PRE-FINAL

NOTES:

1. Remove Graffiti and apply Anti-Graffiti Coating on the face of abutments from the groundline to the abutment seats.
2. Spalled and delaminated quantities were determined during a Routine NBIS Inspection on 5/24/2023. The quantities are for information only, and the Contractor shall verify actual repair areas in the field with approval from the Engineer.

USER NAME = kkenny	DESIGNED - WKK	REVISED -	
	CHECKED - KJN	REVISED -	
PLOT SCALE =	DRAWN - WKK	REVISED -	
PLOT DATE = 7/18/2024	CHECKED - KJN	REVISED -	

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Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

CITY OF AURORA
KANE COUNTY

PIER 1 PLAN AND ELEVATION
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S23 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	23

CONTRACT NO.
ILLINOIS FED. AID PROJECT

MODEL: S23_Pier 1
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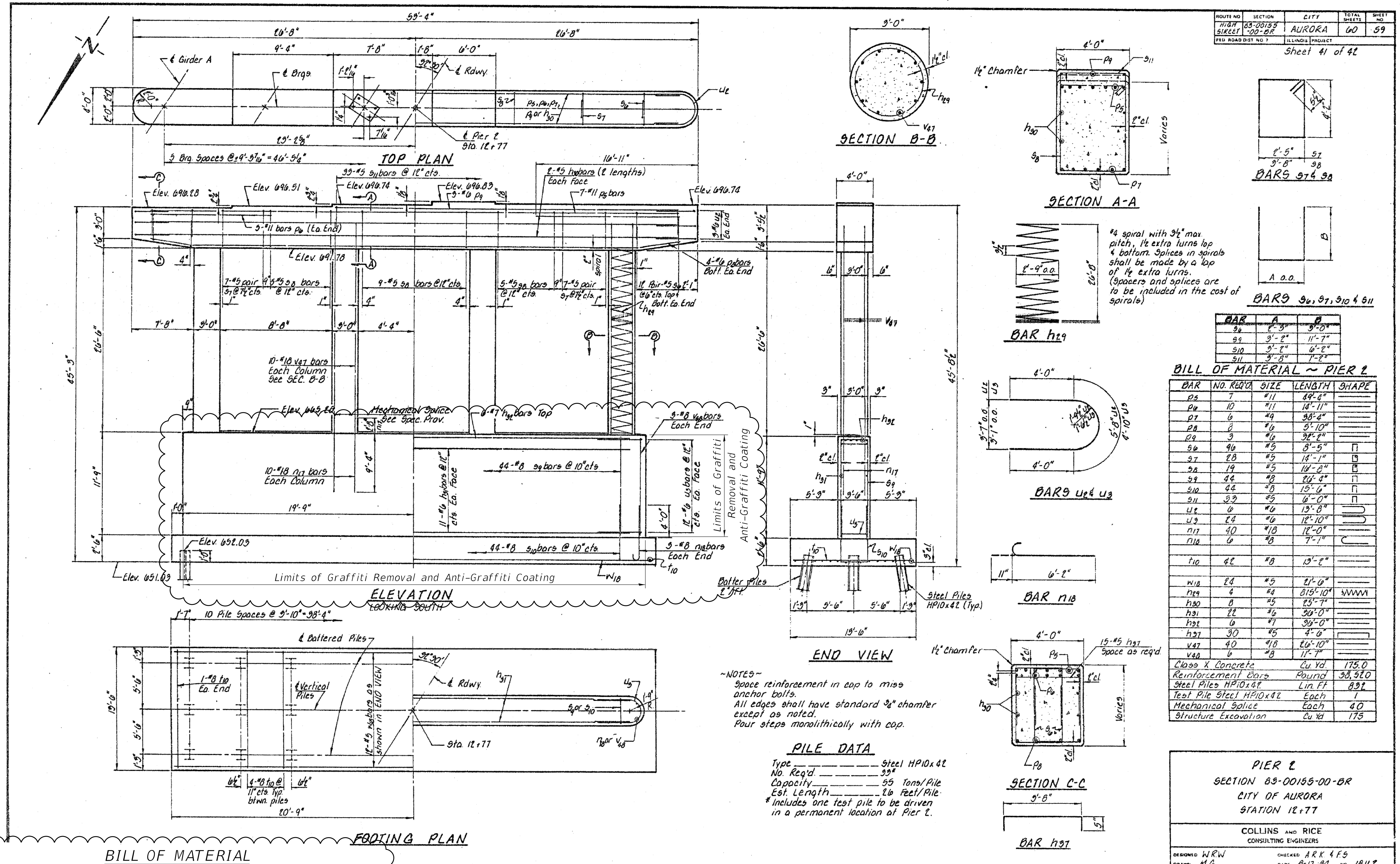


BAR	A	B
s6	2'-5"	3'-0"
s9	3'-2"	11'-7"
s10	3'-2"	6'-2"
s11	3'-8"	1'-2"

BILL OF MATERIAL ~ PIER 2

BAR	NO. REQ'D.	SIZE	LENGTH	SHAPE
p5	7	#11	49'-4"	
p6	10	#11	14'-11"	
p7	6	#9	38'-4"	
p8	8	#6	5'-10"	
p9	3	#6	32'-2"	
s6	96	#5	8'-5"	
s7	28	#5	14'-1"	
s8	19	#5	16'-8"	
s9	44	#8	26'-4"	
s10	44	#8	15'-6"	
s11	33	#5	6'-0"	
u2	6	#6	13'-8"	
u3	24	#6	12'-10"	
n17	40	#18	12'-0"	
n18	6	#8	7'-1"	
t10	42	#8	13'-2"	
w18	24	#5	21'-6"	
h29	4	#4	815'-10"	
h30	8	#5	25'-7"	
h31	22	#6	36'-0"	
h32	6	#7	36'-0"	
h37	30	#5	4'-6"	
v47	40	#18	26'-10"	
v48	6	#8	11'-7"	
Class X Concrete			Cu. Yd.	175.0
Reinforcement Bars			Pound	38,520
Steel Piles HP10x42			Lin. Ft.	832
Test Pile Steel HP10x42			Each	1
Mechanical Splice			Each	40
Structure Excavation			Cu. Yd	175

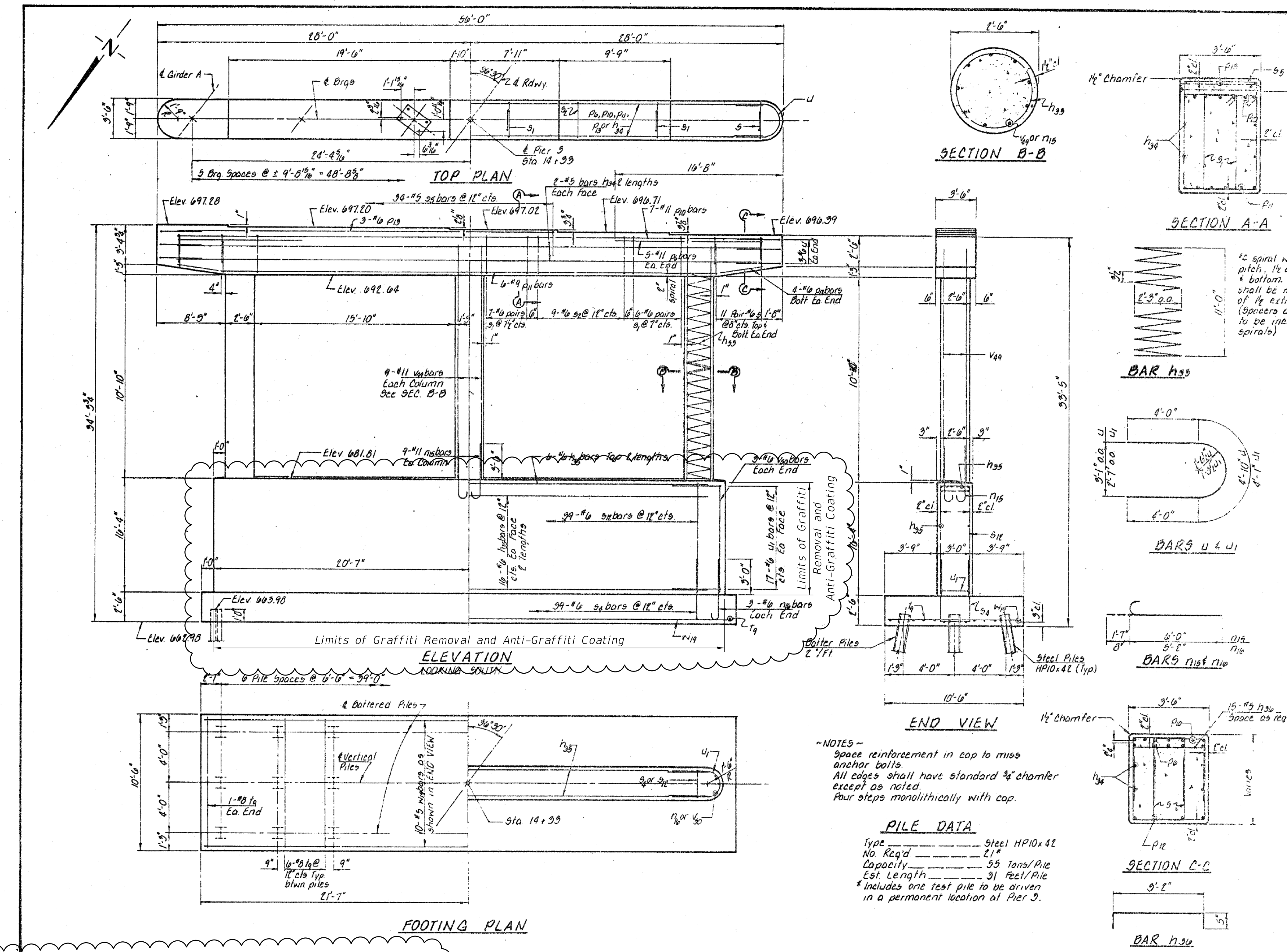
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Graffiti Removal	SQ YD	65
Anti-Graffiti Coating	SQ FT	581
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	SQ FT	57

PRE-FINAL

NOTES:

1. Remove Graffiti and apply Anti-Graffiti Coating on the face of abutments from the groundline to the abutment seats.
2. Spalled and delaminated quantities were determined during a Routine NBIS Inspection on 5/24/2023. The quantities are for information only, and the Contractor shall verify actual repair areas in the field with approval from the Engineer.



BAR	A	B
s	2'-2"	2'-6"
s4	2'-8"	8'-2"
s5	3'-2"	1'-2"
s12	2'-8"	16'-2"

BILL OF MATERIAL ~ PIER 3

BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
p6	10	#11	18'-11"	
p10	7	#11	52'-6"	
p11	6	#9	39'-6"	
p12	8	#6	10'-9"	
p13	3	#6	34'-0"	
s	88	#6	7'-2"	
s1	52	#6	12'-3"	
s2	18	#6	16'-3"	
s4	39	#6	13'-0"	
s5	34	#5	5'-6"	
s12	39	#6	35'-0"	
u	6	#6	12'-10"	
u1	34	#6	12'-1"	
n15	27	#11	7'-7"	
n16	6	#6	3'-10"	
r9	38	#8	10'-2"	
w19	20	#5	22'-4"	
h33	3	#4	187'-10"	
h34	8	#5	27'-2"	
h35	76	#6	20'-2"	
h36	30	#5	4'-0"	
v49	27	#11	13'-4"	
v50	6	#6	10'-1"	
Class X Concrete			Cu Yd	151.2
Reinforcement Bars			Pound	17,740
Steel Piles HP10x42			Lin Ft	620
Test Pile Steel HP10x42			Each	1
Structure Excavation			Cu Yd	180

~NOTES~
Space reinforcement in cap to miss anchor bolts.
All edges shall have standard 3/4" chamfer except as noted.
Pour steps monolithically with cap.

PILE DATA
Type — Steel HP10x42
No. Req'd — 21*
Capacity — 55 Tons/Pile
Est. Length — 31 Feet/Pile
* Includes one test pile to be driven in a permanent location at Pier 3.

PIER 3
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77
COLLINS AND RICE CONSULTING ENGINEERS

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Graffiti Removal	SQ YD	66
Anti-Graffiti Coating	SQ FT	600
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	SQ FT	5

PRE-FINAL

NOTES:
1. Remove Graffiti and apply Anti-Graffiti Coating on the face of abutments from the groundline to the abutment seats.
2. Spalled and delaminated quantities were determined during a Routine NBIS Inspection on 5/24/2023. The quantities are for information only, and the Contractor shall verify actual repair areas in the field with approval from the Engineer.

USER NAME = kkenny	DESIGNED - WKK	REVISED -	
	CHECKED - KJN	REVISED -	
PLOT SCALE =	DRAWN - WKK	REVISED -	
PLOT DATE = 7/18/2024	CHECKED - KJN	REVISED -	

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CITY OF AURORA
KANE COUNTY

PIER 3 PLAN AND ELEVATION
HIGH STREET BRIDGE STRUCTURE NO. 045-6017

SHEET NO. S25 OF S25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	25	25

CONTRACT NO.
ILLINOIS FED. AID PROJECT

MODEL: S25_Pier 3
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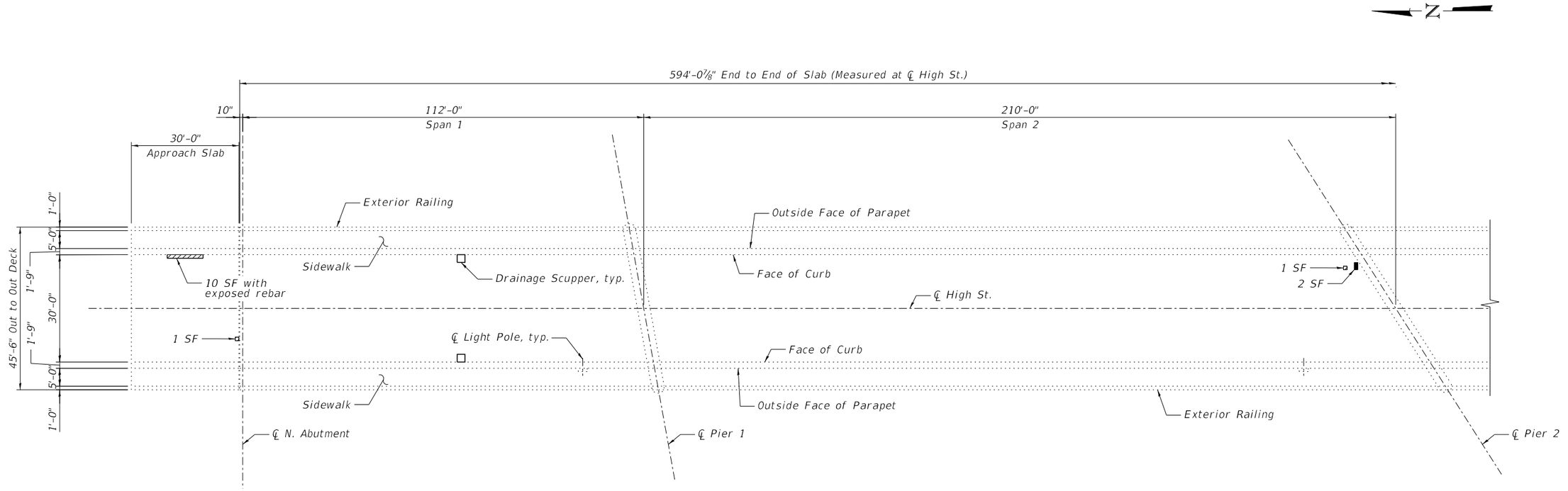

DECK DELAMINATION SURVEY - SPANS 1 & 2

LEGEND:

- Spall Filled with Bituminous Material
- Spall

NOTES:

1. Deck visual survey was performed from east and west sidewalks on 6/22/2024.
2. Total Area of Spalls Filled with Bituminous Material = 2 SF (This Sheet Only).
   Total Area of Spalls Filled with Bituminous Material = 28 SF (Entire Bridge)
3. Total Area of Spalls = 12 SF (This Sheet Only).
   Total Area of Spalls = 40 SF (Entire Bridge).

MODEL: Deck Delamination
FILE NAME: ...\Plans\045-6017_Base.dgn

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Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - BSM	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/26/2024	CHECKED - BSM	REVISED -

CITY OF AURORA
KANE COUNTY

DECK DELAMINATION SURVEY (1 OF 2)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S1 OF S2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	2	1
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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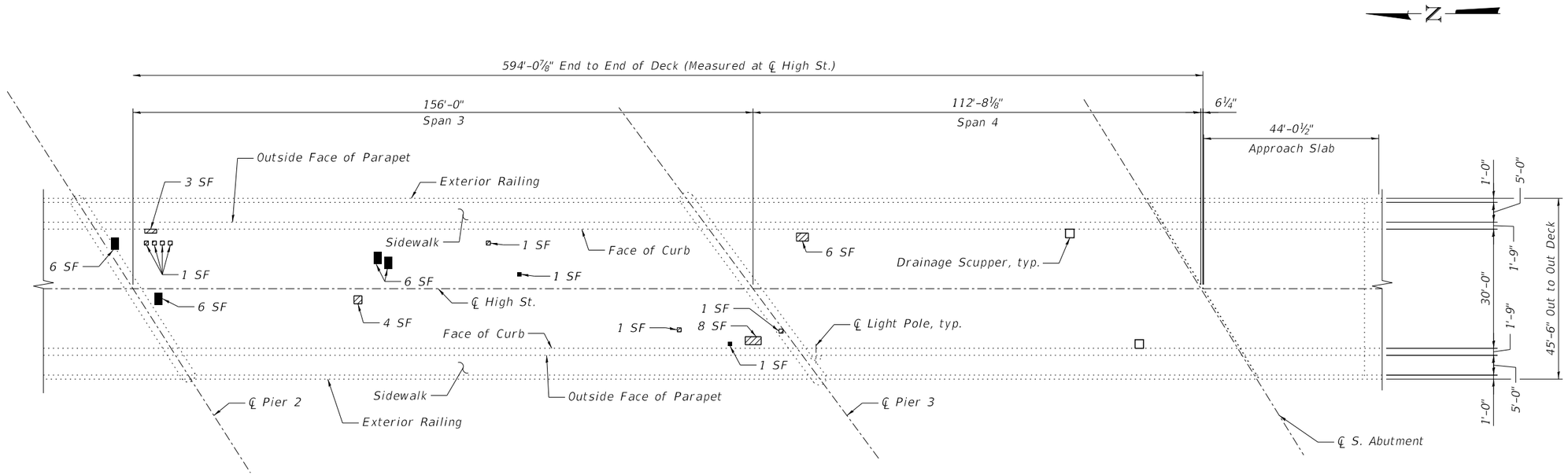

DECK DELAMINATION SURVEY - SPANS 3 & 4

LEGEND:

- Spall Filled with Bituminous Material
- Spall

NOTES:

1. Deck visual survey was performed from east and west sidewalks on 6/22/2024.
2. Total Area of Spalls Filled with Bituminous Material = 26 SF (This Sheet Only).
   Total Area of Spalls Filled with Bituminous Material = 28 SF (Entire Bridge)
3. Total Area of Spalls = 28 SF (This Sheet Only).
   Total Area of Spalls = 40 SF (Entire Bridge).

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1230 E Diehl Rd Suite 109
Naperville, Illinois 60563
630-577-9100 Job No. 10483.08

USER NAME = kkenny	DESIGNED - WKK	REVISED -
	CHECKED - BSM	REVISED -
PLOT SCALE =	DRAWN - WKK	REVISED -
PLOT DATE = 6/26/2024	CHECKED - BSM	REVISED -

CITY OF AURORA
KANE COUNTY

DECK DELAMINATION SURVEY (2 OF 2)
HIGH STREET BRIDGE STRUCTURE NO. 045-6017
SHEET NO. S2 OF S2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1450	83-00155-00-BR	KANE	2	2
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

MODEL: Deck Delamination
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Southwest Approach Sidewalk Looking North

Southwest Approach Sidewalk Looking Northeast

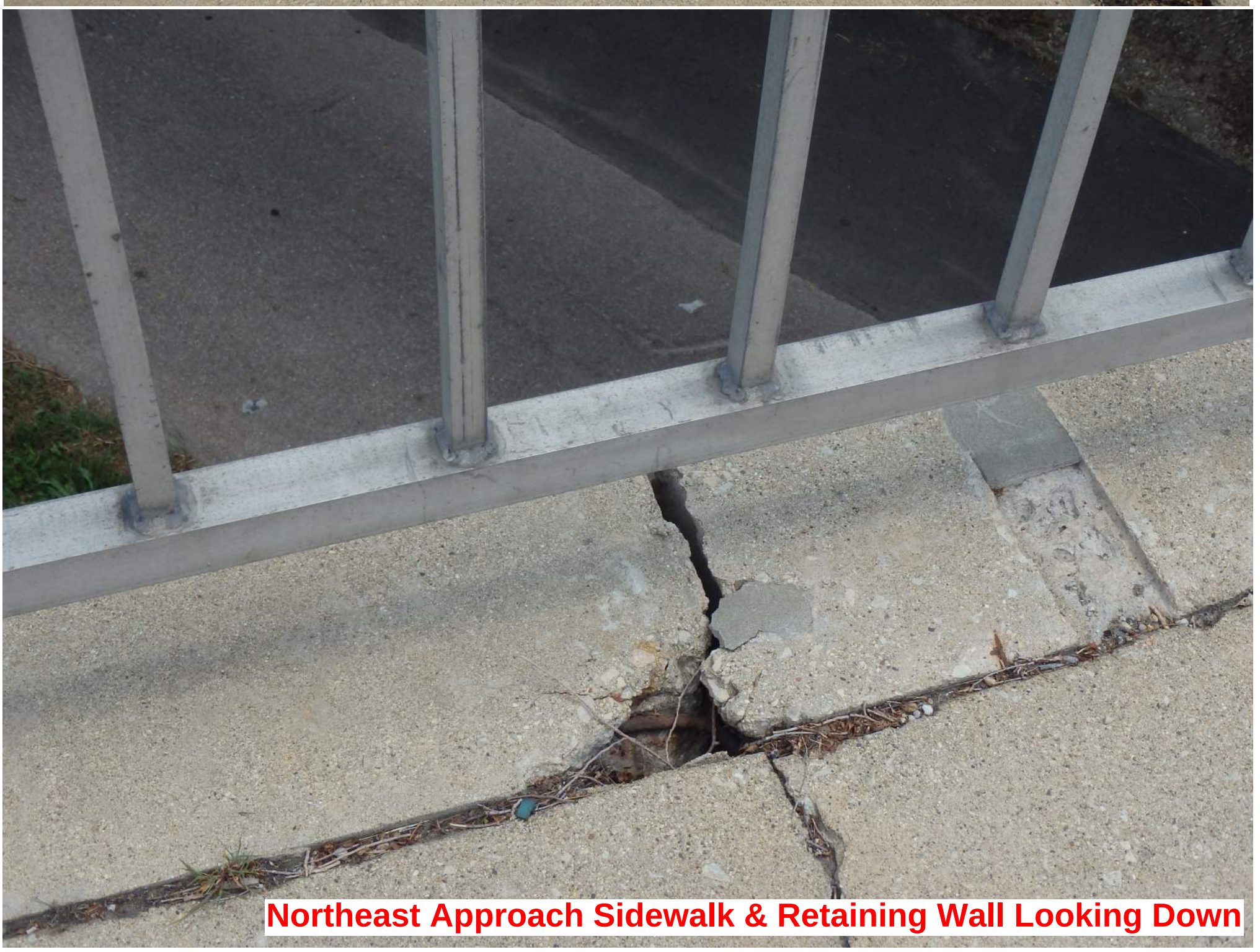
Exhibit A: Remove & replace the first three sidewalk panels south of the S. Approach Slab shown above in the SW quadrant of bridge. At the same time, strengthen the embankment at the end of the retaining wall adjacent to said sidewalk to avoid future erosion at this low spot.

North Abutment Elevation Looking North

North Abutment Side Elevation Looking Northeast

Exhibit B: During the replacement of the North Expansion Joint, steel end diaphragm, and painting of girder ends, perform structural repair of concrete on the delaminated and spalled areas of the N. Abutment. After the structural repair of concrete, remove any remaining graffiti and apply anti-graffiti coating to the face of the abutment and wingwalls.

Northeast Approach Sidewalk Looking South



Northeast Approach Sidewalk & Retaining Wall Looking Down

Exhibit C: Northeast Retaining Wall and Approach Sidewalk. 7'-6" long x varying width of 5'-0" to 6'-9" sidewalk panel can be replaced or epoxy crack injected. Perform localized retaining wall repair or grout the opening.

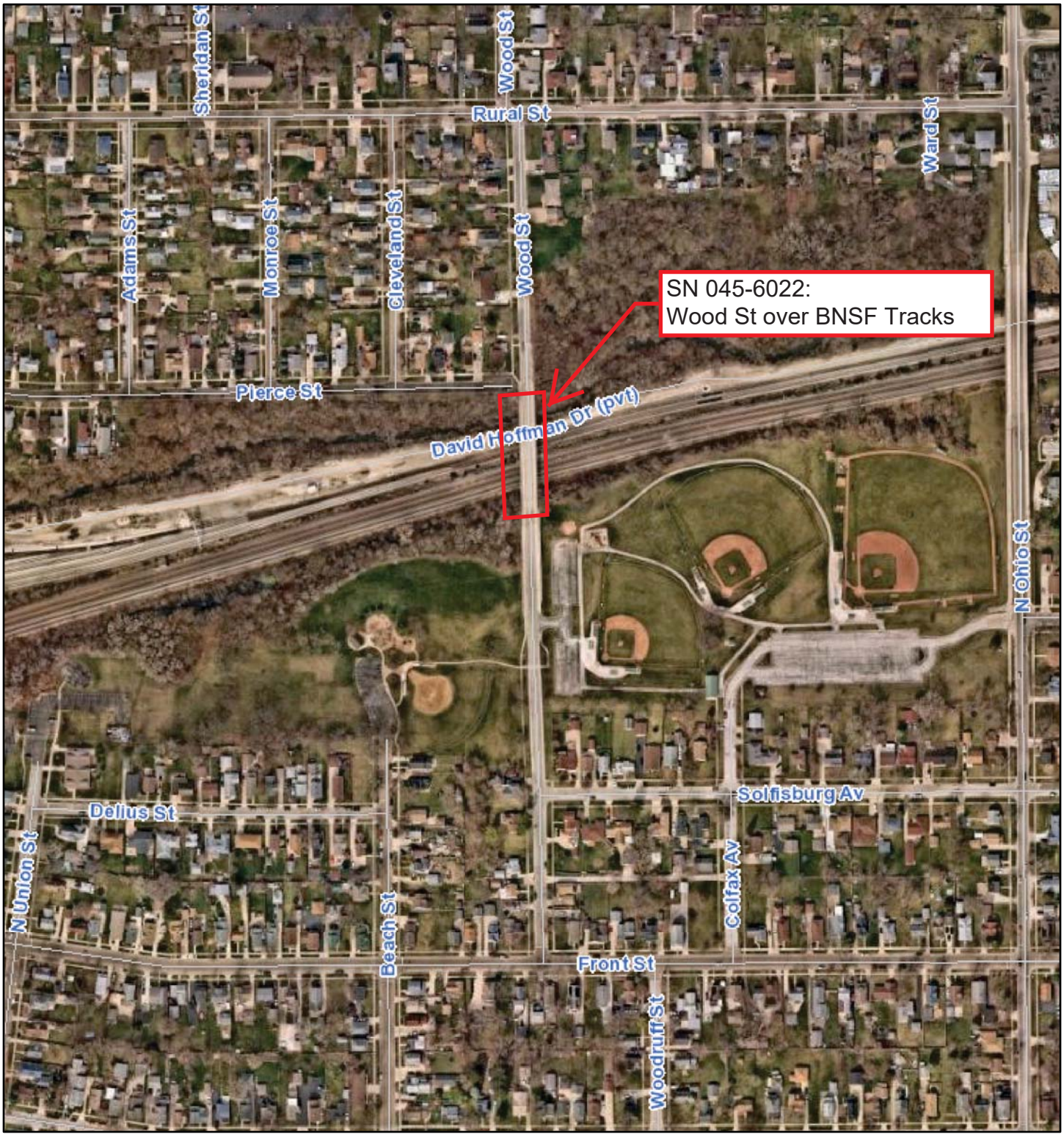
High Street Bridge - Additional Work (not quantified on Bridge Plans)

TOTAL - High Street Bridge				
Item Number	**Item**	**Unit**	**QTY**	**Work Description**
29	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	68	PARTIAL DEPTH DECK PATCHING
32	SIDEWALK REMOVAL	SQ FT	84	SW APPROACH SIDEWALK REPAIRS
23	GRANULAR BACKFILL FOR STRUCTURES	CU YD	2	SW APPROACH SIDEWALK REPAIRS
33	PORTLAND CEMENT CONCRETE SIDEWALK (6 INCH)	SQ FT	84	SW APPROACH SIDEWALK REPAIRS
34	TURF REINFORCEMENT MAT	SQ YD	16	SW APPROACH SIDEWALK REPAIRS
35	FURNISHED EXCAVATION	CU YD	3	SW APPROACH SIDEWALK REPAIRS
29	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	4	SW APPROACH RETAINGING WALL REPAIRS
36	SIGN PANEL, TYPE 1	SQ FT	3	NORTH ABUTMENT CHEVRON REPLACMENT (TYPE 3 OBJECT MARKER - OM3-R)
37	EPOXY CRACK INJECTION	FOOT	20	NE APPROACH SIDEWALK & RET WALL REPAIRS

Wood St Bridge Plans

(SN 045-6022)

Wood St Location Map



8/1/2024, 10:29:49 AM

1:5,280

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

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Wood St Bridge Repairs (SN 045-6022) North

1:282

0 5 10 20 ft

0 3 6 12 m

Pavement Removal, Pavement Connector (PCC) for Bridge Approach Slab, Welded Wire Reinforcement, Protective Coat

(Sidewalk Removal, PCC Sidewalk (6 Inch)

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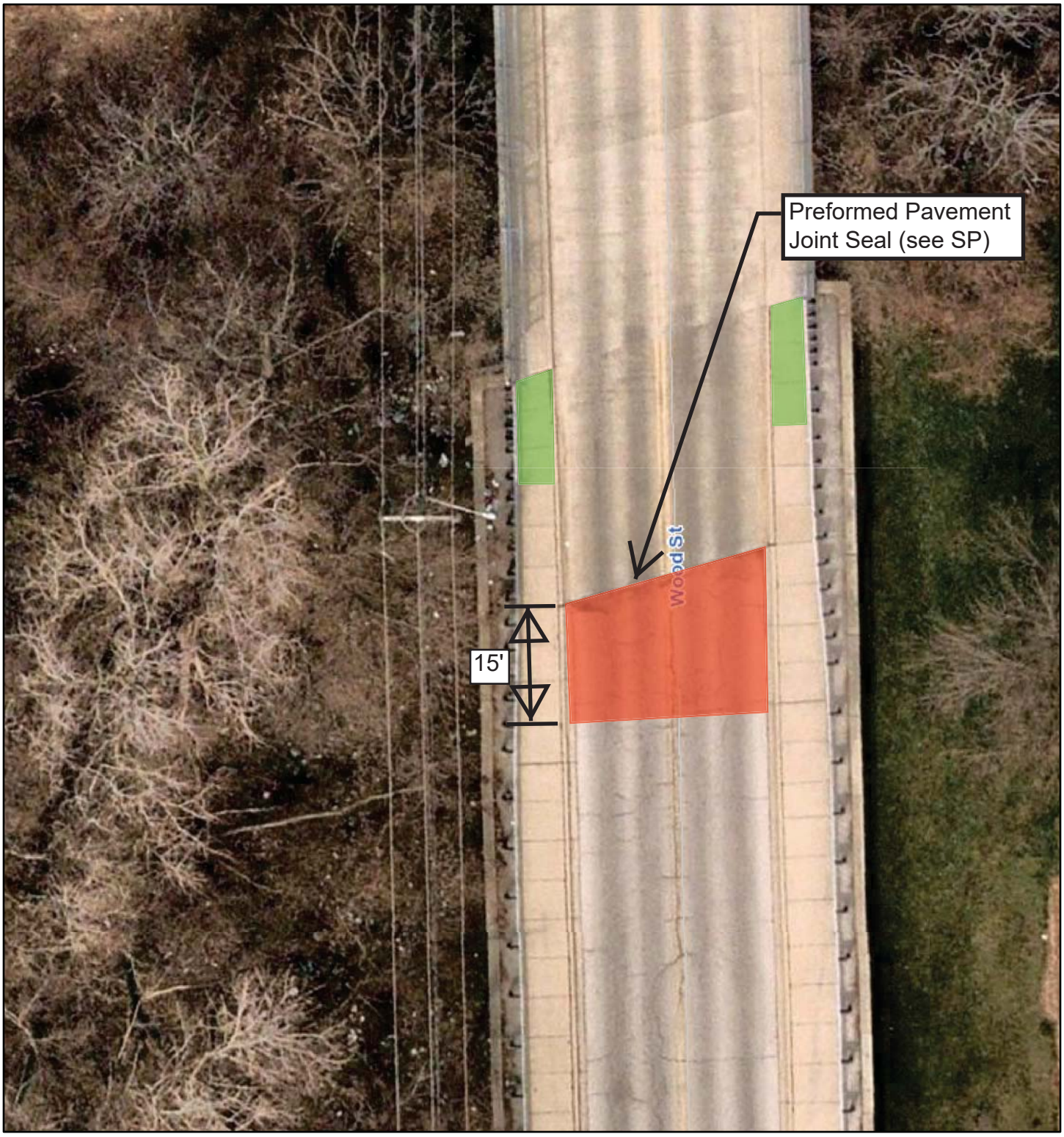
Wood St Bridge Repairs (SN 045-6022) South



1:282

0 5 10 20 ft

0 3 6 12 m

Pavement Removal, Pavement Connector (PCC) for Bridge Approach Slab, Welded Wire Reinforcement, Protective Coat

(Sidewalk Removal, PCC Sidewalk (6 Inch)

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Wood Street Bridge

Work Type	Location	Pay Item No.	Pay Item	Unit	Qty
Pavment Connector					
	South Side				
		3	WELDED WIRE REINFORCEMENT	SQ YD	55
		4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	55
		5	PROTECTIVE COAT	SQ YD	55
		6	PAVEMENT REMOVAL	SQ YD	55
	North Side				
		3	WELDED WIRE REINFORCEMENT	SQ YD	55
		4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	55
		5	PROTECTIVE COAT	SQ YD	55
		6	PAVEMENT REMOVAL	SQ YD	55
Sidewalk					
	NW Corner				
		32	SIDEWALK REMOVAL	SQ FT	25
		33	PCC SIDEWALK (6 INCH)	SQ FT	25
	NE Corner				
		32	SIDEWALK REMOVAL	SQ FT	75
		33	PCC SIDEWALK (6 INCH)	SQ FT	75
	SW Corner				
		32	SIDEWALK REMOVAL	SQ FT	75
		33	PCC SIDEWALK (6 INCH)	SQ FT	75
	SE Corner				
		32	SIDEWALK REMOVAL	SQ FT	75
		33	PCC SIDEWALK (6 INCH)	SQ FT	75
Graffiti Removal					
	As Directed by Engineer	12	GRAFFITI REMOVAL	SQ YD	250
	As Directed by Engineer	25	ANTI-GRAFFITI COATING	SQ FT	2,250

Ohio St Bridge Plans

(SN 045-9942)

Ohio St Location Map

8/1/2024, 10:30:28 AM

1:5,280

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

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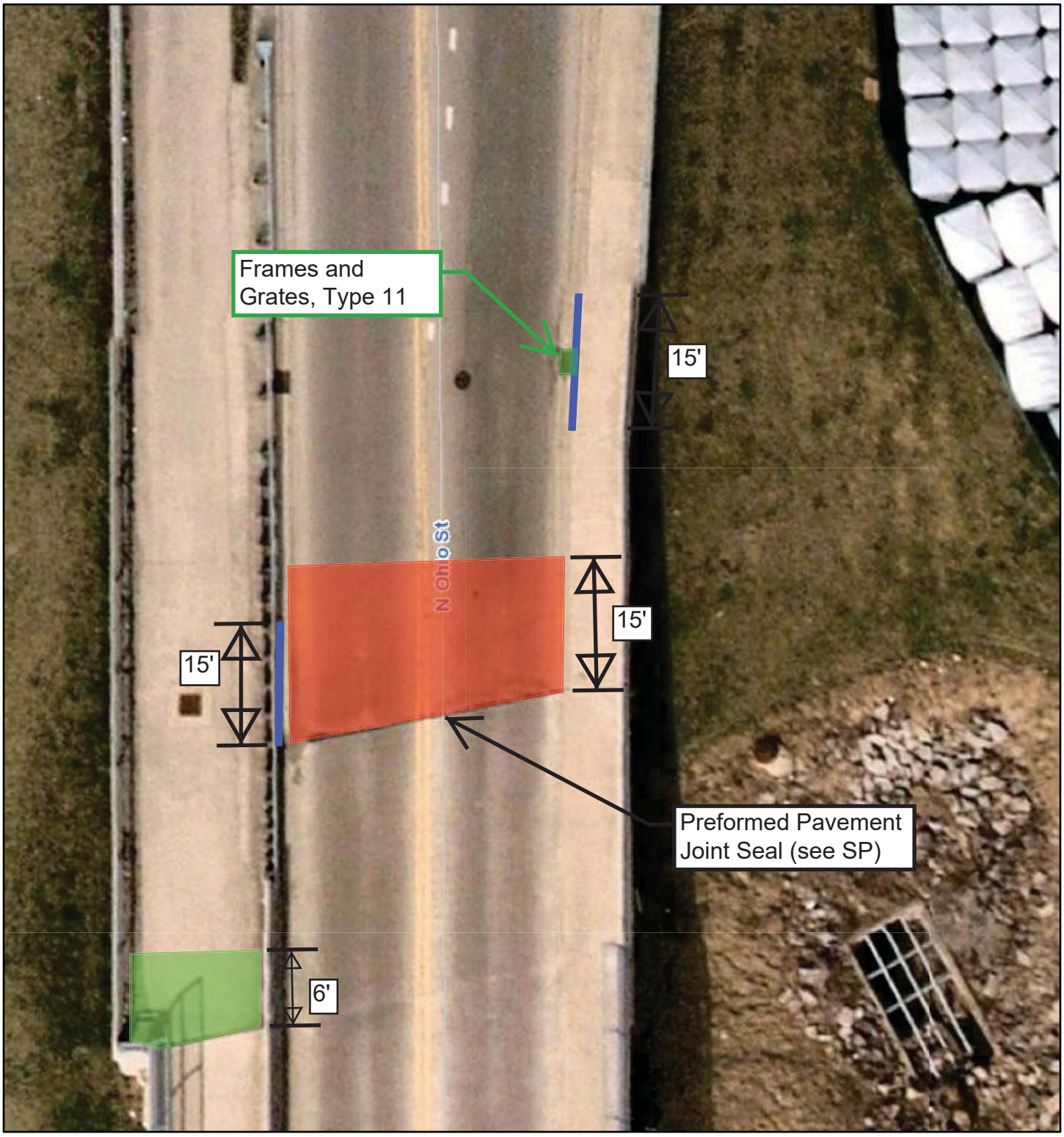
Ohio Street Bridge Repairs (SN 045-9942) - North



1:240

0 0 0 0.01 mi

0 0 0 0.01 km

Pavement Removal, Pavement Connector (PCC) for Bridge Approach Slab, Welded Wire Reinforcement, Protective Coat

Pavement Removal, Subbase Gran Mat Ty B 6", HMA Surface Course

Combination Curb & Gutter R&R

of Aurora GIS and Engineering
County IL/Ayres, Kane County, IL/

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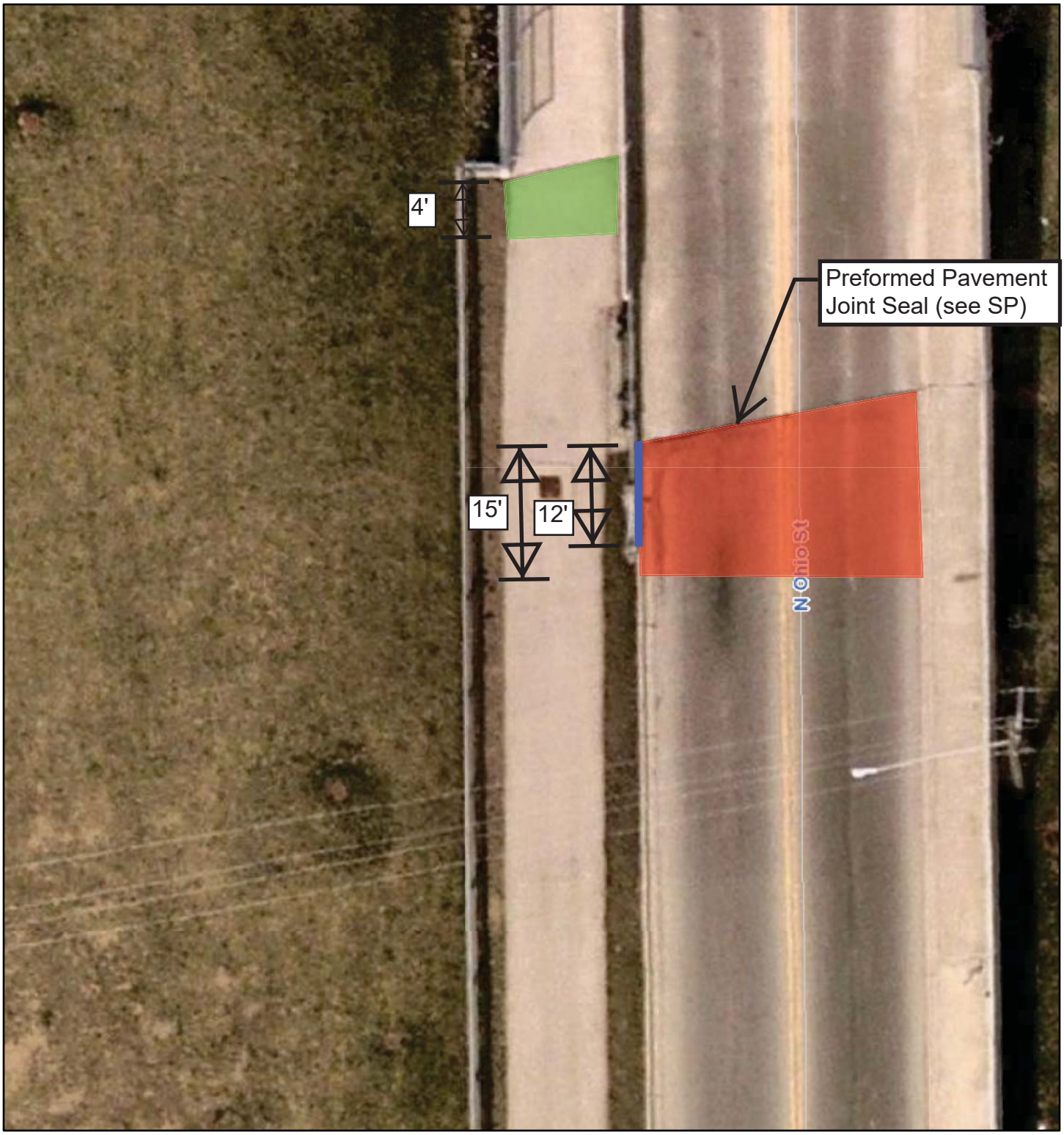
Ohio Street Bridge Repairs (SN 045-9942) - South



1:240

0 0 0 0.01 mi

0 0 0 0.01 km

Pavement Removal, Pavement Connector (PCC) for Bridge Approach Slab, Welded Wire Reinforcement, Protective Coat

Pavement Removal, Subbase Gran Mat Ty B 6", HMA Surface Course

Combination Curb & Gutter R&R

of Aurora GIS and Engineering
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Ohio Street Bridge

Work Type	Location	Pay Item No.	Pay Item	Unit	Qty
Pavment Connector					
	South Side				
		3	WELDED WIRE REINFORCEMENT	SQ YD	53
		4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	53
		5	PROTECTIVE COAT	SQ YD	53
		6	PAVEMENT REMOVAL	SQ YD	53
	North Side				
		3	WELDED WIRE REINFORCEMENT	SQ YD	53
		4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	53
		5	PROTECTIVE COAT	SQ YD	53
		6	PAVEMENT REMOVAL	SQ YD	53
Bike Path Repairs					
	South Side				
		1	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	6
		2	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	0.7
		6	PAVEMENT REMOVAL	SQ YD	6
	North Side				
		1	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	8
		2	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	0.9
		6	PAVEMENT REMOVAL	SQ YD	8
Curb and Gutter R&R					
	South Side				
		7	COMBINATION CURB AND GUTTER REMOVAL	FOOT	12
		11	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	12
	North Side				
		7	COMBINATION CURB AND GUTTER REMOVAL	FOOT	30
		11	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	30
Drainage Frame					
	North Side				
		9	MANHOLES TO BE ADJUSTED WITH NEW TYPE 11 FRAME AND GRATE	EACH	1
		10	FRAMES AND GRATES, TYPE 11	EACH	1
Bolt Replacement					
	Rail Splice at East Fence	13	BOLT REPLACEMENT	EACH	3
Graffiti Removal					
	As Directed by Engineer	12	GRAFFITI REMOVAL	SQ YD	250
	As Directed by Engineer	25	ANTI-GRAFFITI COATING	SQ FT	2,250

Project Quantity Summary

3 Bridge Total Project Summary

Pay Item No.	Pay Item	Unit	High St Qty	Wood St Qty	Ohio St Qty	Total Project Qty
1	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD			14	14
2	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON			2	2
3	WELDED WIRE REINFORCEMENT	SQ YD		110	106	216
4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD		110	106	216
5	PROTECTIVE COAT	SQ YD	3,947	110	106	4,163
6	PAVEMENT REMOVAL	SQ YD		110	120	230
7	COMBINATION CURB AND GUTTER REMOVAL	FOOT			42	42
8	PREFORMED JOINT STRIP SEAL	FOOT	97			97
9	MANHOLES TO BE ADJUSTED WITH NEW TYPE 11 FRAME AND GRATE	EACH			1	1
10	FRAMES AND GRATES, TYPE 11	EACH			1	1
11	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT			42	42
12	GRAFFITI REMOVAL	SQ YD	322	250	250	822
13	BOLT REPLACEMENT	EACH			3	3
14	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM				1
15	CONCRETE REMOVAL	CU YD	15.6			15.6
16	SLOPE WALL REMOVAL	SQ YD	260			260
17	CONCRETE SUPERSTRUCTURE	CU YD	15.3			15.3
18	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3,630			3,630
19	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1			1
20	REINFORCEMENT BARS, EPOXY COATED	POUND	2,060			2,060
21	PEDESTRIAN RAILING	FOOT	22			22
22	SLOPE WALL 4 INCH	SQ YD	260			260
23	GRANULAR BACKFILL FOR STRUCTURES	CU YD	261			261
24	CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	SQ YD	4			4
25	ANTI-GRAFFITI COATING	SQ FT	2,895	2,250	2,250	7,395
26	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, NO. 1	L SUM	1			1

3 Bridge Total Project Summary

Pay Item No.	Pay Item	Unit	High St Qty	Wood St Qty	Ohio St Qty	Total Project Qty
27	BRIDGE CLEANING AND PAINTING WARRANTY	L SUM	1			1
28	STRUCTURAL STEEL REMOVAL	POUND	3,630			3,630
29	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	761			761
30	DRILL AND GROUT BARS	EACH	60			60
31	RAILING REMOVAL AND RE-INSTALLATION	FOOT	263			263
32	SIDEWALK REMOVAL	SQ FT	84	250		334
33	PORTLAND CEMENT CONCRETE SIDEWALK (6 INCH)	SQ FT	84	250		334
34	TURF REINFORCEMENT MAT	SQ YD	16			16
35	FURNISHED EXCAVATION	CU YD	3			3
36	SIGN PANEL, TYPE 1	SQ FT	3			3
37	EPOXY CRACK INJECTION	FOOT	20			20
38	LANDSCAPE RESTORATION	L SUM				1
39	TRAFFIC CONTROL AND PROTECTION, SPECIAL	L SUM				1
40	ITEMS TO BE ORDERED BY THE ENGINEER	ALLOWANCE				1

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)

SUPPLEMENTAL SPECIFICATIONS

RECURRING SPECIAL PROVISIONS

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

Illinois Department of Transportation

Check Sheet for Recurring Special Provisions

Local Public Agency	County	Section Number
City of Aurora	Kane	2024 Bridge Rehabilitation Program

☐ **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
City of Aurora	Kane	2024 Bridge Rehabilitation Program

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

Local Roads And Streets Recurring Special Provisions

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FRICTION AGGREGATE (D1)

Effective: January 1, 2011
Revised: December 1, 2021

Revise Article 1004.03(a) of the Standard Specifications to read:

"**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	Allowed Alone or in Combination [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase or Shoulders	Allowed Alone or in Combination [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[1/] Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	Allowed Alone or in Combination [5/ 6/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete[3/]

<table>
<tr><th>Use</th><th>Mixture</th><th>Aggregates Allowed</th></tr>
<tr><td>HMA
High ESAL
Low ESAL</td><td>C Surface and Binder
IL-9.5
IL-9.5FG
or IL-9.5L</td><td><u>Allowed Alone or in Combination</u> [5/]:

Crushed Gravel
Carbonate Crushed Stone[2/]
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag[4/]
Crushed Concrete[3/]</td></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">D Surface and Binder
IL-9.5
or IL-9.5FG</td><td><u>Allowed Alone or in Combination</u> [5/]:

Crushed Gravel
Carbonate Crushed Stone (other than Limestone)[2/]
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag[4/]</td></tr>
<tr><td><u>Other Combinations Allowed:</u>

Up to... | With...</td></tr>
<tr><td>25% Limestone | Dolomite</td></tr>
<tr><td>50% Limestone | Any Mixture D aggregate other than Dolomite</td></tr>
<tr><td>75% Limestone | Crushed Slag (ACBF) or Crushed Sandstone</td></tr>
<tr><td rowspan="2">HMA
High ESAL</td><td rowspan="2">E Surface
IL-9.5

SMA
Ndesign 80
Surface</td><td><u>Allowed Alone or in Combination</u> [5/ 6/]:

Crushed Gravel
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag

No Limestone.</td></tr>
<tr><td><u>Other Combinations Allowed:</u>

Up to... | With...</td></tr>
</table>

<table>
<tr><td>Use</td><td>Mixture</td><td colspan="2">Aggregates Allowed</td></tr>
<tr><td rowspan="3"></td><td rowspan="3"></td><td>50% Dolomite[2/]</td><td>Any Mixture E aggregate</td></tr>
<tr><td>75% Dolomite[2/]</td><td>Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone</td></tr>
<tr><td>75% Crushed Gravel[2/]</td><td>Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag</td></tr>
<tr><td rowspan="5">HMA
High ESAL</td><td rowspan="5">F Surface
IL-9.5

SMA
Ndesign 80
Surface</td><td colspan="2"><u>Allowed Alone or in Combination</u> [5/ 6/]:

Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag
No Limestone.</td></tr>
<tr><td colspan="2"><u>Other Combinations Allowed</u>:</td></tr>
<tr><td>Up to...</td><td>With...</td></tr>
<tr><td>50% Crushed Gravel[2/] or Dolomite[2/]</td><td>Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone</td></tr>
</table>

1/ Crushed steel slag allowed in shoulder surface only.
2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80.
3/ Crushed concrete will not be permitted in SMA mixes.
4/ Crushed steel slag shall not be used as binder.
5/ When combinations of aggregates are used, the blend percent measurements shall be by volume."
6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80."

HAMBURG WHEEL AND TENSILE STRENGTH RATIO TESTING (D1 LR)

Effective: December 1, 2020
Revised: December 1, 2021

Revise the second and third paragraph of Article 1030.05 (d) of the Standard Specifications to read:

"High ESAL mixture designs shall meet the following requirements for tensile strength, TSR and Hamburg wheel criteria.

If a mix design fails the Department's verification testing, the Contractor shall make necessary changes to the mix and provide passing volumetric, tensile strength, TSR and Hamburg wheel procedure results before resubmittal. The Department will verify the passing results."

Add to the end of Article 1030.05 (d)(3) of the Standard Specifications to read:

" During mixture design, prepared samples shall be submitted to the District laboratory by the Contractor for verification testing. The required testing, and number and size of prepared samples submitted, shall be according to the following tables.

High ESAL – Required Samples for Verification Testing	
Mixture	Hamburg Wheel Testing [1/ 2/]
Binder	total of 3 - 160 mm tall bricks
Surface	total of 4 - 160 mm tall bricks

1/ The compacted gyratory bricks for Hamburg wheel testing shall be 7.5 ± 0.5 percent air voids.

2/ If the Contractor does not possess the equipment to prepare the 160 mm tall brick(s), twice as many 115 mm tall compacted gyratory bricks will be acceptable.

Delete Article 1030.05(d)(4) of the Standard Specifications.

Revise the fourth paragraph of Article 1030.10 of the Standard Specifications to read:

"When a test strip is not required, each HMA mixture shall still be sampled on the first day of production: Hamburg wheel testing for High ESAL. Within two working days after sampling the mixture, the Contractor shall deliver gyratory cylinders to the District laboratory for Department verification testing. The High ESAL mixture test results shall meet the requirements of Articles 1030.05(d)(3) and 1030.05(d)(4). The required number and size of prepared samples submitted

for the Hamburg wheel and I-FIT testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.05(d)(3) above.”

Revise the tenth paragraph of Article 1030.10 of the Standard Specifications to read:

“Upon notification by the Engineer of a failing Hamburg wheel test, the Contractor shall immediately resample and the Department will test. Paving may continue as long as all other mixture criteria is being met. If the second set of Hamburg wheel test fail, no additional mixture shall be produced until the Engineer receives passing Hamburg wheel tests.”

Add the following to the end of Article 1030.10 of the Standard Specifications to read:

“Mixture sampled during the first day of production shall include approximately 60 lb (27 kg) of additional material for the Department to conduct Hamburg wheel testing. Within two working days after sampling, the Contractor shall deliver prepared samples to the District laboratory for verification testing. The required number and size of prepared samples submitted for the Hamburg wheel testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.05(d)(3) above.”

HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D1)

Effective: November 1, 2019
Revised: December 1, 2021

Revise Article 1004.03(c) to read:

"(c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0; Stabilized Subbase IL-19.0	CA 11 [1/]
	SMA 12.5 [2/]	CA 13[4/], CA 14, or CA 16
	SMA 9.5 [2/]	CA 13[3/4/] or CA 16[3/]
	IL-9.5	CA 16, CM 13[4/]
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 [1/]
	IL-9.5L	CA 16

1/ CA 16 or CA 13 may be blended with the CA 11.

2/ The coarse aggregates used shall be capable of being combined with the fine aggregates and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.

4/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve."

Revise Article 1004.03(e) of the Supplemental Specifications to read:

"(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent."

Revise the “High ESAL” portion of the table in Article 1030.01 to read:

“High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, Stabilized Subbase IL-19.0
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5”

Revise Note 2. and add Note 6 to Article 1030.02 of the Standard Specifications to read:

“Item	Article/Section
(g) Performance Graded Asphalt Binder (Note 6)	1032
(h) Fibers (Note 2)	

Note 2. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 6. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be a SBS PG 76-22 for IL-4.75, except where modified herein..”

Revise table in Article 1030.05(a) of the Standard Specifications to read:

"MIXTURE COMPOSITION (% PASSING) [1/]												
Sieve Size	IL-19.0 mm		SMA 12.5		SMA 9.5		IL-9.5mm		IL-9.5FG		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)												
1 in. (25 mm)		100										
3/4 in. (19 mm)	90	100		100								
1/2 in. (12.5 mm)	75	89	80	100		100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	60	75[6/]	90	100
#8 (2.36 mm)	20	42	16	24 [4/]	16	32[4/]	34 [5/]	52 [2/]	45	60[6/]	70	90
#16 (1.18 mm)	15	30					10	32	25	40	50	65
#30 (600 μm)			12	16	12	18			15	30		
#50 (300 μm)	6	15					4	15	8	15	15	30
#100 (150 μm)	4	9					3	10	6	10	10	18
#200 (75 μm)	3.0	6.0	7.0	9.0 [3/]	7.5	9.5 [3/]	4.0	6.0	4.0	6.5	7.0	9.0 [3/]
#635 (20 μm)			≤ 3.0		≤ 3.0							
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0		1.0

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.

3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.

4/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.

5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.
6/ When the mixture is used as a binder, the maximum shall be increased by 0.5 percent passing."

Revise Article 1030.05(b) of the Standard Specifications to read:

(b) Volumetric Requirements. The target value for the air voids of the HMA shall be 4.0 percent, for IL-4.75 and SMA mixtures it shall be 3.5 percent and for Stabilized Subbase it shall be 3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (VFA) of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the following requirements.

	Voids in the Mineral Aggregate (VMA), % Minimum for Ndesign				
Mix Design	30	50	70	80	90
IL-19.0		13.5	13.5		13.5
IL-9.5		15.0	15.0		
IL-9.5FG		15.0	15.0		
IL-4.75[1/]		18.5			
SMA-12.5[1/2/5/]				17.0[3/]/16.0[4/]	
SMA-9.5[1/2/5/]				17.0[3/]/16.0[4/]	
IL-19.0L	13.5				
IL-9.5L	15.0				

1/ Maximum draindown shall be 0.3 percent according to Illinois Modified AASHTO T 305.

2/ The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30°F.

3/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

4/ Applies when specific gravity of coarse aggregate is < 2.760.

5/ For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone"

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

"IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steal slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours."

Add after third sentence of Article 1030.09(b) to read:

"If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure."

Revise Table 1 and Note 4/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

	Breakdown/Intermediate Roller (one of the following)	Final Roller (one or more of the following)	Density Requirement
IL-9.5, IL-9.5FG, IL-19.0 1/	V_D, P , T_B, 3W, O_T, O_B	V_S, T_B, T_F, O_T	As specified in Section 1030
IL-4.75 and SMA 3/ 4/	T_B, 3W, O_T	T_F, 3W	As specified in Section 1030
Mixtures on Bridge Decks 2/	T_B	T_F	As specified in Articles 582.05 and 582.06.

"4/ The Contractor shall provide a minimum of two steel-wheeled tandem rollers (T_B), and/or three-wheel (3W) rollers for breakdown, except one of the (T_B) or (3W) rollers shall be 84 inches (2.14 m) wide and a weight of 315 pound per linear inch (PLI) (5.63 kg/mm) and one of the (T_B) or (3W) rollers can be substituted for an oscillatory roller (O_T). T_F rollers shall be a minimum of 280 lb/in. (50 N/mm). The 3W and T_B rollers shall be operated at a uniform speed not to exceed 3 mph (5 km/h), with the drive roll for T_B rollers nearest the paver and maintain an effective rolling distance of not more than 150 ft (45 m) behind the paver."

Add the following after the fourth paragraph of Article 406.13 (b):

"The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design's G_{mb}."

Revise first paragraph of Article 1030.10 of the Standard Specifications to read:

"A test strip of 300 ton (275 metric tons), except for SMA mixtures it will be 400 ton (363 metric ton), will be required for each mixture on each contract at the beginning of HMA production for each construction year according to the Manual of Test Procedures for Materials "Hot Mix Asphalt Test Strip Procedures". At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results."

Revise third paragraph of Article 1030.10 of the Standard Specifications to read:

"When a test strip is constructed, the Contractor shall collect and split the mixture according to the document "Hot-Mix Asphalt Test Strip Procedures". The Engineer, or a representative, shall deliver split sample to the District Laboratory for verification testing. The Contractor shall complete mixture tests stated in Article 1030.09(a). Mixture sampled shall include enough material for the Department to conduct mixture tests detailed in Article 1030.09(a) and in the document "Hot-Mix Asphalt Mixture Design Verification Procedure" Section 3.3. The mixture test results shall meet the requirements of Articles 1030.05(b) and 1030.05(d), except Hamburg wheel tests will only be conducted on High ESAL mixtures during production."

CLEANING AND PAINTING CONTACT SURFACE AREAS OF EXISTING STEEL STRUCTURES

Effective: June 30, 2003
Revised: October 23, 2020

Description. This work shall consist of the surface preparation and painting of existing steel structures in areas that will be in contact with new steel.

The existing steel at primary connections (faying surfaces) shall be prepared and primed as specified herein prior to connecting new structural steel to the existing structure.

The existing steel at secondary connections shall be prepared, and if bare metal is exposed, primed as specified herein prior to connecting new structural steel to the existing structure.

General. The existing coatings shall be assumed to contain lead and may also contain other toxic metals. Any plans that may be furnished for the work, and any dimensions or other information given regarding a structure, are only for the purpose of assisting bidders in determining the type and location of steel to be cleaned and painted. It is the responsibility of the Contractor to verify this information and the accuracy of the information provided shall in no way affect the price bid for structural steel.

Materials. The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material must be tested and approved before use.

The paint materials shall meet the requirements of the following articles of the Standard Specification:

Item	Article
a) Organic Zinc Rich Primer	1008.05
b) Aluminum Epoxy Mastic	1008.03

Submittals:

a) Manufacturer's application instructions and product data sheets. Copies of the paint manufacturer's application instructions and product data sheets shall be furnished to the Engineer at the field site before steel cleaning begins.

b) Waste Management Plan. The Waste Management Plan shall address all aspects of waste handling, storage, testing, hauling and disposal. 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) 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.

Construction Requirements. 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, coating mixing and application, and evaluations between coats and upon completion of the work). The Contractor shall provide artificial lighting in areas 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 priming, including the working platforms, access, and entryways shall be at least 20 foot-candles (215 LUX).

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 protective devices are not being accomplished, as determined by the Engineer, work shall be immediately suspended until corrections are made. Painted surfaces damaged by any Contractor's operation shall be removed and repainted, as directed by the Engineer, at the Contractor's expense.

Weather Conditions. Surfaces to be primed after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to ensure that dust, dirt, or moisture does not come in contact with surfaces cleaned prior to painting. Surfaces painted shall be protected until the coating is sufficiently cured to protect itself from damage.

Restrictions on ambient conditions shall be as per the coating manufacturer’s written specifications.

Surface Preparation: Prior to making connections or painting, all loose abrasives, paint, and residue shall be contained, collected, removed from the surface area and properly disposed of as specified later in this specification.

Soluble Salt Remediation. 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 runoff such as fascia beams and stringers. Surfaces shall be tested for chlorides at a frequency of five tests per bearing line, 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 7µg/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 µg/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 as specified below.

Painted surfaces of new steel damaged by abrasive blasting or by the Contractor's operations shall be repainted, as directed by the Engineer, at the Contractor's expense.

a) Primary Connections. Primary connections shall be defined as faying (contact) surfaces of high-strength bolted connections specifically noted in plans.

   The surfaces of existing steel in all areas that will be in direct contact with new steel shall be prepared according to SSPC-SP15, Commercial Grade Power Tool Cleaning using vacuum-shrouded power tools equipped with HEPA filtration. The surface preparation shall remove all rust, mill scale, and existing paint from the contact surface. At the Contractors option, vacuum blast cleaning according to SSPC-SP6, Commercial Blast Cleaning may be substituted for SSPC-SP15 at no additional cost to the Department. The surface profile for primary connection surfaces shall be 1.5 to 3.5 mils (38 to 90 microns).

b) Secondary Connections. Secondary connections shall be defined as all surface areas of existing members that will be in contact with new steel except as previously defined as primary connections.

   These surfaces of existing steel in all areas that will be in direct contact with new steel shall be prepared according to SSPC-SP3, Power Tool Cleaning using vacuum-shrouded power tools equipped with HEPA filtration. The surface preparation shall remove all loose rust, loose mill scale, and loose, checked, alligatored and peeling paint from the contact surface. At the Contractors option, vacuum blast cleaning according to SSPC-SP6, Commercial Blast Cleaning or SSPC-SP15, Commercial Grade Power Tool Cleaning may be substituted for SSPC-SP3 at no additional cost to the Department. The surface profile for abrasive blast

cleaning and Commercial Grade Power Tool Cleaning shall be 1.5 to 3.5 mils (38 to 90 microns).

Painting. The manufacturer's written instructions shall be followed for paint storage, mixing, thinning, application, ambient conditions, and drying times between coats. The surface shall be free of dirt, dust, and debris prior to the application of any coat. The coatings 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.

The Engineer will approve surface preparation prior to priming.

a) For Primary connections the surface of the prepared steel cleaned to bare metal shall be primed with an organic zinc rich primer between 3.5 and 5.0 mils (90 and 125 microns) dry film thickness.

b) For Secondary Connections the surface of the prepared steel cleaned to bare metal shall be painted with either one coat of epoxy mastic between 5 and 7 mils (125 microns to 180 microns) in thickness or one coat of an organic zinc rich primer between 3.5 and 5.0 mils (90 and 125 microns) in thickness. Areas not cleaned to bare metal need not be painted.

For primary connections, the primer on the surface of the prepared steel shall cure according to the manufacturers instructions prior to connecting new structural steel to the existing structure. For secondary connections, the primer on the surface of the prepared steel need only be dry to touch prior to connecting new steel to the existing structure.

The surrounding coating at each prepared 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.

Collection, Temporary Storage, Transportation and Disposal of Waste. The Contractor and the Department are considered to be co-generators of the waste.

The Contractor is responsible for all aspects of waste collection, testing and identification, handling, storage, transportation, and disposal according to these specifications and all applicable Federal, State, and Local regulations. The Contractor shall provide for Engineer review and acceptance a Waste Management Plan that addresses all aspects of waste handling, storage, and testing, and provides the names, addresses, and a contact person for the proposed licensed waste haulers and disposal facilities. The Department will not perform any functions relating to the waste other than provide EPA identification numbers, provide the Contractor with the emergency response information, the emergency response telephone number required to be provided on the manifest, and to sign the waste manifest. The Engineer will obtain the identification numbers from the state and federal environmental protection agencies for the bridge(s) to be painted and furnish those to the Contractor.

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., securing the lids or covers of waste containers and roll-off boxes). Waste shall not be stored outside of the containers. Waste shall be collected and transferred to bulk containers taking extra precautions as necessary to prevent the suspension of residues in air or contamination of surrounding surfaces. Precautions may include the transfer of the material within a tarpaulin enclosure. Transfer into roll-off boxes shall be planned to minimize the need for workers to enter the roll-off box.

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 all-weather containers shall meet the requirements for the transportation of hazardous materials and as approved by the Department. Acceptable containers include covered roll-off boxes and 55-gallon drums (17H). The Contractor shall insure that no breaks and no deterioration of these containers occurs and shall maintain a written log of weekly inspections of the condition of the containers. A copy of the log shall be furnished to the Engineer upon request. The containers shall be kept closed and sealed from moisture except during the addition of waste. Each container shall be permanently identified with the date that waste was placed into the container, contract number, hazardous waste name and ID number, and other information required by the IEPA.

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. The costs of testing shall be considered included in this work. Copies of the test results shall be provided to the Engineer prior to shipping the waste.

The existing paint removed, together with the surface preparation media (e.g. abrasive) shall be handled as a hazardous waste, regardless of the TCLP results. The waste shall be transported by a licensed hazardous waste transporter, treated by an IEPA permitted treatment facility to a non-hazardous special waste and disposed of at an IEPA permitted disposal facility in Illinois.

The treatment/disposal facilities shall be approved by the Engineer and shall hold an IEPA permit for waste disposal and waste stream authorization for this cleaning residue. The IEPA permit and waste stream authorization must be obtained prior to beginning cleaning, except that if necessary, limited paint removal will be permitted in order to obtain samples of the waste for the disposal facilities. The waste shall be shipped to the 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.

The Contractor shall submit a waste accumulation inventory table to the Engineer no later than the 5th day of the month. The table shall show the number and size of waste containers filled each day in the preceding month and the amount of waste shipped that month, including the dates of shipments.

The Contractor shall prepare a manifest supplied by the IEPA for off-site treatment and disposal before transporting the hazardous waste off-site. The Contractor shall prepare a land ban notification for the waste to be furnished to the disposal facility. The Contractor shall obtain the handwritten signature of the initial transporter and date of the acceptance of the manifest. The Contractor shall send one copy of the manifest to the IEPA within two working days of transporting the waste off-site. The Contractor shall furnish the generator copy of the manifest and a copy of the land ban notification to the Engineer. The Contractor shall give the transporter the remaining copies of the manifest.

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.

Contractor personnel shall be trained in the proper handling of hazardous waste, and the necessary notification and clean up requirements in the event of a spill. The Contractor shall maintain a copy of the personnel training records at each bridge site.

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 will be considered included in the cost of "Furnishing and Erecting Structural Steel", "Erecting Structural Steel", or "Structural Steel Repair", as applicable, according to the Standard Specifications, unless otherwise specified on the plans.

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 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:

Item	Article
(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 7µg/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 µg/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 Article1008.03 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 horizonal 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

STRUCTURAL REPAIR OF CONCRETE
Effective: March 15, 2006
Revised: August 9, 2019

Description. This work shall consist of structurally repairing concrete.

Materials. Materials shall be according to the following.

Item	Article/Section
(a) Portland Cement Concrete (Note 1)	1020
(b) R1, R2, or R3 Concrete (Note 2)	
(c) Normal Weight Concrete (Notes 3 and 4)	
(d) Shotcrete (High Performance) (Notes 5 and 6)	
(e) Reinforcement Bars	1006.10
(f) Anchor Bolts	1006.09
(g) Water	1002
(h) Curing Compound	1022.01
(i) Cotton Mats	1022.02
(j) Protective Coat	1023.01
(k) Epoxy (Note 7)	1025
(l) Mechanical Bar Splicers	508.06(c)

Note 1. The concrete shall be Class SI, except the cement factor shall be a minimum 6.65 cwt/cu yd (395 kg/cu m), the coarse aggregate shall be a CA 16, and the strength shall be a minimum 4000 psi (27,500 kPa) compressive or 675 psi (4650 kPa) flexural at 14 days. A high range water-reducing admixture shall be used to obtain a 5-7 in. (125-175 mm) slump, but a cement factor reduction according to Article 1020.05(b)(8) is prohibited. A self-consolidating concrete mixture is also acceptable per Article 1020.04, except the mix design requirements of this note regarding the cement factor, coarse aggregate, strength, and cement factor reduction shall apply.

Note 2. The R1, R2, or R3 concrete shall be from the Department's qualified product list of Packaged, Dry, Rapid Hardening, Cementitious Materials for Concrete Repairs. The R1, R2, or R3 concrete shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. A high range water-reducing admixture shall be used to obtain a 5-7 in. (125-175 mm) slump, and a retarder may be required to allow time to perform the required field tests. The admixtures shall be per the manufacturer's recommendation, and the Department's qualified product list of Concrete Admixtures shall not apply.

Note 3. The "high slump" packaged concrete mixture shall be from the Department's qualified product list of Packaged, Dry, Formed, Concrete Repair Mixtures. The materials and preparation of aggregate shall be according to ASTM C 387. The

cement factor shall be 6.65 cwt/cu yd (395 kg/cu m) minimum to 7.05 cwt/cu yd (418 kg/cu m) maximum. Cement replacement with fly ash or ground granulated blast-furnace slag shall be according to Section 1020. The "high slump" packaged concrete mixture shall have a water soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the "high slump" packaged concrete mixture shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department. The coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). The packaged concrete mixture shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. A high range water-reducing admixture shall be used to obtain a 5-7 in. (125-175 mm) slump. The admixture shall be per the manufacturer's recommendation, and the Department's qualified product list of Concrete Admixtures shall not apply. A maximum slump of 10 in. (250 mm) may be permitted if no segregation is observed by the Engineer in a laboratory or field evaluation.

Note 4 The "self-consolidating concrete" packaged concrete mixture shall be from the Department's qualified product list of Packaged, Dry, Formed, Concrete Repair Mixtures. The materials and preparation of aggregate shall be according to ASTM C 387. The cement factor shall be 6.65 cwt/cu yd (395 kg/cu m) minimum to 7.05 cwt/cu yd (418 kg/cu m) maximum. Cement replacement with fly ash or ground granulated blast-furnace slag shall be according to Section 1020. The "self- consolidating concrete" packaged concrete mixture shall have a water soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the "self-consolidating concrete" packaged concrete mixture shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department. The concrete mixture should be uniformly graded, and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used. The packaged concrete mixture shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. The admixtures used to produce self-consolidating concrete shall be per the manufacturer's recommendation, and the Department's qualified product list of Concrete Admixtures shall not apply. The packaged concrete mixture shall meet the self- consolidating requirements of Article 1020.04.

Note 5. Packaged shotcrete that includes aggregate shall be from the Department's qualified product list of Packaged High Performance Shotcrete, and independent

laboratory test results showing the product meets Department specifications will be required. The product shall be a packaged, pre-blended, and dry combination of materials, for the wet-mix shotcrete method according to ASTM C 1480. A non-chloride accelerator may be used according to the shotcrete manufacturer's recommendations. The shotcrete shall be Type FA or CA, Grade FR, and Class I. The fibers shall be Type III synthetic according to ASTM C 1116.

The packaged shotcrete shall have a water soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the hardened shotcrete shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department.

Each individual aggregate used in the packaged shotcrete shall have either a maximum ASTM C 1260 expansion of 0.16 percent or a maximum ASTM C 1293 expansion of 0.040 percent. However, the ASTM C 1260 value may be increased to 0.27 percent for each individual aggregate if the cement total equivalent alkali content ($Na_2O + 0.658K_2O$) does not exceed 0.60 percent. As an alternative to these requirements, ASTM C 1567 testing which shows the packaged shotcrete has a maximum expansion of 0.16 percent may be submitted. The ASTM C 1260, C 1293, or C 1567 test shall be performed a minimum of once every two years.

The 7 and 28 day compressive strength requirements in ASTM C 1480 shall not apply. Instead the shotcrete shall obtain a minimum compressive strength of 4000 psi (27,500 kPa) at 14 days.

The packaged shotcrete shall be limited to the following proportions:

The portland cement and finely divided minerals shall be 6.05 cwt/cu yd (360 kg/cu m) to 8.50 cwt/cu yd (505 kg/cu m) for Type FA and 6.05 cwt/cu yd (360 kg/cu. m) to 7.50 cwt/cu yd (445 kg/cu m) for Type CA. The portland cement shall not be below 4.70 cwt/cu yd (279 kg/cu m) for Type FA or CA.

The finely divided mineral(s) shall constitute a maximum of 35 percent of the total cement plus finely divided mineral(s).

Class F fly ash is optional and the maximum shall be 20 percent by weight (mass) of cement.

Class C fly ash is optional and the maximum shall be 25 percent by weight (mass) of cement.

Ground granulated blast-furnace slag is optional and the maximum shall be 30 percent by weight (mass) of cement.

Microsilica is required and shall be a minimum of 5 percent by weight (mass) of cement, and a maximum of 10 percent. As an alternative to microsilica, high-reactivity metakaolin may be used at a minimum of 5 percent by weight (mass) of cement, and a maximum of 10 percent.

Fly ash shall not be used in combination with ground granulated blast-furnace slag. Class F fly ash shall not be used in combination with Class C fly ash. Microsilica shall not be used in combination with high-reactivity metakaolin. A finely divided mineral shall not be used in combination with a blended hydraulic cement, except for microsilica or high-reactivity metakaolin.

The water/cement ratio as defined in Article 1020.06 shall be a maximum of 0.42.

The air content as shot shall be 4.0 – 8.0 percent.

Note 6 Packaged shotcrete that does not include pre-blended aggregate shall be from the Department's qualified product list of Packaged High Performance Shotcrete, and independent laboratory test results showing the product meets Department specifications will be required. The shotcrete shall be according to Note 5, except the added aggregate shall be according to Articles 1003.02 and 1004.02 in addition to each individual aggregate meeting the maximum expansion requirements of Note 5. The aggregate gradation shall be according to the manufacturer. The shotcrete shall be batched and mixed with added aggregate according to the manufacturer.

Note 7. In addition ASTM C 881, Type IV, Grade 2 or 3, Class A, B, or C may be used.

Equipment. Equipment shall be according to Article 503.03 and the following.

Chipping Hammer – The chipping hammer for removing concrete shall be a light-duty pneumatic or electric tool with a 15 lb. (7 kg) maximum class or less.

Blast Cleaning Equipment – Blast cleaning equipment for concrete surface preparation shall be the abrasive type, and the equipment shall have oil traps.

Hydrodemolition Equipment – Hydrodemolition equipment for removing concrete shall be calibrated, and shall use water according to Section 1002.

High Performance Shotcrete Equipment – The batching, mixing, pumping, hose, nozzle, and auxiliary equipment shall be for the wet-mix shotcrete method, and shall meet the requirements of ACI 506R.

Construction Requirements

General. The repair methods shall be either formed concrete repair or shotcrete. The repair method shall be selected by the Contractor with the following rules.

(a) Rule 1. For formed concrete repair, a subsequent patch to repair the placement point after initial concrete placement will not be allowed. As an example, this may occur in a vertical location located at the top of the repair.

(b) Rule 2. Formed concrete repair shall not be used for overhead applications.

(c) Rule 3. If formed concrete repair is used for locations that have reinforcement with less than 0.75 in. (19 mm) of concrete cover, the concrete mixture shall contain fly ash or ground granulated blast-furnace slag at the maximum cement replacement allowed.

(d) Rule 4. Shotcrete shall not be used for any repair greater than 6 in. (150 mm) in depth, except in horizontal applications, where the shotcrete may be placed from above in one lift.

(e) Rule 5. Shotcrete shall not be used for column repairs greater than 4 in. (100 mm) in depth, unless the shotcrete mixture contains 3/8 in. (9.5 mm) aggregate.

Temporary Shoring or Cribbing. When a temporary shoring or cribbing support system is required, the Contractor shall provide details and computations, prepared and sealed by an Illinois licensed Structural Engineer, to the Department for review and approval. When ever possible the support system shall be installed prior to starting the associated concrete removal. If no system is specified, but during the course of removal the need for temporary shoring or cribbing becomes apparent or is directed by the Engineer due to a structural concern, the Contractor shall not proceed with any further removal work until an appropriate and approved support system is installed.

Concrete Removal. The Contractor shall provide ladders or other appropriate equipment for the Engineer to mark the removal areas. Repair configurations will be kept simple, and squared corners will be preferred. The repair perimeter shall be sawed a depth of 1/2 in. (13 mm) or less, as required to avoid cutting the reinforcement. Any cut reinforcement shall be repaired or replaced at the expense of the Contractor. If the concrete is broken or removed beyond the limits of the initial saw cut, the new repair perimeter shall be recut. The areas to be repaired shall have all loose, unsound concrete removed completely by the use of chipping hammers, hydrodemolition equipment, or other methods approved by the Engineer. The concrete removal shall extend along the reinforcement bar until the reinforcement is free of bond inhibiting corrosion. Reinforcement bar with 50 percent or more exposed shall be undercut to a depth of 3/4 in. (19 mm) or the diameter of the reinforcement bar, whichever is greater.

If sound concrete is encountered before existing reinforcement bars are exposed, further removal of concrete shall not be performed unless the minimum repair depth is not met.

The repair depth shall be a minimum of 1 in. (25 mm). The substrate profile shall be ± 1/16 in. (± 1.5 mm). The perimeter of the repair area shall have a vertical face.

If a repair is located at the ground line, any excavation required below the ground line to complete the repair shall be included in this work.

The Contractor shall have a maximum of 14 calendar days to complete each repair location with concrete or shotcrete, once concrete removal has started for the repair.

The Engineer shall be notified of concrete removal that exceeds 6 in. (150 mm) in depth, one fourth the cross section of a structural member, more than half the vertical column reinforcement is exposed in a cross section, more than 6 consecutive reinforcement bars are exposed in any direction, within 1.5 in. (38 mm) of a bearing area, or other structural concern. Excessive deterioration or removal may require further evaluation of the structure or installation of temporary shoring and cribbing support system.

Surface Preparation. Prior to placing the concrete or shotcrete, the Contractor shall prepare the repair area and exposed reinforcement by blast cleaning. The blast cleaning shall provide a surface that is free of oil, dirt, and loose material.

If a succeeding layer of shotcrete is to be applied, the initial shotcrete surface and remaining exposed reinforcement shall be free of curing compound, oil, dirt, loose material, rebound (i.e. shotcrete material leaner than the original mixture which ricochets off the receiving surface), and overspray. Preparation may be by lightly brushing or blast cleaning if the previous shotcrete surface is less than 36 hours old. If more than 36 hours old, the surface shall be prepared by blast cleaning.

The repair area and perimeter vertical face shall have a rough surface. Care shall be taken to ensure the sawcut face is roughened by blast cleaning. Just prior to concrete or shotcrete placement, saturate the repair area with water to a saturated surface-dry condition. Any standing water shall be removed.

Concrete or shotcrete placement shall be done within 3 calendar days of the surface preparation or the repair area shall be prepared again.

Reinforcement. Exposed reinforcement bars shall be cleaned of concrete and corrosion by blast cleaning. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required.

Reinforcing bars that have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new in kind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed.

Intersecting reinforcement bars shall be tightly secured to each other using 0.006 in. (1.6 mm) or heavier gauge tie wire, and shall be adequately supported to minimize movement during concrete placement or application of shotcrete.

For reinforcement bar locations with less than 0.75 in. (19 mm) of cover, protective coat shall be applied to the completed repair. The application of the protective coat shall be according to Article 503.19, 2nd paragraph, except blast cleaning shall be performed to remove curing compound.

The Contractor shall anchor the new concrete to the existing concrete with 3/4 in. (19 mm) diameter hook bolts for all repair areas where the depth of concrete removal is greater than 8 in. (205 mm) and there is no existing reinforcement extending into the repair area. The hook bolts shall be spaced at 15 in. (380 mm) maximum centers both vertically and horizontally, and shall be a minimum of 12 in. (305 mm) away from the perimeter of the repair. The hook bolts shall be installed according to Section 584.

Repair Methods. All repair areas shall be inspected and approved by the Engineer prior to placement of the concrete or application of the shotcrete.

(a) Formed Concrete Repair. Falsework shall be according to Article 503.05. Forms shall be according to Article 503.06. Formwork shall provide a smooth and uniform concrete finish, and shall approximately match the existing concrete structure. Formwork shall be mortar tight and closely fitted where they adjoin the existing concrete surface to prevent leakage. Air vents may be provided to reduce voids and improve surface appearance. The Contractor may use exterior mechanical vibration, as approved by the Engineer, to release air pockets that may be entrapped.

The concrete for formed concrete repair shall be a Class SI Concrete, or a packaged R1, R2, or R3 Concrete,, or a packaged Normal Weight Concrete at the Contractor's option. The concrete shall be placed and consolidated according to Article 503.07. The concrete shall not be placed when frost is present on the surface of the repair area, or the surface temperature of the repair area is less than 40 °F (4 °C). All repaired members shall be restored as close as practicable to their original dimensions.

Curing shall be done according to Article 1020.13.

If temperatures below 45°F (7°C) are forecast during the curing period, protection methods shall be used. Protection Method I according to Article 1020.13(d)(1), or

Protection Method II according to Article 1020.13(d)(2) shall be used during the curing period.

The surfaces of the completed repair shall be finished according to Article 503.15.

(b) Shotcrete. Shotcrete shall be tested by the Engineer for air content according to Illinois Modified AASHTO T 152. The sample shall be obtained from the discharge end of the nozzle by shooting a pile large enough to scoop a representative amount for filling the air meter measuring bowl. Shotcrete shall not be shot directly into the measuring bowl for testing.

For compressive strength of shotcrete, a 18 x 18 x 3.5 in. (457 x 457 x 89 mm) test panel shall be shot by the Contractor for testing by the Engineer. A steel form test panel shall have a minimum thickness of 3/16 in. (5 mm) for the bottom and sides. A wood form test panel shall have a minimum 3/4 in. (19 mm) thick bottom, and a minimum 1.5 in. (38 mm) thickness for the sides. The test panel shall be cured according to Article 1020.13 (a) (3) or (5) while stored at the jobsite and during delivery to the laboratory. After delivery to the laboratory for testing, curing and testing shall be according to ASTM C 1140.

The method of alignment control (i.e. ground wires, guide strips, depth gages, depth probes, and formwork) to ensure the specified shotcrete thickness and reinforcing bar cover is obtained shall be according to ACI 506R. Ground wires shall be removed after completion of cutting operations. Guide strips and formwork shall be of dimensions and a configuration that do not prevent proper application of shotcrete. Metal depth gauges shall be cut 1/4 in. (6 mm) below the finished surface. All repaired members shall be restored as close as practicable to their original dimensions.

For air temperature limits when applying shotcrete in cold weather, the first paragraph of Article 1020.14(b) shall apply. For hot weather, shotcrete shall not be applied when the air temperature is greater than 90°F (32°C). The applied shotcrete shall have a minimum temperature of 50°F (10°C) and a maximum temperature of 90°F (32°C). The shotcrete shall not be applied during periods of rain unless protective covers or enclosures are installed. The shotcrete shall not be applied when frost is present on the surface of the repair area, or the surface temperature of the repair area is less than 40°F (4°C). If necessary, lighting shall be provided to provide a clear view of the shooting area.

The shotcrete shall be applied according to ACI 506R, and shall be done in a manner that does not result in cold joints, laminations, sandy areas, voids, sags, or separations. In addition, the shotcrete shall be applied in a manner that results in maximum densification of the shotcrete. Shotcrete which is identified as being unacceptable while still plastic shall be removed and re-applied.

The nozzle shall normally be at a distance of 2 to 5 ft. (0.6 to 1.5 m) from the receiving surface, and shall be oriented at right angles to the receiving surface. Exceptions to this

requirement will be permitted to fill corners, encase large diameter reinforcing bars, or as approved by the Engineer. For any exception, the nozzle shall never be oriented more than 45 degrees from the surface. Care shall be taken to keep the front face of the reinforcement bar clean during shooting operations. Shotcrete shall be built up from behind the reinforcement bar. Accumulations of rebound and overspray shall be continuously removed prior to application of new shotcrete. Rebound material shall not be incorporated in the work.

Whenever possible, shotcrete shall be applied to the full thickness in a single layer. The maximum thickness shall be according to Rules 4 and 5 under Construction Requirements, General. When two or more layers are required, the minimum number shall be used and shall be done in a manner without sagging or separation. A flash coat (i.e. a thin layer of up to 1/4 in. (6 mm) applied shotcrete) may be used as the final lift for overhead applications.

Prior to application of a succeeding layer of shotcrete, the initial layer of shotcrete shall be prepared according to the surface preparation and reinforcement bar cleaning requirements. Upon completion of the surface preparation and reinforcement bar treatment, water shall be applied according to the surface preparation requirements unless the surface is moist. The second layer of shotcrete shall then be applied within 30 minutes.

Shotcrete shall be cut back to line and grade using trowels, cutting rods, screeds or other suitable devices. The shotcrete shall be allowed to stiffen sufficiently before cutting. Cutting shall not cause cracks or delaminations in the shotcrete. For depressions, cut material may be used for small areas. Rebound material shall not be incorporated in the work. For the final finish, a wood float shall be used to approximately match the existing concrete texture. A manufacturer approved finishing aid may be used. Water shall not be used as a finishing aid. All repaired members shall be restored as close as practicable to their original dimensions.

Contractor operations for curing shall be continuous with shotcrete placement and finishing operations. Curing shall be accomplished using wetted cotton mats, membrane curing, or a combination of both. Cotton mats shall be applied according to Article 1020.13(a)(5) except the exposed layer of shotcrete shall be covered within 10 minutes after finishing, and wet curing shall begin immediately. Curing compound shall be applied according to Article 1020.13(a)(4), except the curing compound shall be applied as soon as the shotcrete has hardened sufficiently to prevent marring the surface, and each of the two separate applications shall be applied in opposite directions to ensure coverage. The curing compound shall be according to Article 1022.01. Note 5 of the Index Table in Article 1020.13 shall apply to the membrane curing method.

When a shotcrete layer is to be covered by a succeeding shotcrete layer within 36 hours, the repair area shall be protected with intermittent hand fogging, or wet curing with either burlap or cotton mats shall begin within 10 minutes. Intermittent hand fogging may be used only for the first hour. Thereafter, wet curing with burlap or cotton mats shall be

used until the succeeding shotcrete layer is applied. Intermittent hand fogging may be extended to the first hour and a half if the succeeding shotcrete layer is applied by the end of this time.

The curing period shall be for 7 days, except when there is a succeeding layer of shotcrete. In this instance, the initial shotcrete layer shall be cured until the surface preparation and reinforcement bar treatment is started.

If temperatures below 45°F (7°C) are forecast during the curing period, protection methods shall be used. Protection Method I according to Article 1020.13(d)(1), or Protection Method II according to Article 1020.13(d)(2) shall be used during the curing period

Inspection of Completed Work. The Contractor shall provide ladders or other appropriate equipment for the Engineer to inspect the repaired areas. After curing but no sooner than 28 days after placement of concrete or shooting of shotcrete, the repair shall be examined for conformance with original dimensions, cracks, voids, and delaminations. Sounding for delaminations will be done with a hammer or by other methods determined by the Engineer.

The acceptable tolerance for conformance of a repaired area shall be within 1/4 in. (6 mm) of the original dimensions. A repaired area not in dimensional conformance or with delaminations shall be removed and replaced.

A repaired area with cracks or voids shall be considered as nonconforming. Exceeding one or more of the following crack and void criteria shall be cause for removal and replacement of a repaired area.

1. The presence of a single surface crack greater than 0.01 in. (0.25 mm) in width and greater than 12 in. (300 mm) in length.

2. The presence of two or more surface cracks greater than 0.01 in. (0.25 mm) in width that total greater than 24 in. (600 mm) in length.

3. The presence of map cracking in one or more regions totaling 15 percent or more of the gross surface area of the repair.

4. The presence of two or more surface voids with least dimension 3/4 in. (19 mm) each.

A repaired area with cracks or voids that do not exceed any of the above criteria may remain in place, as determined by the Engineer.

If a nonconforming repair is allowed to remain in place, cracks greater than 0.007 in. (0.2 mm) in width shall be repaired with epoxy according to Section 590. For cracks less than or equal to 0.007 in. (0.2 mm) in width, the epoxy may be applied to the surface of the crack. Voids shall be repaired according to Article 503.15.

Publications and Personnel Requirements. The Contractor shall provide a current copy of ACI 506R to the Engineer a minimum of one week prior to start of construction.

The shotcrete personnel who perform the work shall have current American Concrete Institute (ACI) nozzlemen certification for vertical wet and overhead wet applications, except one individual may be in training. This individual shall be adequately supervised by a certified ACI nozzlemen as determined by the Engineer. A copy of the nozzlemen certificate(s) shall be given to the Engineer.

Method of Measurement. This work will be measured for payment in place and the area computed in square feet (square meters). For a repair at a corner, both sides will be measured.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN. (125 MM), STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN. (125 MM).

When not specified to be paid for elsewhere, the work to design, install, and remove the temporary shoring and cribbing will be paid for according to Article 109.04.

With the exception of reinforcement damaged by the Contractor during removal, the furnishing and installation of supplemental reinforcement bars, mechanical bar splicers, hook bolts, and protective coat will be paid according to Article 109.04.

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.

<u>Collection, Temporary Storage, Transportation and Disposal of Waste.</u>

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 Debris[1]					
Removal Method	**SSPC Class[2]**	**Containment Material Flexibility**	**Containment Material Permeability[3]**	**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 Debris[1]					
Removal Method	**SSPC Class[2]**	**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:

[1]This 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.

[2]The SSPC Classification is based on SSPC Guide 6.

[3]Permeability 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.

[4]Containment 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.

[5]This 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.

[6]This 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.

[7]Chips 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)

[8]This 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.

PREFORMED PAVEMENT JOINT SEAL
Effective: October 4, 2016
Revised: March 24, 2023

Description. This work shall consist of furnishing all labor, equipment and materials necessary to prepare the joint opening and install pavement joint seal(s) at the locations specified. Unless otherwise detailed on the plans, the joint shall be sized for a rated movement of 2 inches (50 mm).

Materials: Unless otherwise specified, one of the following prefabricated joint seals will be permitted.

(a) Preformed Elastomeric Joint Seal. This material shall be according to Section 1053.01.

(b) Preformed Pre-compressed, Silicone Coated, Self-Expanding Sealant System. This Sealant system shall be comprised of three components: 1) cellular polyurethane foam impregnated with hydrophobic 100% acrylic, water-based emulsion, factory coated with highway-grade, fuel resistant silicone; 2) field-applied epoxy adhesive primer, 3) field-injected silicone sealant bands.

The preformed, pre-compressed silicone joint seal shall, as a minimum, be according to the following:

- The joint seal shall be held in place by a non-sag, high modulus silicone adhesive.
- The joint seal shall be compatible with the epoxy and header material.
- The joint seal shall withstand the effects of vertical and lateral movements, skew movements and rotational movement without adhesive or cohesive failure.
- The joint seal shall be designed so that, the material is capable of movement of +50%, -50% (100% total) of nominal material size.
- The gland shall not contain any open, unsealed joints along its length in its final condition.
- Changes in plane and direction shall be executed using factory fabricated 90 degree transition assemblies. The transitions shall be watertight at the inside and outside corners through the full movement of the product.
- The depth of the joint shall be recessed 3/4 in. (19 mm) below the riding surface throughout the normal limits of joint movement.
- The joint seal shall be resistant to ultraviolet rays.
- The joint seal shall be resistant to abrasion, oxidation, oils, gasoline, salt, and other materials that may be spilled on or applied to the surface.
- The manufacturer shall certify that the joint composition shall be free of any waxes or wax compounds; asphalts or asphalt compounds.

The joint material shall meet the following physical properties:

Property	Requirement	Test Method
Tensile Strength of Silicone Coating (min)	140 psi	ASTM D 412
UV Resistance of Joint System	No Changes--2000 Hours	ASTM C793
Density of Cellular Polyurethane Foam	4.0 lb/ cu ft (200kg/cu m)	ASTM D545
Heat Aging Effects (Silicone Coating)	No cracking, chalking	ASTM C 792
Joint System Operating temp range (min)	-40° F to 185° F	ASTM C 711

The adhesive shall be a two-component, 100% solid, modified epoxy meeting the requirements of ASTM C881, Type I, Grade 3, Class B & C. The adhesive shall also have the following properties:

Property	Requirement	Test method
Tensile Strength	2,500 psi (24 MPa) min.	ASTM D638
Compressive Strength	7000 psi (48 MPa) min.	ASTM D695
Bond Strength (Dry Cure)	2000 psi (28MPa) min	ASTM C882
Water Absorption	0.1% by weight	ASTM D570

The silicone band adhesive shall have the following properties:

Property	Requirement	Test Method
Movement Capability	+50/-50%	ASTM C 719
Elongation at Break	>600%	ASTM D 5893
Slump	≤=0.3"	ASTM D 2202
Hardness (Shore A) max.	20	ASTM C 661
Tack free time (max)	60 minutes	ASTM C 679
Heat Aging Effects	No cracking, chalking	ASTM C 792
Resilience	≥ 75%	ASTM D5329
Bond	0% Adhesive or Cohesive Failure after 5 cycles @100%extension	ASTM D 5329

(c) Performed Silicone Joint Seal. The preformed silicone joint seal used for this item shall conform to the following specifications:

Table 1
Physical Properties of Preformed Silicone Gland

Property	Requirement	Test Method
Rated Movement Capability	+2 ¼ inch total	N/A
Tensile Strength, psi.	1000 min	ASTM D 412
Elongation	400% min	ASTM D 412
Tear (die B)	100 ppi. min	ASTM D 624
Hardness Durometer (Shore A).	55 +/- 5 max	ASTM D 2240
Compression set at 212°F, 70 hrs	30% max	ASTM D 395
Heat Aged Properties	5pt max loss on Durometer	ASTM D 573
Tensile and Elongation % Loss	10 % max	

The color of the preformed silicone seal shall be black, made by the addition of Carbon Black fillers which increases UV resistance, tensile strength, and abrasion wear properties.

The locking adhesive shall be non-sag, high modulus silicone adhesive conforming to the following specifications:

Table 2
Physical Properties of the Silicone Locking Adhesive

Property	Requirement	Test Method
Tensile Strength, psi.	200 min	ASTM D 412
Elongation, %	450 min	ASTM D 412
Tack Free Time, minutes.	20 max.	ASTM C 679
Cure Time ¼" bead, hrs	24 max	ASTM C 679
Resistance to U.V.	No cracking, chalking,or degradation	ASTM C793
VOC (g/L)	0	ASTM D 3960

Any rips, tears, or bond failure will be cause for rejection.

The two part epoxy primer shall be supplied for application to the vertical faces of the joint opening. The supplied primer shall be equally as effective when bonded to concrete or steel. This primer shall meet the following criteria:

Table 3
Physical Properties of Preformed Silicone Joint System Primer

Property	Requirement	Test Method
Viscosity (cps)	44	ASTM D 2196
Color	Light Amber	Visual
Solids (%)	41	ASTM D 4209
Specific Gravity	0.92	ASTM D 1217
Product Flash Point (◦F, T.C.C.)	48	ASTM D 56
Package Stability	N/A	One year in tightly sealed containers
Cleaning	N/A	Mineral Spirits
VOC (g/L)	520	ASTM D 3960

(d) Preformed Inverted EPDM Joint Seal. The preformed inverted EPDM joint seal used for this item shall conform to the following specifications:

Table 1
Physical Properties of Preformed Silicone Gland

Property	Requirement	Test Method
Rated Movement Capability	Up To 5 inch total	N/A
Tensile Strength, psi.	1200 psi min	ASTM D 412
Elongation	400 % min	ASTM D 412
Tear (Die C)	150 pli. min	ASTM D 624
Durometer Content	50 +/- 5 max	ASTM D 2240
Water Resistance (70 hrs @ 100c)	10% max	ASTM D 471
Ozone Resistance	100 min	ASTM D 1171

Table 2
Physical Properties of the V-Epoxy-R

V-Epoxy-R adhesive meets the requirements of ASTM C881 Type III, Grade 2. The adhesive shall also have the following properties:

Property	Requirement	Test Method
Color	Gray	Visual
Viscosity	45,000 CP (typ.)	N/A
Gel Time (minutes)	30 min.	ASTM C 881
Shelf Life (Separate Sealed Containers)	12 Months	N/A
Resistance to U.V.	No cracking, chalking,or degradation	ASTM C793
VOC (g/L)	0	ASTM D 3960

Any rips, tears, or bond failure will be cause for rejection.

(e) Bonded Preformed Joint Seal. This joint system shall consist of preformed elastomeric seal bonded to the side walls of the joint opening using an adhesive as specified by the Manufacturer of the joint seal.

The bonded preformed joint seal shall be according to Table 1 of ASTM D2628 with the following exceptions: Compression set shall not be over 40 percent when tested according to Method B (Modified) of ASTM D 395 after 70 hours at 212 ºF (100 ºC). The Compression-Deflection requirement will not apply to the bonded preformed joint seal.

The adhesive shall be epoxy base, dual component, which resists salt, diluted acids, alkalis, solvents, greases, oils, moisture, sunlight and weathering. Temperatures up to 200 ºF (93 ºC) shall not reduce bond strength. At 68 ºF (20 ºC), the bond strength shall be a minimum of 1000 psi (6.9 MPa) within 24 hours.

Any primers or cleaning solutions used on the faces of the joint or on the profile of the sides of the bonded preformed joint seal shall be supplied by the manufacturer of the bonded preformed joint seal.

Any additional installation materials and adhesive for splicing joint sections shall be as supplied by the manufacturer of the preformed joint seal.

The Contractor shall submit the Manufacturer's material certification documentation stating that their materials meet the applicable requirements of this specification for the joint seal(s) installed.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall furnish the Engineer with the manufacturer's product information and installation procedures at least two weeks prior to installation.

The minimum ambient air temperature in which the joint seal can be installed is 40° F (4.4° C) and rising, except for bonded preformed joint seals which shall not be installed when temperatures below 50 ºF (10 ºC) are predicted within a 48 hour period.

The joint surface shall be completely dry before installing the Joint Seal. For newly placed concrete, the concrete shall be fully cured and allowed to dry out a minimum of seven additional days prior to placement of the seal. Cold, wet, inclement weather will require an extended drying time.

The Joint Seal shall not be installed immediately after precipitation or if precipitation is forecasted for the day. Joint preparation and installation of Joint Seal shall be done during the same day.

Surface Preparation. Surface preparation shall be according to the joint seal manufacturer's written instructions.

After surface preparation is completed, the joint shall be cleaned of debris using compressed air with a minimum pressure of 90 psi (620 kPa). The air compressor shall be equipped with traps to prevent the inclusion of water and/or oil in the air line. The compressed air shall be according to the cleanliness requirements of ASTM D 4285.

When priming is required per the manufacturer's instruction, this operation shall immediately follow cleaning.

Joint Installation. The Joint installation shall be per the manufacturer's instructions; special attention shall be given to ensure the joint seal is properly recessed below the top of the riding surface as recommended by the manufacturer.

For bonded joint seals the seal shall be inserted into the joint and held tightly against both sides of the joint until sufficient bond strength has been developed to resist the expected expansion forces.

Opening to traffic. As these joint systems are supposed to be recessed below the top of the riding surface, there should be no restriction, based on the joint seal installation, on when these joints can be reopened to traffic.

Method of Measurement. The installed prefabricated joint seal will not be measured for payment.

Basis of Payment. The prefabricated joint seal will not be paid for separately but shall be considered included in the cost of the adjacent concrete work involved.

WARRANTY FOR CLEANING AND PAINTING STEEL STRUCTURES
Effective: March 3, 2000
Revised: November 24, 2004

Description. This work consists of providing a warranty for the cleaning and painting of existing steel structures as performed under the following pay items; CLEANING AND PAINTING STEEL BRIDGE and CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES, and/or CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES at the designated location(s).

The Contractor shall unconditionally warrant to the Illinois Department of Transportation (IDOT) that all work completed under the above contract pay items, including all materials and workmanship furnished by the Contractor and subcontractors, shall comply with the Contract, and that the cleaning and painting system applied to the bridge be free of defects, as hereinafter defined for a period of two years after the Warranty Period Start Date.

The work associated with the above stated pay items shall be accomplished according to all contract documents and the Special Provisions for Cleaning and Painting Existing Steel Structures and Containment and Disposal of Lead Paint Cleaning Residues. Acceptance by the Engineer, of any portion of the work during the original contract for cleaning and painting, will not relieve the Contractor of the requirements of this warranty.

The Contractor guarantees that after receipt of notice from the Department as provided herein, he/she shall perform the warranty work specified in the notice in accordance with the original specifications including all necessary incidental work to complete the work and restore the complete facility. The Contractor shall also guarantee to repair all damage to adjoining structures caused by failure of the warranted work, including but not limited to removal, engineering, material procurement, reinstallation, or replacement all at the Contractor's cost and expense. The Department's remedies under this warranty are not exclusive but are in addition to any other remedies provided by this contract or law. The additional obligations undertaken by the Contractor to provide this express warranty and to perform in accordance herewith shall be secured by a performance and payment bond provided by the Contractor in a form furnished by the Department, and said bond to remain in full force and effect for the duration of the warranty period.

Definitions.

Conflict Resolution Team (CRT). A three-member team responsible for resolving disputes between the Department and the Contractor regarding any claims of non-compliance of the warranty requirements.

Warranty Bond. A bond that guarantees the cleaning and painting installed under the contract, against defects in materials and/or workmanship, which may develop after the Warranty Period Start Date for the specified Warranty Period. The warranty bond shall be in force continuously, from the date of the first Warranty Period Start Date, until release from the warranty on the last warranted portion of the work.

Warranted Distress. The cleaning and painting will be considered distressed if any occurrence of visible rust or rust breakthrough, paint blistering, peeling, or scaling are discovered during the Warranty Period.

Warranty Period. A two year duration initiating on the Warranty Period Start Date.

Warranty Period Start Date. The date the Engineer and Contractor document and execute the final inspection will constitute the start date for the warranty period for the project.

Under Contracts where the cleaning and painting of more than one structure is to be warranted under this item, the Warranty Period Start Date shall be the date the final inspection is executed for the last structure to be cleaned and painted.

Warranty Work. Corrective action taken to bring the Warranted Distress into compliance for release of the Warranty Bond. If corrective action is required for more than 40 percent of the structure during the warranty period, the paint system for the entire structure or structures shall be removed and replaced as directed by the Department.

Working Days. Any calendar day between May 1 and November 30 inclusive except Saturdays, Sundays, or legal holidays observed by the Contractor's entire workforce in Illinois.

Commencement of Warranty Period. At the final inspection according to Article 105.13, the Engineer and Contractor shall review the cleaning and painting for compliance with the contract, including any written documentation from the Contractor required by the contract. The Engineer and the Contractor shall document and execute the final inspection on a form furnished by the Department when the cleaning and painting of the structure(s) is determined by the Engineer to be in compliance with the Contract. This date is then the Warranty Period Start Date.

Acceptance by the Engineer of work that used material from deficient lots, or otherwise accepted per Article 105.03, will not relieve the Contractor of meeting the warranty requirements for the cleaning and painting of the structure(s).

Warranty Bond. The Contractor shall furnish the Department a performance and payment bond with good and sufficient sureties in the full amount equal to 20 percent of the as bid total for all the applicable pay items related to the cleaning and painting of the structure(s) in this contract as the penal sum. The surety shall be acceptable to the Department, shall waive notice of any changes and extensions of time, and shall submit its bond on the form furnished by the Department. The bond will ensure completion of required Warranty Work, including payments for all labor, equipment, materials, and closure periods used to remediate any Warranted Distress.

At the end of the two year Warranty Period and remedy of any distress occurring within the Warranty Period, the Contractor will be released, in writing, from further Warranty Work, provided all previous Warranty Work has been completed and approved by the Engineer.

Warranty Requirements. During the warranty period, the Contractor may monitor the warranted work using non-destructive procedures. All laboratories and equipment used for independent testing shall be approved by the Department.

The Department will notify the Contractor of the need for Warranty Work. If the Contractor disputes the Department's request for Warranty Work written notification of the dispute shall be provided to the Department within 30 days. However, any dispute by the Contractor shall be based on the appraisals and technical merit of a NACE Certified Inspector. If the Contractor and the Department are not able to resolve the matter between them, either party may seek resolution of the dispute by the Conflict Resolution Team (CRT). The Department will provide final notification to the Contractor within 14 days of receipt of the CRT's final judgment.

The Contractor shall perform Warranty Work promptly as defined in the notification. The notification will provide a requested start date for performance of Warranty Work covered by the notice, and a number of working days estimated to complete the Warranty Work. The Department and the Contractor may agree upon a start date and a reasonable period of performance to define prompt completion.

If the Contractor fails to promptly complete the warranty work specified in the notice or as specified by the CRT, or otherwise breaches its obligations under this provision, the Department may declare the Contractor to be in default, and may proceed to terminate the rights of the Contractor and to cause the completion of the work in the manner approved in Article 108.10 of the Standard Specifications. The Contractor agrees to indemnify and hold harmless the Department on account of default, including but not limited to the cost and expense of any future warranty work required.

The Contractor shall repair all distressed areas, identified by the Engineer, according to the original painting specifications. A repair procedure shall be submitted in writing to the Engineer for review and approval prior to commencing any work. All paint repair work will be done the same season as the inspection, unless the seasonal limitations stated in the painting specifications prevents the completion that season. In this case, the corrective work will be completed the following season. The Engineer shall be allowed full inspection of all operations and provided safe access to the areas being repaired.

The Contractor may perform preventative action with the approval of the Department, at no cost to the Department. Prior to proceeding with any work, the Contractor shall obtain a permit from the Department. A Traffic Control Plan shall be submitted and approved by the Department prior to any lane closures. The Department may restrict the time of work according to the traffic needs surrounding the structure.

Evaluation of the warranted work will be accomplished on a per bridge basis. Warranty work by the Contractor shall be approved by the Department and meet the same requirements of the original warranted work specified herein.

If warranty work or elective preventative action performed by the Contractor necessitates a corrective action to the structure, then such corrective action to those areas shall be the responsibility of the Contractor.

The Department may perform routine maintenance during the warranty such as Bridge washing, applying de-icing chemicals, repairs to safety appurtenances, etc. Such work shall not relieve the Contractor of their responsibilities as specified herein.

<u>Rights and Responsibilities of the Department.</u>

The Department:

a. Is responsible for notifying the Contractor, in writing, of any required warranty work.
b. Reserves the right to approve the date(s) and time(s) requested by the Contractor to perform preventative maintenance and warranty work.
c. Reserves the right to approve all materials and methods used in preventative maintenance and warranty work.
d. Reserves the right to determine if warranty work performed by the Contractor meets the contract requirements.
e. Reserves the right to perform, or have performed, routine maintenance during the warranty period. This routine maintenance will not relieve the Contractor from meeting the warranty requirement of this Special Provision.
f. Shall document the condition of the paint system prior to and after any warranty work.

Rights and Responsibilities of the Contractor.

The Contractor:

a. Shall unconditionally warrant to the Department that the cleaning and painting of the structural steel shall be free of defects in materials and workmanship as defined by the warranty requirements as set forth above, for a period of two years from the Warranty Period Start Date for the project.
b. Shall submit to the Department the warranty and the Warranty Bond, on forms furnished by the Department, prior to the Warranty Period Start Date.
c. Is responsible for performing all warranty work, including, but not limited to, traffic control, obtaining railroad liability insurance where applicable at no additional cost to the Department.
d. Shall retain all records for a period of one year beyond the end of the Warranty Period or the completion of any warranted repairs, whichever is later.
e. Is responsible for replacing all temporary repairs, resulting from the painting system being in non-compliance with the warranty requirements, with Department approved materials and methods.
f. Shall follow all traffic control and work zone safety requirements of the contract when any warranty work is performed.
g. Shall complete all warranty work in a neat and uniform manner and shall meet the requirements specified in the contract.
h. Is required to supply to the Department original documentation pursuant to Section 107 of the Standard Specifications that all insurance required by the contract is in effect during the period(s) that any warranty work is being performed.
i. Shall notify the Department and shall submit a written course of action proposing appropriate corrective measures for the needed warranty work. Approval by the Department must be obtained prior to the anticipated commencement of any warranty work.

Conflict Resolution Team. The sole responsibility of the Conflict Resolution Team (CRT) is to provide a decision on disputed matters between the Department and the Contractor regarding the interpretation of non-compliance of the warranty requirements. It is the intention of the parties that the CRT be assembled with the full cooperation of both parties, and that the Contractor and Department will devote their full attention to the prompt consideration of the

matter by the CRT. Neither party shall neglect its obligation of good faith hereunder nor shall unreasonable delay be imposed that would hinder the prompt decision of the CRT. The decision of the CRT shall be final and binding on the Contractor and Department.

The CRT will consist of three members:

a. One selected, provided and compensated by the Department.
b. One selected, provided and compensated by the Contractor.
c. One third party, mutually selected by the Department and the Contractor. Compensation for the third party member will be equally shared by the Department and the Contractor.

The team members will be identified in writing at the preconstruction meeting and will be knowledgeable in the terms and conditions of this warranty, as well as the methods used to determine paint system distress. Changes to the team membership will be made in writing for the warranty period.

Basis of Payment. This work will be paid for at the contract unit price per lump sum for BRIDGE CLEANING AND PAINTING WARRANTY, at the designated location(s). Payment will be made at the commencement of the warranty period, after the Warranty Bond form has been submitted.

ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARRANTY
PAINT QUALITY
1 OF 2

THIS WARRANTY, made by _____
(Contractor)

of _____ hereinafter called "Warrantor", in favor of the Illinois Department of Transportation, hereinafter called "Department";

WITNESSETH:

RECITALS:

The Department has contracted for the cleaning and painting structural steel on the

_____Bridge(s) on the_____Highway in

_____County, Illinois.

Under the provision of Contract No._____, pertaining in part to painting of structural steel, entered into by

_____, and the Department,
(Contractor)

the _____is required
(Contractor)
to furnish the Department a written warranty for the paint system warranting against defect as stated in said contract for a period(s) of two years from the date(s) of final inspection by the

Engineer, of_____'s work under said contract.
(Contractor)

ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WARRANTY
PAINT QUALITY
2 OF 2

NOW, THEREFORE, in consideration of the foregoing, Warrantor hereby agrees and warrants that in every case in which any defect, as described in Contract Number

_____, occurs within said two years period(s), Warrantor shall, forthwith upon receipt of written notice of such defect, repair said defective area.

It is expressly understood and agreed that the warranty and obligations herein set forth are made and undertaken by warrantor to and for the benefit of the Department.

IN WITNESS WHEREOF, Warrantor have set his/her hands as of this

_____day of_____, 20____.

_____
(Contractor)

ATTEST:

By: _____

_____

Title: _____

ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUPPLEMENTAL PERFORMANCE BOND

1 OF 2

KNOW ALL MEN BY THESE PRESENTS,

That we_____as principal,

and_____as surety, a corporation duly organized and existing under and by virtue of the laws of the State of

_____ and duly authorized to transact the business of surety in the State of Illinois, are jointly and severally held and bound unto the Illinois Department of

Transportation in the sum of_____Dollars, for the payment of which we jointly and severally bind ourselves, our heirs and executors, administrators, successors and assigns firmly by these presents.

Whereas, the principal herein has, on the_____day of_____, 20__, made and entered into a certain agreement with the State of Illinois, by and through the Illinois Department of Transportation, which agreement is more fully described as

_____,

Contract Number_____, underwhich agreement the principal agrees to furnish certain materials and to perform certain work which he agrees to do in accordance with the terms, conditions, and requirements as set out in said agreement, and whereas, in connection with said contract, the principal has executed a written warranty, a copy of which warranty is attached hereto and by this reference made a part hereof;

And, whereas, the principal has therein undertaken to warrant the work of cleaning and painting structural steel against any defects, as therein defined, for a period(s) of at least two years form the date(s) of final inspection of the project by the Engineer.

ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUPPLEMENTAL PERFORMANCE BOND
2 OF 2

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH THAT if the principal herein shall faithfully and truly observe and comply with the terms of such warranty and shall well and truly perform all matters and things by him/her undertaken to be performed under said warranty upon the terms proposed therein and shall do all things required of said principal by the laws of this state and shall indemnify and save the harmless the State of Illinois and Illinois Department of Transportation against any direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the said warranty by the Contractor or subcontractors, then this obligation is to be void, otherwise to remain in full force and effect.

In no event shall the obligations under this bond be terminated without written consent of Illinois Department of Transportation.

Signed and sealed this_____day of_____, 20_.

SURETY_____PRINCIPAL _____

BY_____BY_____
(Attorney-in-fact) (Official Capacity)

Countersigned:

_____Attest:_____
(Resident Agent) (Secretary)

BDE SPECIAL PROVISIONS
For the August 2 and September 20, 2024 Lettings

The following special provisions indicated by a “check mark” are applicable to this contract and will be included by the Project Coordination and Implementation Section of the Bureau of Design & Environment (BDE).

File Name	#		Special Provision Title	Effective	Revised
80099	1	☐	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
80274	2	☐	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
80192	3	☐	Automated Flagger Assistance Devices	Jan. 1, 2008	April 1, 2023
80173	4	☐	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80426	5	☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
* 80241	6	☐	Bridge Demolition Debris	July 1, 2009	
* 5053I	7	☐	Building Removal	Sept. 1, 1990	Aug. 1, 2022
* 5026I	8	☐	Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
80449	9	☐	Cement, Type IL	Aug. 1, 2023	
80384	10	☒	Compensable Delay Costs	June 2, 2017	April 1, 2019
* 80198	11	☐	Completion Date (via calendar days)	April 1, 2008	
* 80199	12	☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80453	13	☐	Concrete Sealer	Nov. 1, 2023	
80261	14	☐	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80434	15	☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
* 80029	16	☐	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
80229	17	☐	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80452	18	☐	Full Lane Sealant Waterproofing System	Nov. 1, 2023	
80447	19	☐	Grading and Shaping Ditches	Jan. 1, 2023	
80433	20	☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
80443	21	☐	High Tension Cable Median Barrier Removal	April 1, 2022	
80456	22	☐	Hot-Mix Asphalt	Jan. 1, 2024	
80446	23	☐	Hot-Mix Asphalt - Longitudinal Joint Sealant	Nov. 1, 2022	Aug. 1, 2023
80438	24	☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	April 2, 2024
80045	25	☐	Material Transfer Device	June 15, 1999	Jan. 1, 2022
80450	26	☐	Mechanically Stabilized Earth Retaining Walls	Aug. 1, 2023	
80441	27	☒	Performance Graded Asphalt Binder	Jan. 1, 2023	
80451	28	☐	Portland Cement Concrete	Aug. 1, 2023	
80459	29	☐	Preformed Plastic Pavement Marking	June 2, 2024	
* 3426I	30	☒	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80455	31	☒	Removal and Disposal of Regulated Substances	Jan. 1, 2024	April 1, 2024
80445	32	☐	Seeding	Nov. 1, 2022	
80457	33	☐	Short Term and Temporary Pavement Markings	April 1, 2024	April 2, 2024
80448	34	☐	Source of Supply and Quality Requirements	Jan. 2, 2023	
80340	35	☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
80127	36	☐	Steel Cost Adjustment	April 2, 2004	Jan. 1, 2022
80397	37	☐	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	38	☐	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80437	39	☐	Submission of Payroll Records	April 1, 2021	Nov. 2, 2023
80435	40	☐	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
80410	41	☐	Traffic Spotters	Jan. 1, 2019	
* 20338	42	☐	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80429	43	☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80439	44	☒	Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
80458	45	☐	Waterproofing Membrane System	Aug. 1, 2024	
80302	46	☐	Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
80454	47	☐	Wood Sign Support	Nov. 1, 2023	
80427	48	☒	Work Zone Traffic Control Devices	Mar. 2, 2020	
* 80071	49	☐	Working Days	Jan. 1, 2002	

Highlighted items indicate a new or revised special provision for the letting.

An * indicates the special provision requires additional information from the designer, which needs to be submitted separately. The Project Coordination and Implementation Section will then include the information in the applicable special provision.

The following special provisions are in the 2024 Supplemental Specifications and Recurring Special Provisions.

File Name	Special Provision Title	New Location(s)	Effective	Revised
80436	Blended Finely Divided Minerals	Articles 1010.01 & 1010.06	April 1, 2021	
80440	Waterproofing Membrane System	Article 1061.05	Nov. 1, 2021	

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

PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2023

Revise Article 1032.05 of the Standard Specifications to read:

"**1032.05 Performance Graded Asphalt Binder.** These materials will be accepted according to the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure." The Department will maintain a qualified producer list. These materials shall be free from water and shall not foam when heated to any temperature below the actual flash point. Air blown asphalt, recycle engine oil bottoms (ReOB), and polyphosphoric acid (PPA) modification shall not be used.

When requested, producers shall provide the Engineer with viscosity/temperature relationships for the performance graded asphalt binders delivered and incorporated in the work.

(a) Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans and the following.

Test	Parameter
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5 °C min.

(b) Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans.

Asphalt binder modification shall be performed at the source, as defined in the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure."

Modified asphalt binder shall be safe to handle at asphalt binder production and storage temperatures or HMA construction temperatures. Safety Data Sheets (SDS) shall be provided for all asphalt modifiers.

(1) Polymer Modification (SB/SBS or SBR). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be either a styrene-butadiene diblock, triblock copolymer without oil extension, or a styrene-butadiene rubber. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in Table 1 or 2 for the grade shown on the plans.

Table 1 - Requirements for Styrene-Butadiene Copolymer (SB/SBS) Modified Asphalt Binders		
Test	Asphalt Grade SB/SBS PG 64-28 SB/SBS PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SB/SBS PG 76-22 SB/SBS PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

Table 2 - Requirements for Styrene-Butadiene Rubber (SBR) Modified Asphalt Binders		
Test	Asphalt Grade SBR PG 64-28 SBR PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SBR PG 76-22 SBR PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
Toughness ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	110 (12.5) min.	110 (12.5) min.
Tenacity ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	75 (8.5) min.	75 (8.5) min.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	40 min.	50 min.

(2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient

grinding method or micronizing through a cryogenic process. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall not contain free metal particles, moisture that would cause foaming of the asphalt, or other foreign materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois Modified AASHTO T 27 "Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates" or AASHTO PP 74 "Standard Practice for Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method", a 50 g sample of the GTR shall conform to the following gradation requirements.

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

GTR modified asphalt binder shall be tested for rotational viscosity according to AASHTO T 316 using spindle S27. GTR modified asphalt binder shall be tested for original dynamic shear and RTFO dynamic shear according to AASHTO T 315 using a gap of 2 mm.

The GTR modified asphalt binder shall meet the requirements of Table 3.

Table 3 - Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
Test	Asphalt Grade GTR PG 64-28 GTR PG 70-22	Asphalt Grade GTR PG 76-22 GTR PG 76-28 GTR PG 70-28
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

(3) Softener Modification (SM). Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, glycol amines, and fatty acid derivatives, to the base asphalt binder to achieve the specified performance grade. Softeners shall be dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder with no separation. Softeners shall not be added to modified PG asphalt binder as defined in Articles 1032.05(b)(1) or 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified

asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged softener modified binder, and 40-hour PAV aged softener modified binder. The ATR-FTIR shall be collected in accordance with Illinois Test Procedure 601. The electronic files spectral files (in one of the following extensions or equivalent: *.SPA, *.SPG, *.IRD, *.IFG, *.CSV, *.SP, *.IRS, *.GAML, *.[0-9], *.IGM, *.ABS, *.DRT, *.SBM, *.RAS) shall be submitted to the Central Bureau of Materials.

Softener modified asphalt binders shall meet the requirements in Table 4.

Table 4 - Requirements for Softener Modified Asphalt Binders	
Test	Asphalt Grade SM PG 46-28 SM PG 46-34 SM PG 52-28 SM PG 52-34 SM PG 58-22 SM PG 58-28 SM PG 64-22
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5°C min.
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, Δ|G*|peak τ, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	≥ 54 %

The following grades may be specified as tack coats.

Asphalt Grade	Use
PG 58-22, PG 58-28, PG 64-22	Tack Coat”

Revise Article 1031.06(c)(1) and 1031.06(c)(2) of the Standard Specifications to read:

“(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin ABR shall not exceed the amounts listed in the following table.

HMA Mixtures - RAP/RAS Maximum ABR % 1/ 2/			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface 3/
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.

(2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % 1/ 2/			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface 3/
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	- -	- -	25
IL-4.75	- -	- -	35

1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes."

Add the following to the end of Note 2 of Article 1030.03 of the Standard Specifications.

"A dedicated storage tank for the ground tire rubber (GTR) modified asphalt binder shall be provided. This tank shall be capable of providing continuous mechanical mixing throughout and/or recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ±0.40 percent."

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 (RSMDR)"."

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."

80427

RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE)

Effective: December 1, 1986
Revised: January 1, 2022

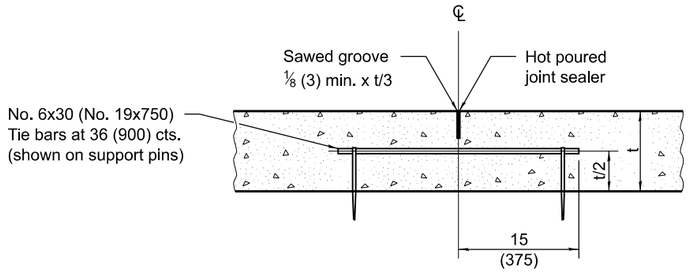
Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications. A separate policy is required for each railroad unless otherwise noted.

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
BNSF Railway Company 2650 Lou Menk Drive Fort Worth, TX 76131-2830	2 – 55 mph	42 – 55 mph
Class 1 RR (Y or N): Y DOT/AAR No.: 079559J (High St) RR Division: CHICAGO	RR Mile Post: 36.67 RR Sub-Division: CHICAGO	
For Freight/Passenger Information Contact: Daniel Peltier For Insurance Information Contact: Rosa Martinez		Phone: (763) 782-3495 Phone: (214) 303-8519
BNSF Railway Company 2650 Lou Menk Drive Fort Worth, TX 76131-2830	2 – 70 mph	42 – 55 mph
Class 1 RR (Y or N): Y DOT/AAR No.: 079558C (Wood St) RR Division: CHICAGO	RR Mile Post: 36.31 RR Sub-Division: CHICAGO	
For Freight/Passenger Information Contact: Daniel Peltier For Insurance Information Contact: Rosa Martinez		Phone: (763) 782-3495 Phone: (214) 303-8519
BNSF Railway Company 2650 Lou Menk Drive Fort Worth, TX 76131-2830	2 – 70 mph	42 – 55 mph
Class 1 RR (Y or N): Y DOT/AAR No.: 079557V (Ohio St) RR Division: CHICAGO	RR Mile Post: 36.09 RR Sub-Division: CHICAGO	

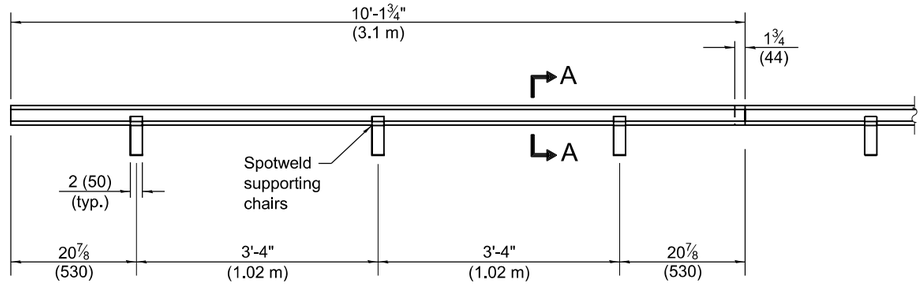
For Freight/Passenger Information Contact: Daniel Peltier Phone: (763) 782-3495
For Insurance Information Contact: Rosa Martinez Phone: (214) 303-8519

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

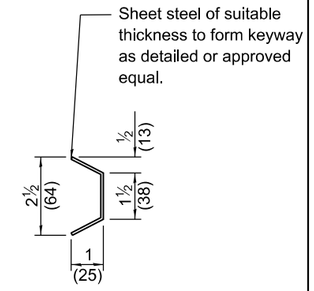
3426I



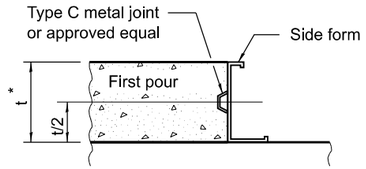
LONGITUDINAL SAWED JOINT



TYPE C METAL JOINT

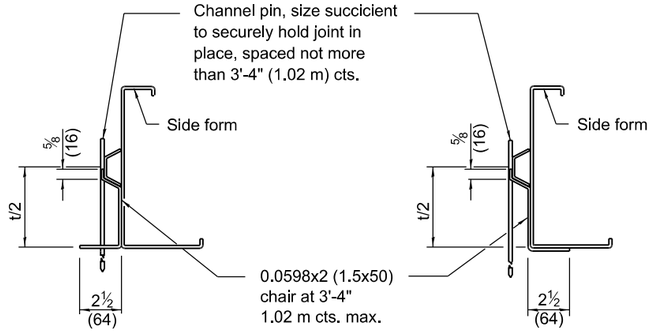


SECTION A-A



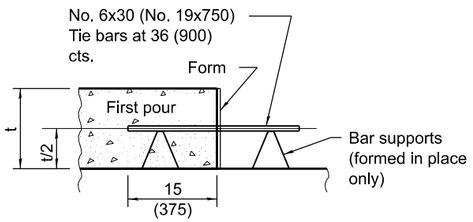
LONGITUDINAL KEYED JOINT

* 8 (203) min. pavement thickness for keyed joints.



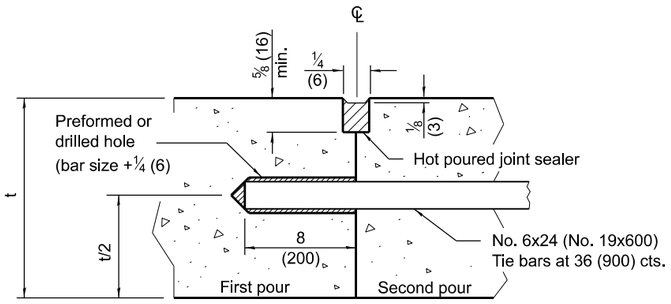
SUPPORTING CHAIR ALTERNATE

SUPPORTING CHAIR ALTERNATE



LONGITUDINAL CONSTRUCTION JOINT

(TIE BAR FORMED IN PLACE OR MECHANICALLY INSERTED)



LONGITUDINAL CONSTRUCTION JOINT

(TIE BAR GROUTED IN PLACE)

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

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

Illinois Department of Transportation

APPROVED January 1, 2022
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

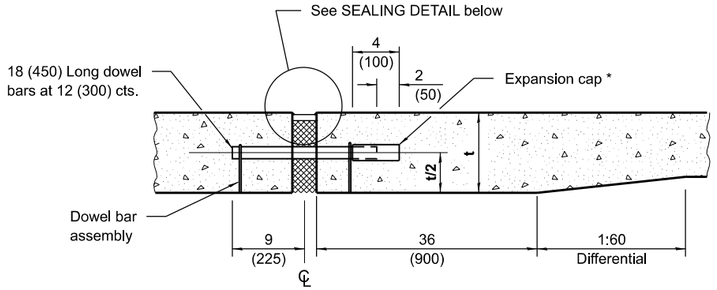
APPROVED January 1, 2022
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-22	Revised DOWEL BAR TABLE
	on Sheet 2.
1-1-18	Changed tie bar spacing
	to 36 (900) cts. Revised
	DOWEL BAR TABLE.

PAVEMENT JOINTS

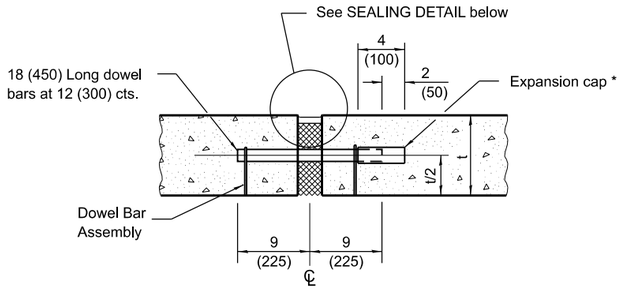
STANDARD 420001-10



TRANSVERSE EXPANSION JOINT

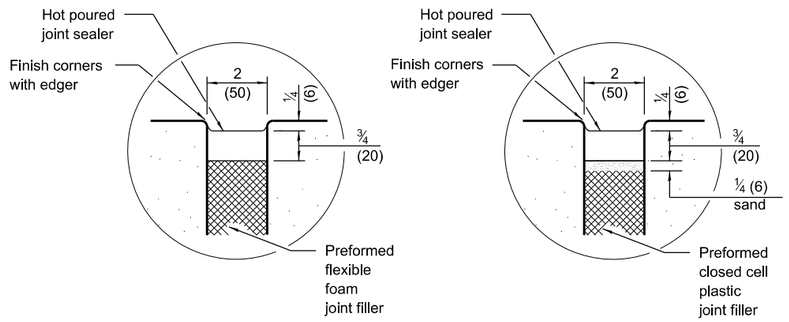
(FOR PAVEMENTS WITH UNEQUAL THICKNESS)

* Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.

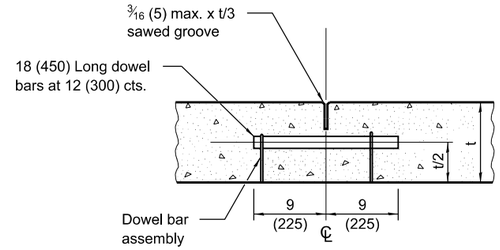


TRANSVERSE EXPANSION JOINT

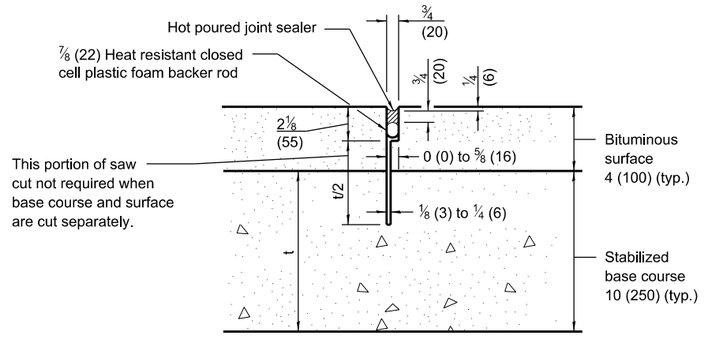
(FOR PAVEMENTS WITH EQUAL THICKNESS)



SEALING DETAIL



TRANSVERSE CONTRACTION JOINT



TRANSVERSE CONTRACTION JOINT

(FOR CAM, CFA AND LFA BASE COURSE MIXTURES)

DOWEL BAR TABLE	
PAVEMENT THICKNESS	DOWEL BAR DIAMETER
10 (250) and greater	1½ (38)
8.01 (201) thru 9.99 (249)	1¼ (32)
8 (200) and less	1 (25)

Illinois Department of Transportation

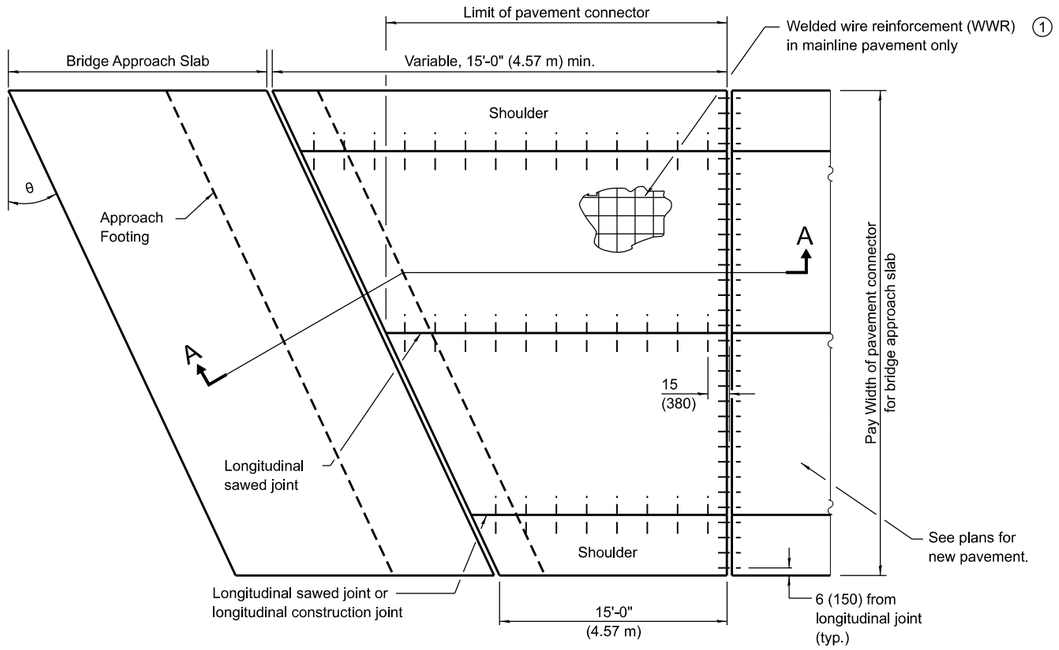
APPROVED January 1, 2022
Michael Briand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2022
ENGINEER OF DESIGN AND ENVIRONMENT

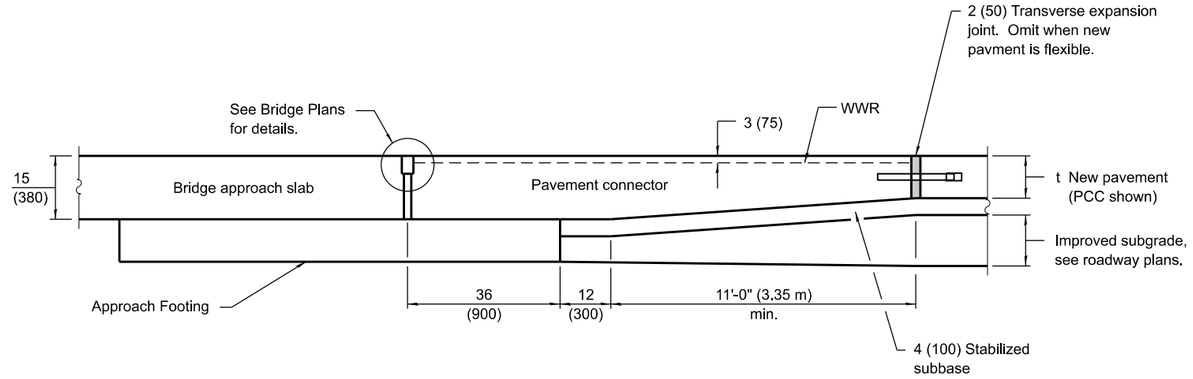
ISSUED 1-1-97

PAVEMENT JOINTS

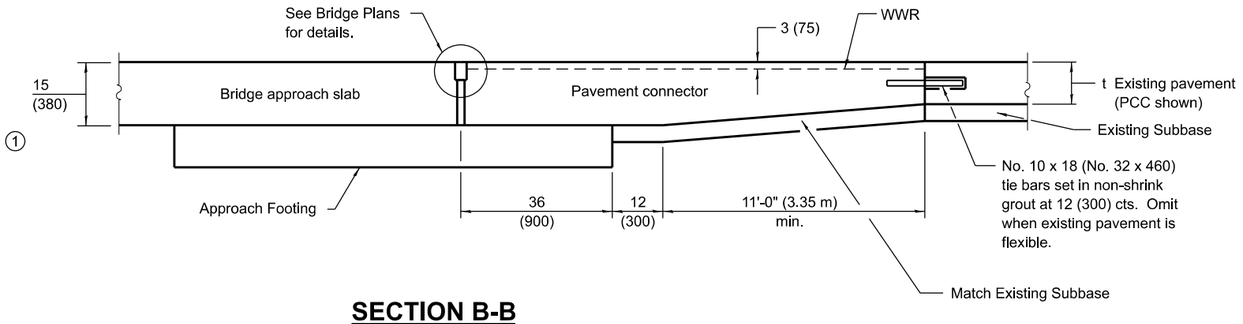
STANDARD 420001-10



PLAN
NEW CONSTRUCTION

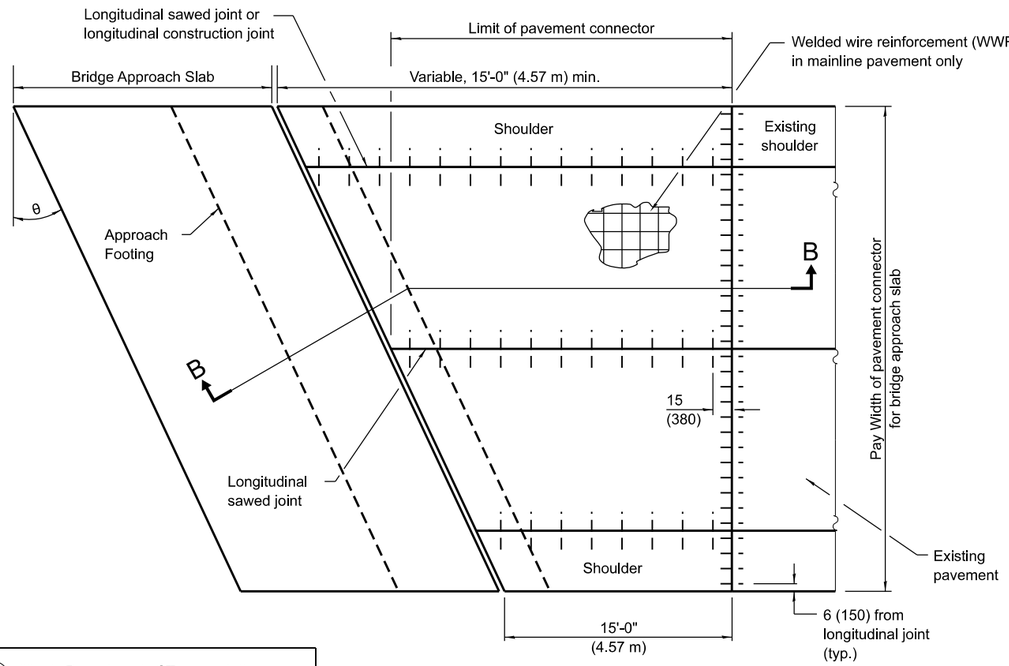


SECTION A-A



SECTION B-B

(1) WWR shall be 0.11 sq. in./ft. (230 sq. mm/m) in both directions. Maximum wire spacing shall be 6 (150). Minimum lap distance shall be two cross wires.



PLAN
EXISTING CONSTRUCTION

GENERAL NOTES

THICKNESS-"t"=Thickness of Pavement.

See Standard 420001 for pavement joint details not shown.

See Standard 610001 for shoulder inlet with curb when required.

See plans for details of bridge approach slab, approach footing and joint treatment.

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

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES

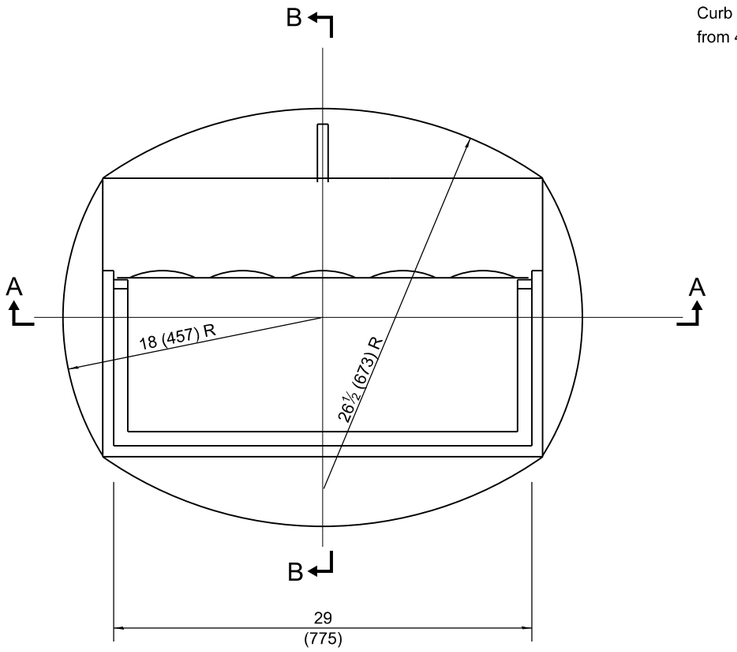
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

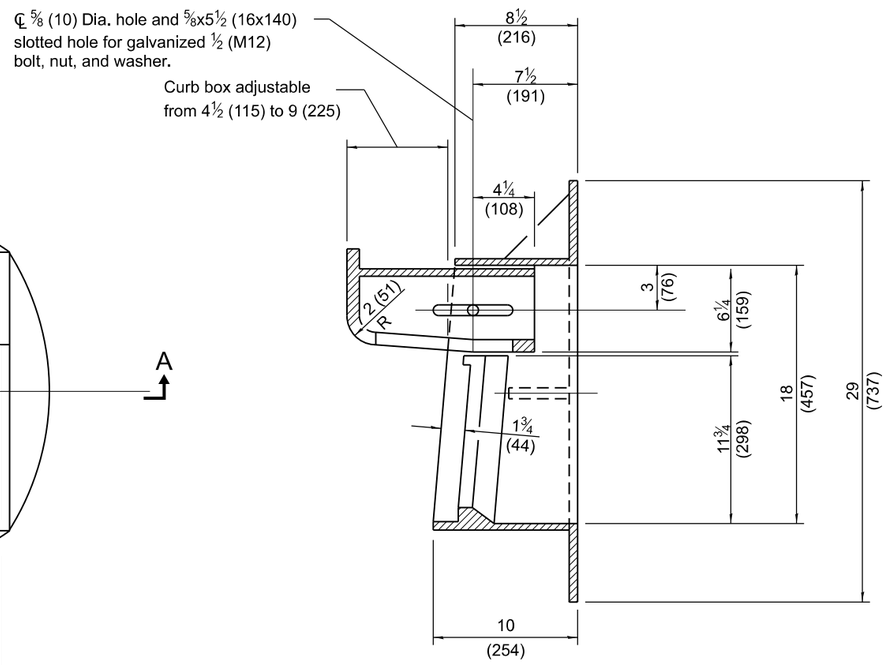
DATE	REVISIONS
1-1-19	Changed rebar in pavement
	connector to welded wire
	reinforcement.
4-1-16	Revised pavement connector
	to be rigid only. Omitted WFB
	term. joint. Renamed Std.

PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB

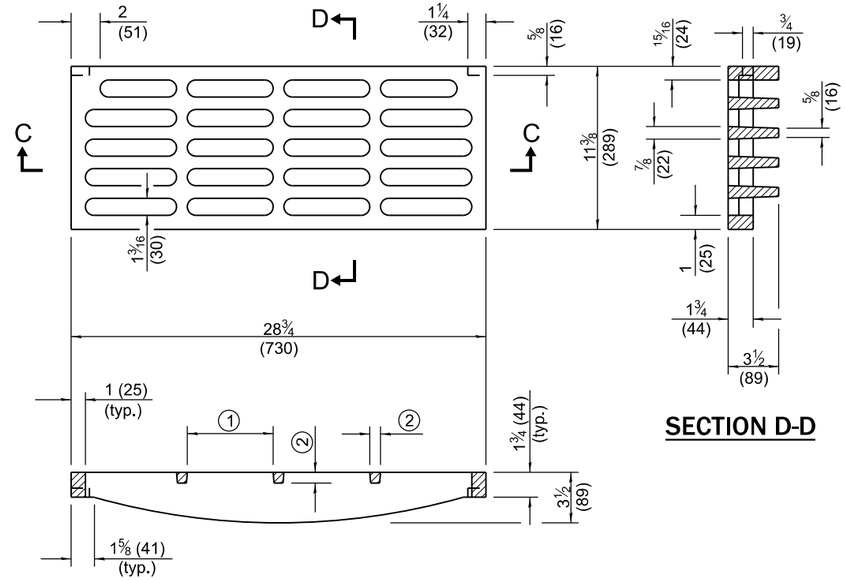
STANDARD 420401-13



CAST FRAME



SECTION B-B



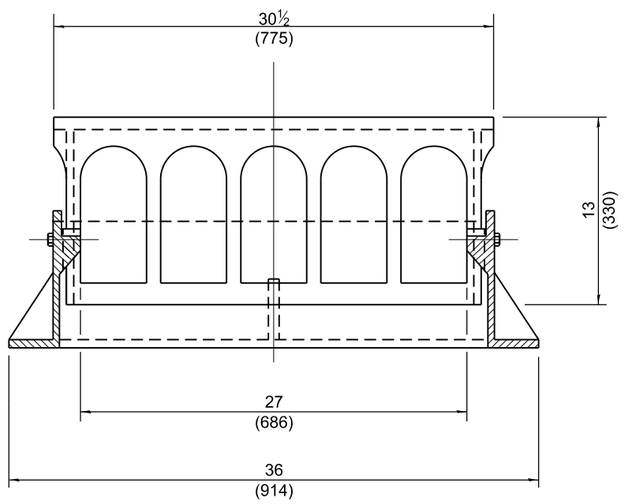
SECTION D-D

SECTION C-C

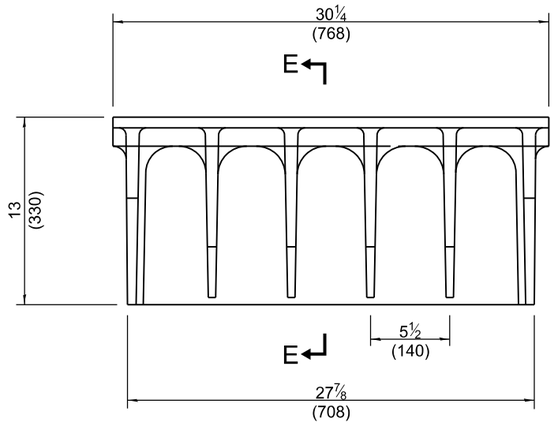
① = 6¼ (159) max. (typ.)

② = ¾ (19) min. (typ.)

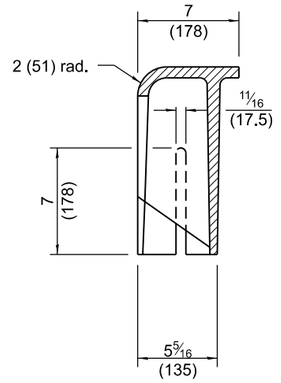
CAST GRATE



SECTION A-A



ALTERNATE CURB BOX



SECTION E-E

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

Illinois Department of Transportation

APPROVED January 1, 2015
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

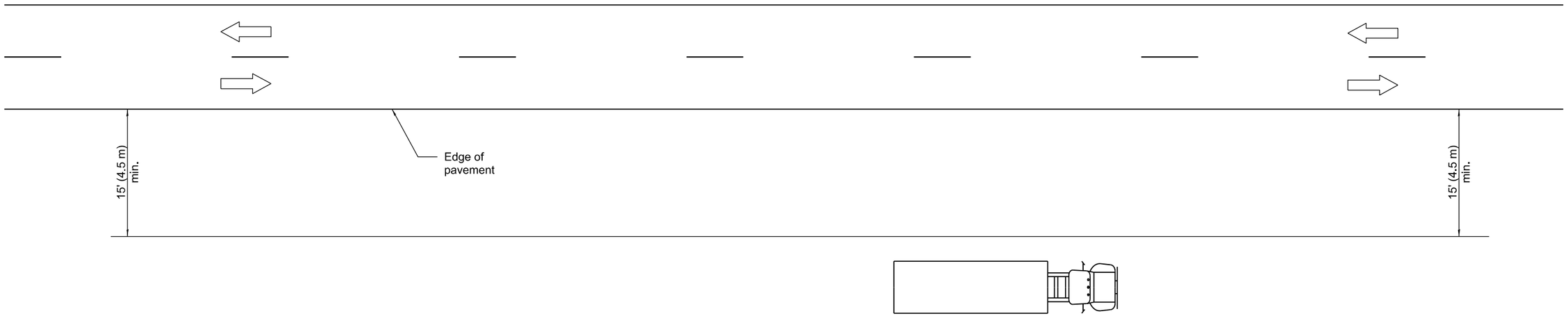
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-15	Revised dimensions of frame
	and alternate curb box.
4-1-09	Switched units to English (metric).

FRAME AND GRATE TYPE 11

STANDARD 604051-04



TYPICAL APPLICATIONS

Landscaping work

Utility work

Fencing contracts and maintenance

Cleaning culverts

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 701006.

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

Illinois Department of Transportation

APPROVED January 1, 2009
ENGINEER OF OPERATIONS

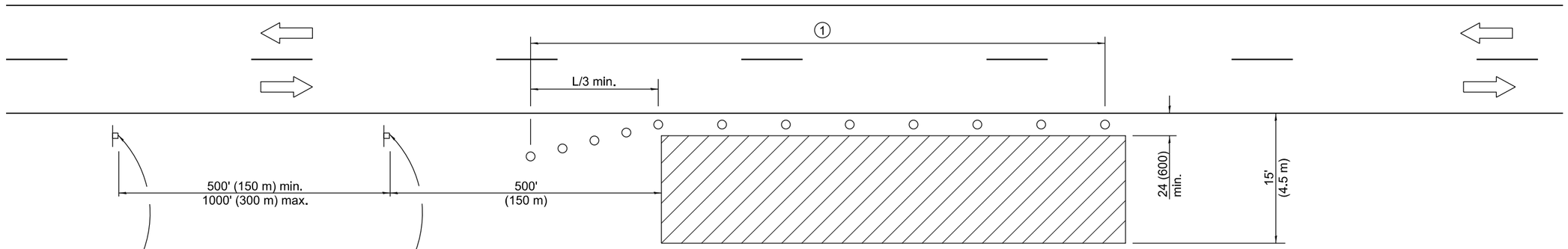
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY

STANDARD 701001-02



For contract construction projects

W20-I103(0)-48

W21-1(0)-48

For maintenance and utility projects

W20-1(0)-48

TYPICAL APPLICATIONS

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

SYMBOLS

Work area

Sign

Cone, drum or barricade

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.

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

Illinois Department of Transportation

APPROVED January 1, 2014
ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

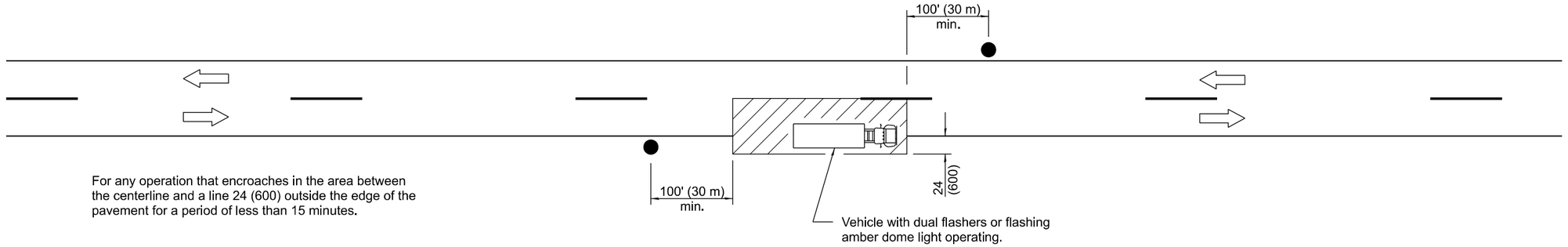
ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Revised workers sign number to
	agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

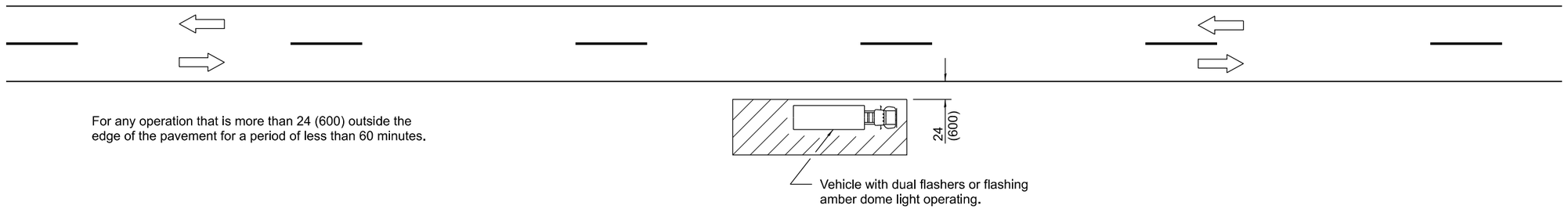
OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE

STANDARD 701006-05

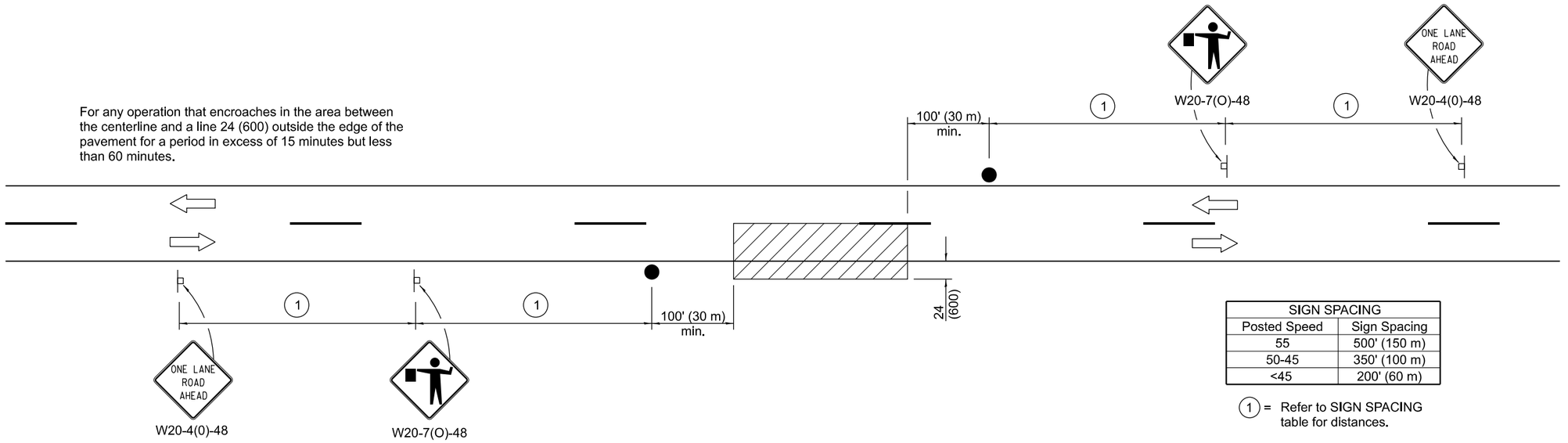
For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period of less than 15 minutes.



For any operation that is more than 24 (600) outside the edge of the pavement for a period of less than 60 minutes.



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.



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

(1) = Refer to SIGN SPACING table for distances.

TYPICAL APPLICATIONS

Marking patches
Field survey
String line
Utility operations
Cleaning up debris on pavement

SYMBOLS

Work area

Sign on portable or permanent support

Flagger with traffic control sign

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

Illinois Department of Transportation

APPROVED January 1, 2011
ENGINEER OF SAFETY ENGINEERING

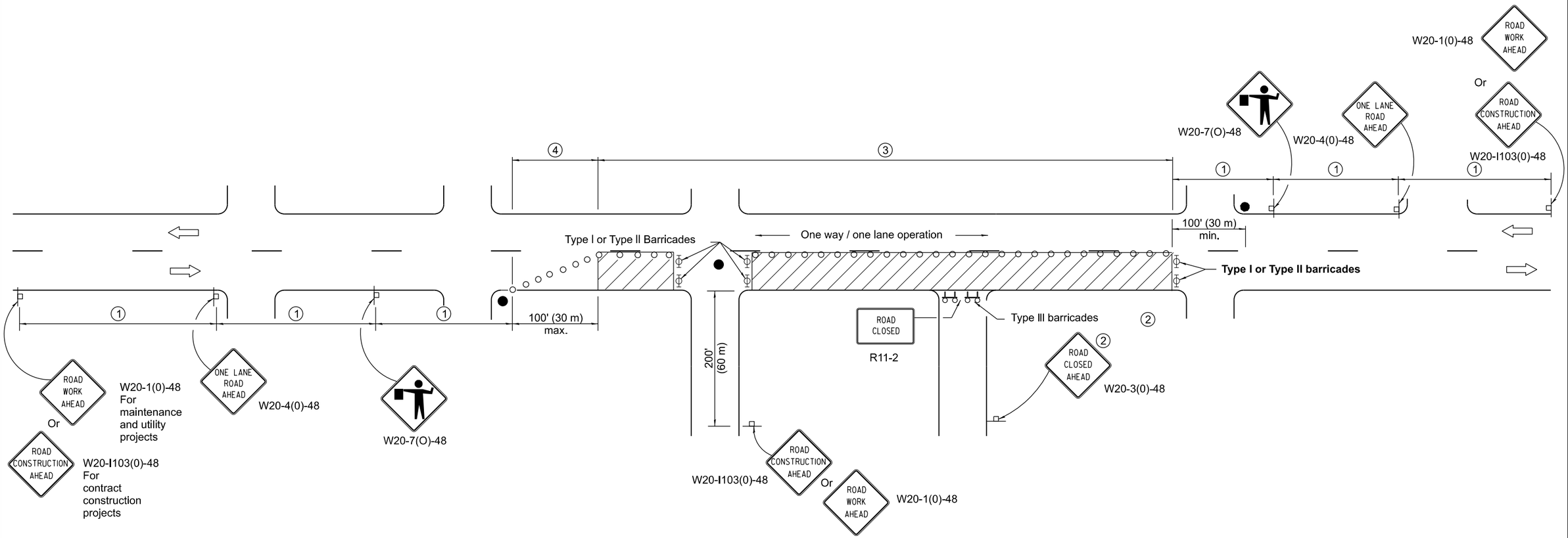
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).

LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

STANDARD 701301-04



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 (not required for moving operations)
- Sign on portable or permanent support
- Flagger with traffic control sign
- Barricade or drum with flashing light
- Type III barricade with flashing lights

① Refer to SIGN SPACING TABLE for distances.

② For approved sideroad closures.

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 Cones, drums or barricades at 20' (6 m) centers.

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.

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

Illinois Department of Transportation

APPROVED January 1, 2011
ENGINEER OF SAFETY ENGINEERING

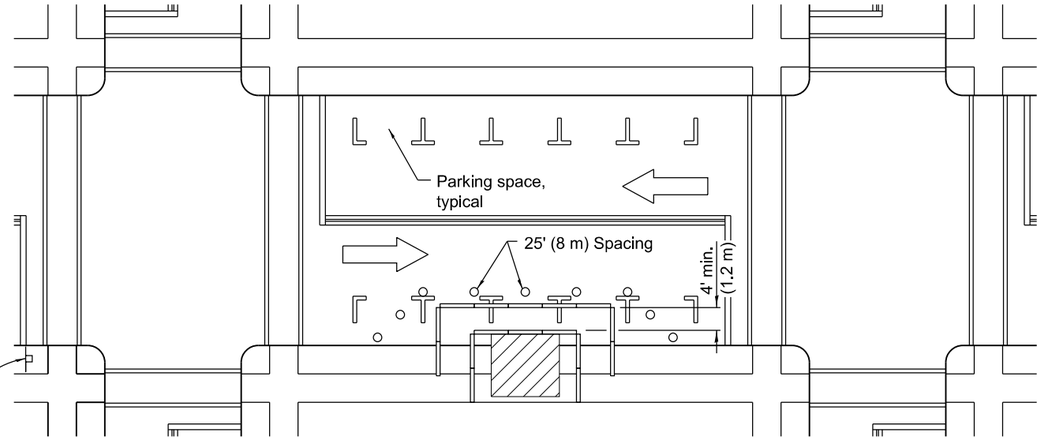
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED

STANDARD 701501-06



① ROAD CONSTRUCTION AHEAD

W20-I103(0)-48 for contract construction projects

Or

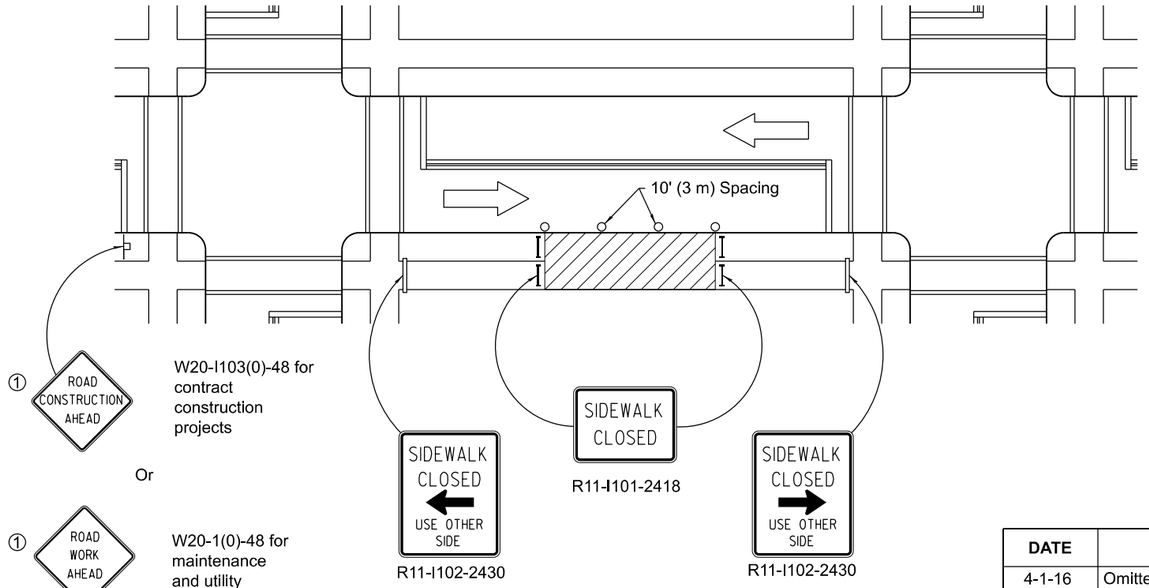
① ROAD WORK AHEAD

W20-1(0)-48 for maintenance and utility projects

SIDEWALK DIVERSION

SYMBOLS

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade



① ROAD CONSTRUCTION AHEAD

W20-I103(0)-48 for contract construction projects

Or

① ROAD WORK AHEAD

W20-1(0)-48 for maintenance and utility projects

R11-I101-2418

R11-I102-2430

R11-I102-2430

SIDEWALK CLOSURE

① Omit whenever duplicated by road work traffic control.

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

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

Illinois Department of Transportation

APPROVED January 1, 2016
ENGINEER OF SAFETY ENGINEERING

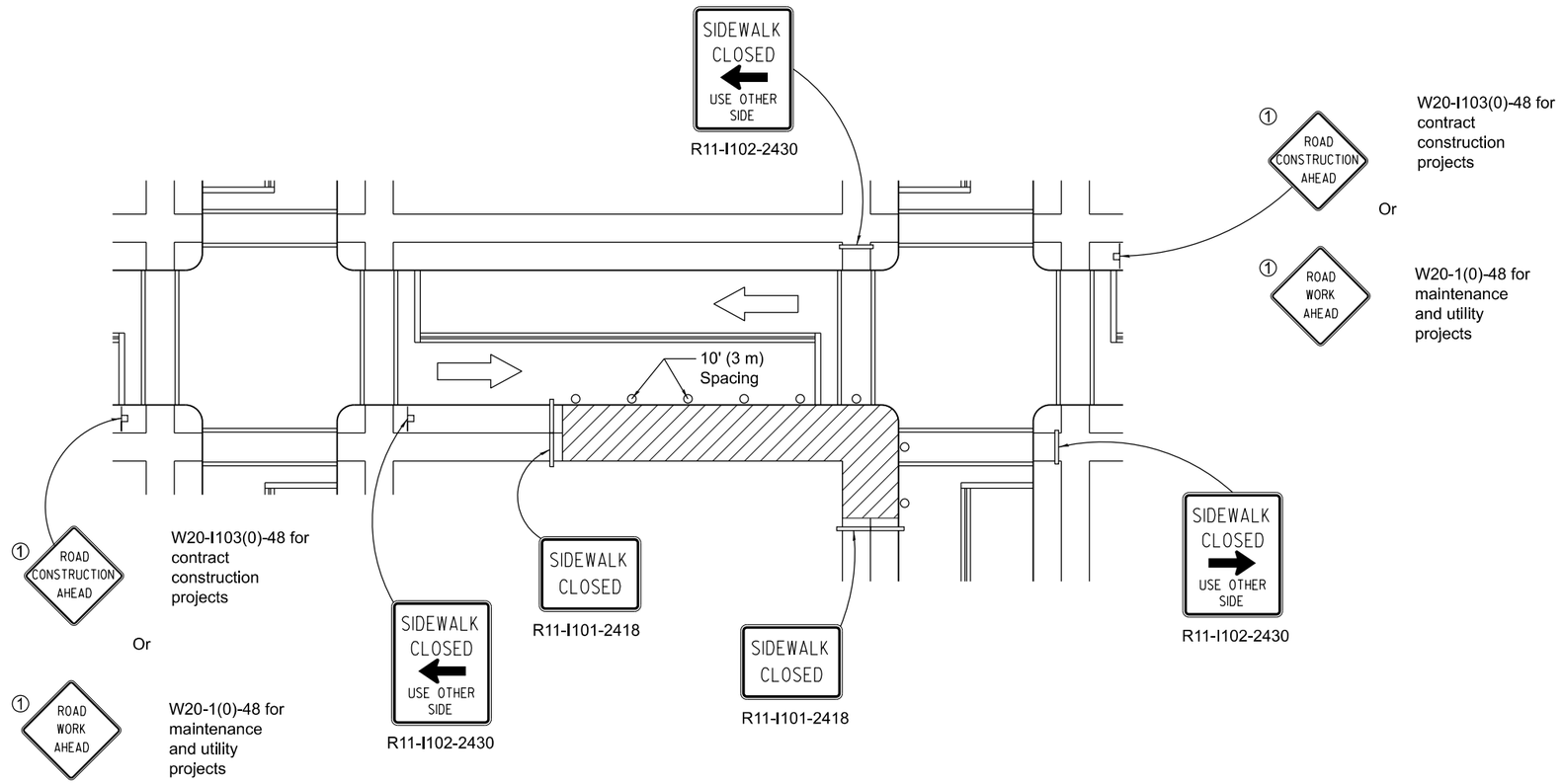
APPROVED January 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

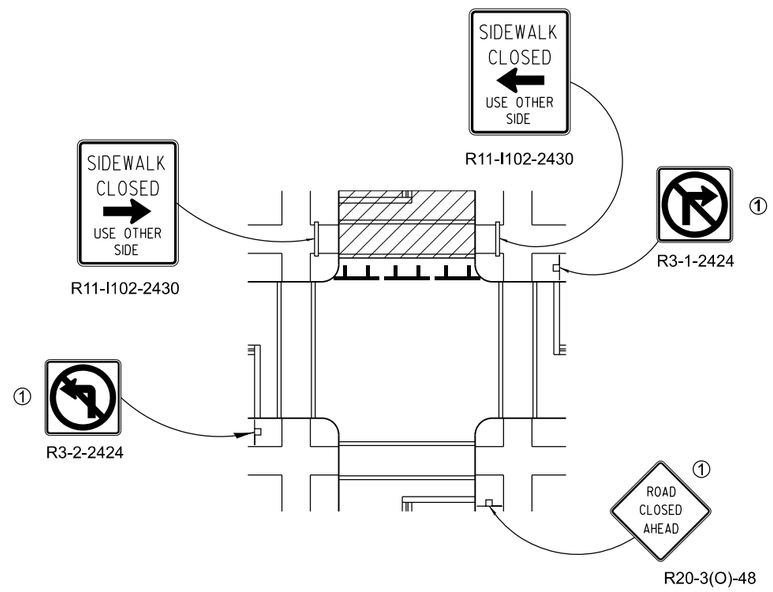
DATE	REVISIONS
4-1-16	Omitted orange safety fence from
	standard as this is covered in
	the standard spec.
1-1-12	Added SIDEWALK DIVERSION.
	Modified appearance of plan views.
	Renamed Standard.

SIDEWALK, CORNER OR CROSSWALK CLOSURE

STANDARD 701801-06



CORNER CLOSURE



CROSSWALK CLOSURE

Illinois Department of Transportation

APPROVED January 1, 2016
ENGINEER OF SAFETY ENGINEERING

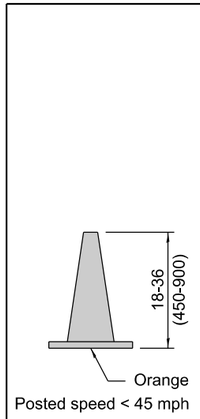
APPROVED January 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

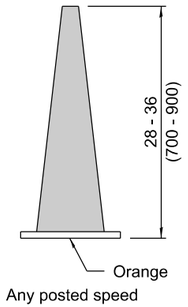
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

STANDARD 701801-06

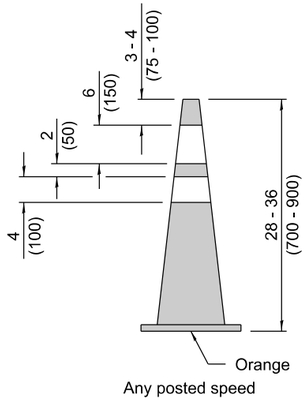


Posted speed < 45 mph

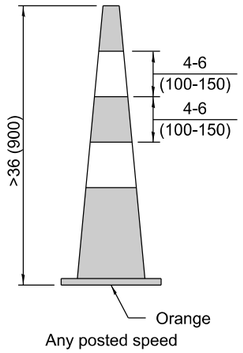


Any posted speed

DAYTIME USE



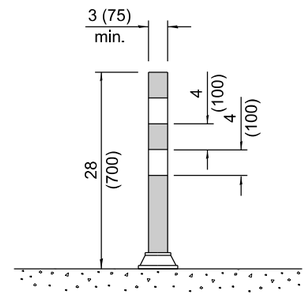
Any posted speed



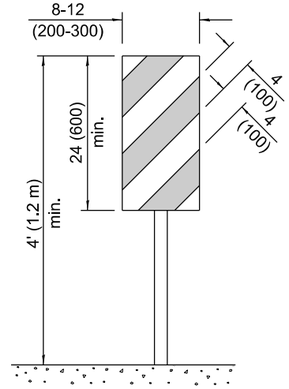
Any posted speed

DAY OR NIGHTTIME USE

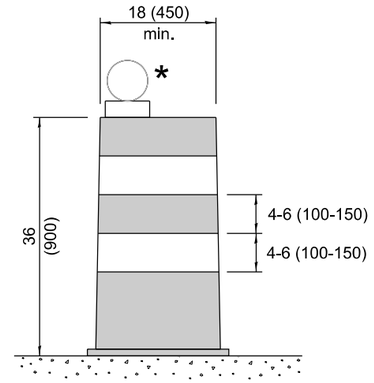
CONES



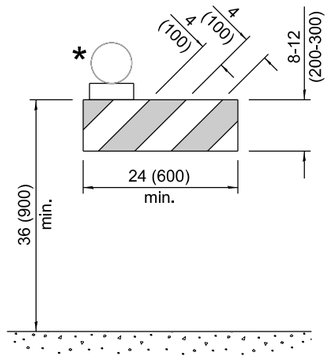
TUBULAR MARKER



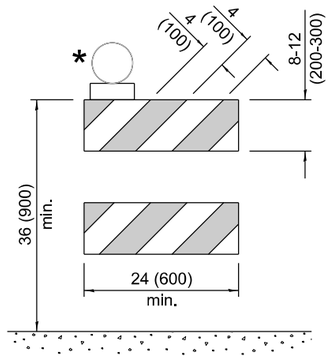
VERTICAL PANEL
POST MOUNTED



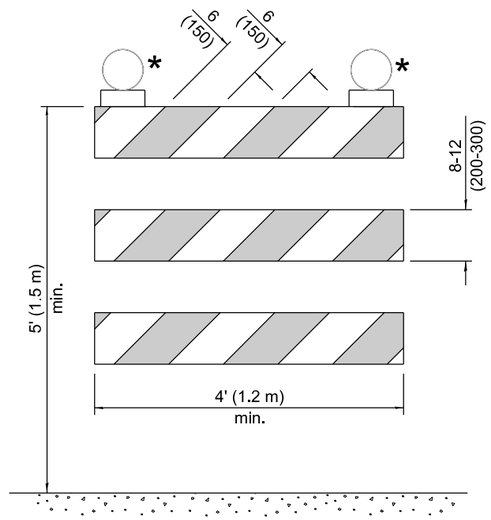
DRUM



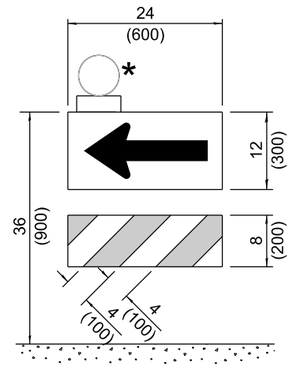
TYPE I BARRICADE



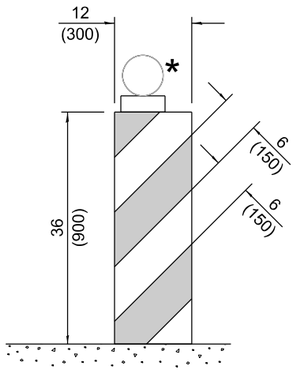
TYPE II BARRICADE



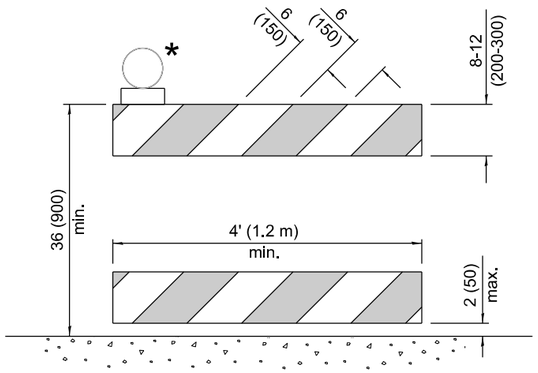
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

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

Illinois Department of Transportation

APPROVED January 1, 2024
ENGINEER OF SAFETY PROG. AND ENGINEERING

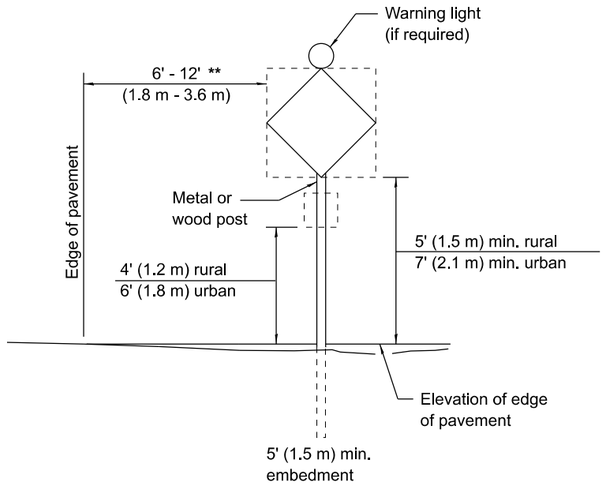
APPROVED January 1, 2024
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

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 conces usage and added
	cones > 36" (900 mm) height.

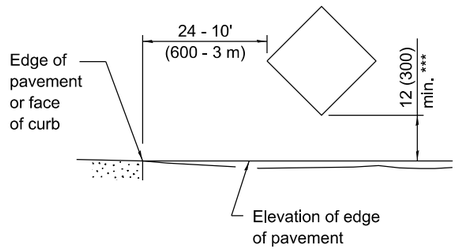
TRAFFIC CONTROL DEVICES

STANDARD 701901-09



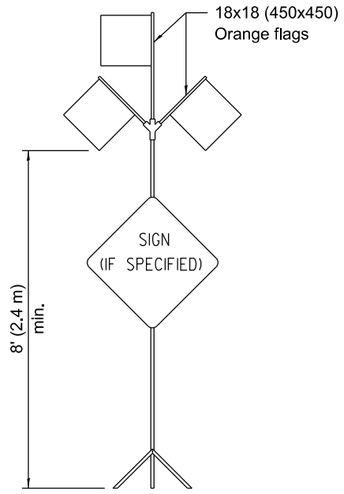
POST MOUNTED SIGNS

** 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.



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

G20-I104(0)-6036

G20-I105(0)-6024

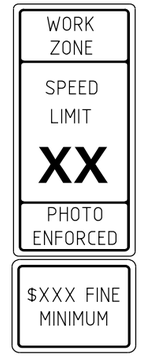
This signing is required for all projects 2 miles (3200 m) or more in length.

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



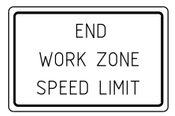
W21-III5(0)-3618

R2-1-3648

R10-I108p-3618 ****

R2-I106p-3618

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

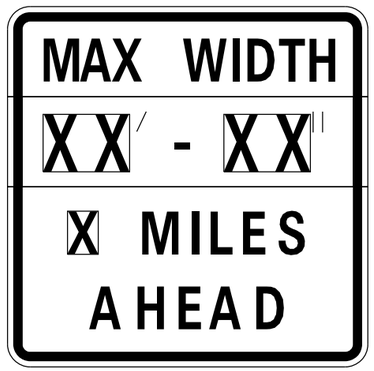


G20-I103-6036

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

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

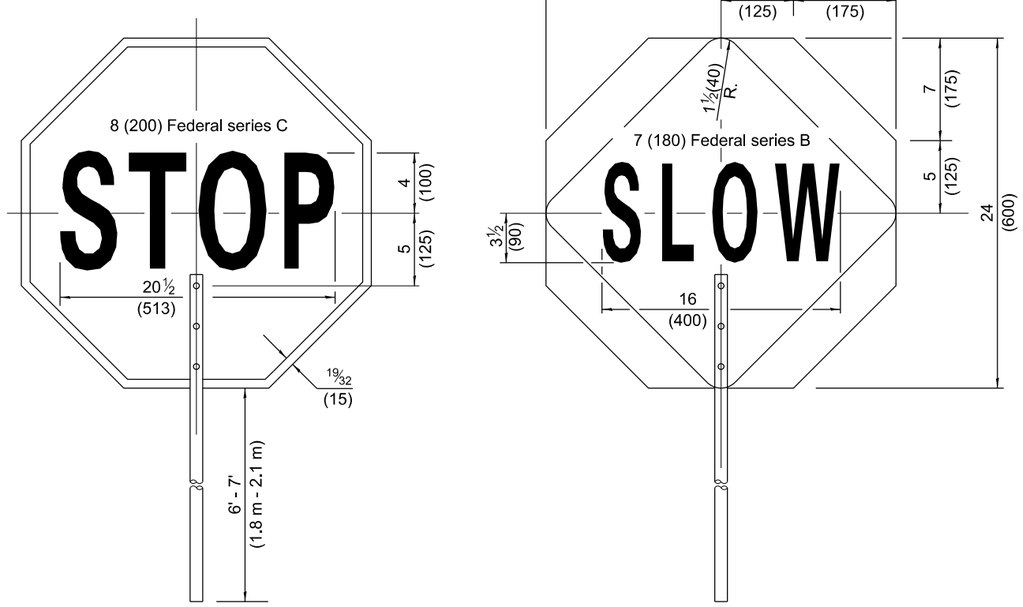
**** R10-I108p shall only be used along roadways under the juristiction of the State.



W12-I103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FRONT SIDE

REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation

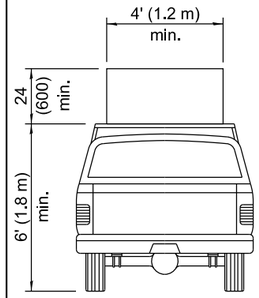
APPROVED January 1, 2024
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2024
ENGINEER OF DESIGN AND ENVIRONMENT

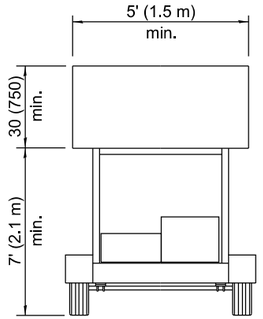
ISSUED 1-1-13

TRAFFIC CONTROL DEVICES

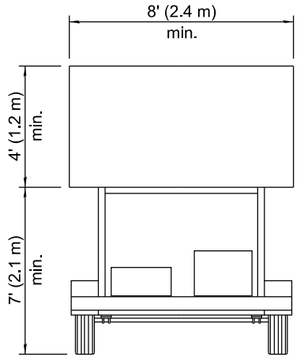
STANDARD 701901-09



TYPE A ROOF MOUNTED

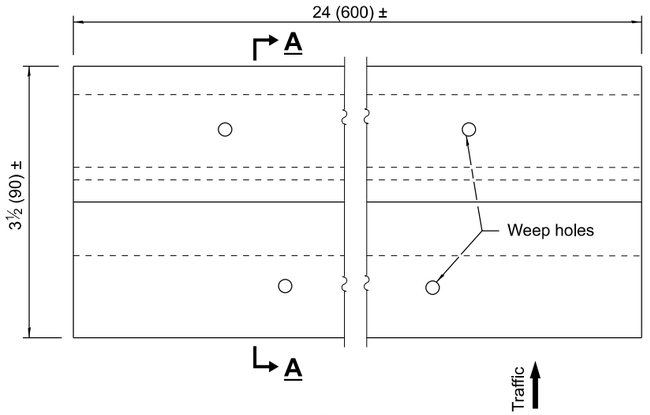


TYPE B ROOF OR TRAILER MOUNTED

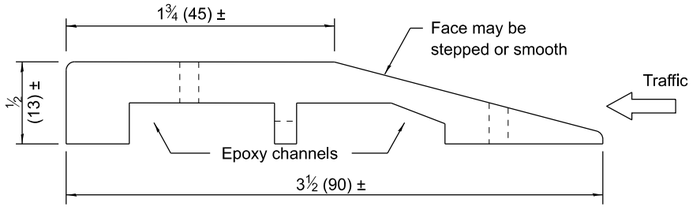


TYPE C TRAILER MOUNTED

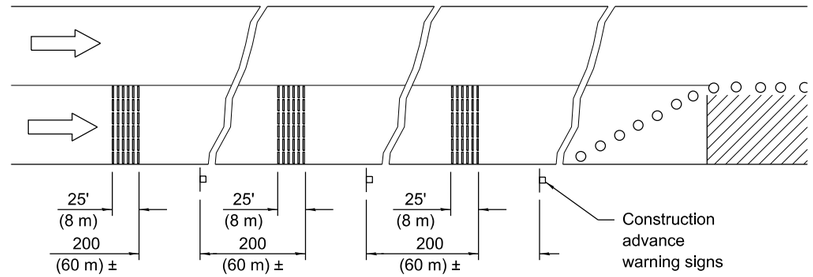
ARROW BOARDS

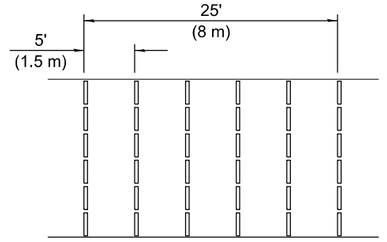


PLAN



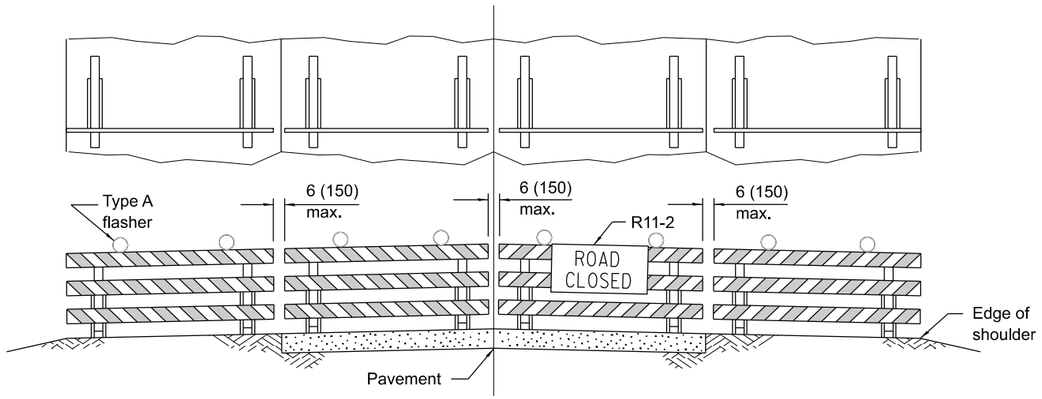
SECTION A-A





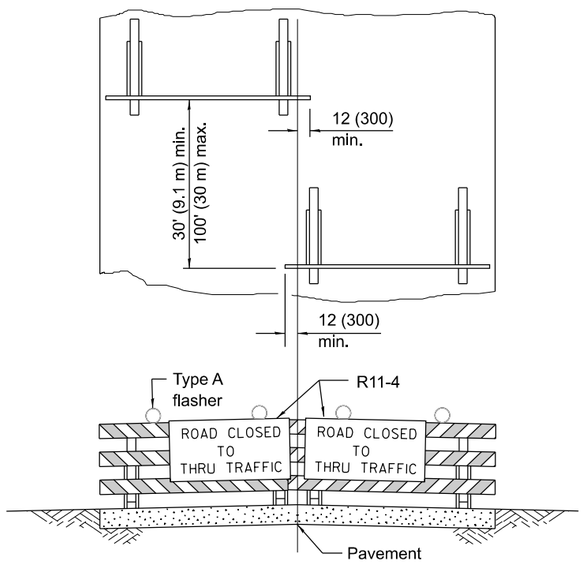
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides 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 January 1, 2024
ENGINEER OF SAFETY PROG. AND ENGINEERING

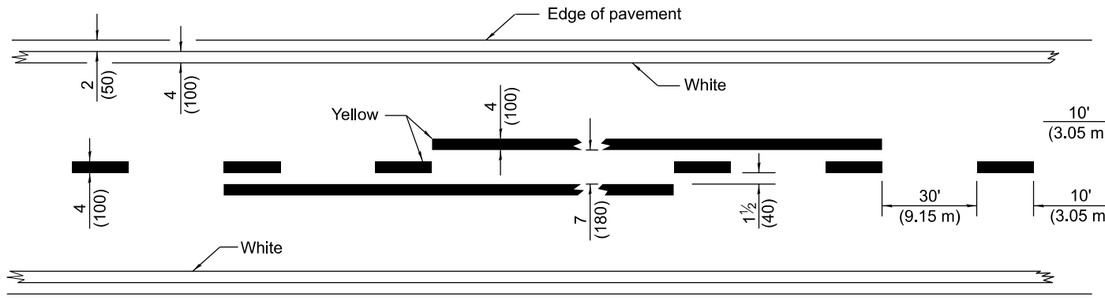
APPROVED January 1, 2024
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

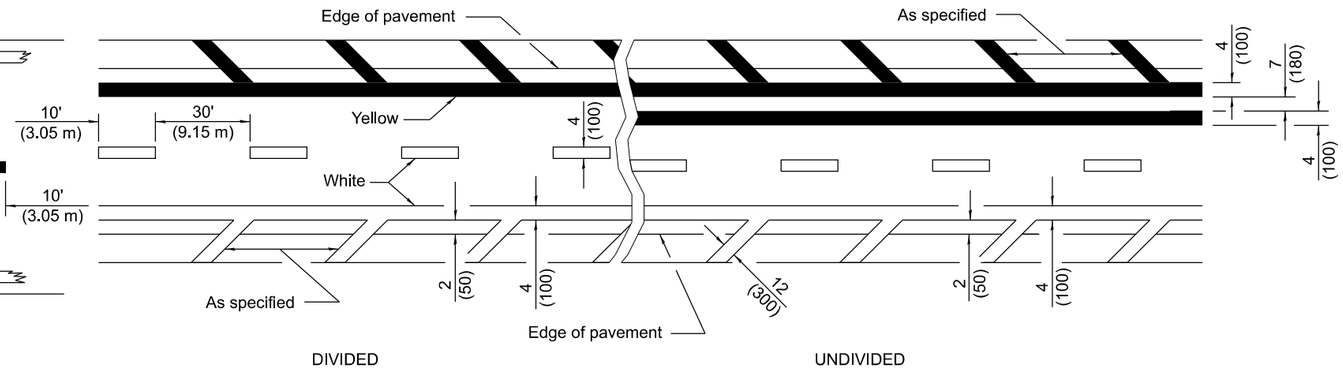
TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901-09

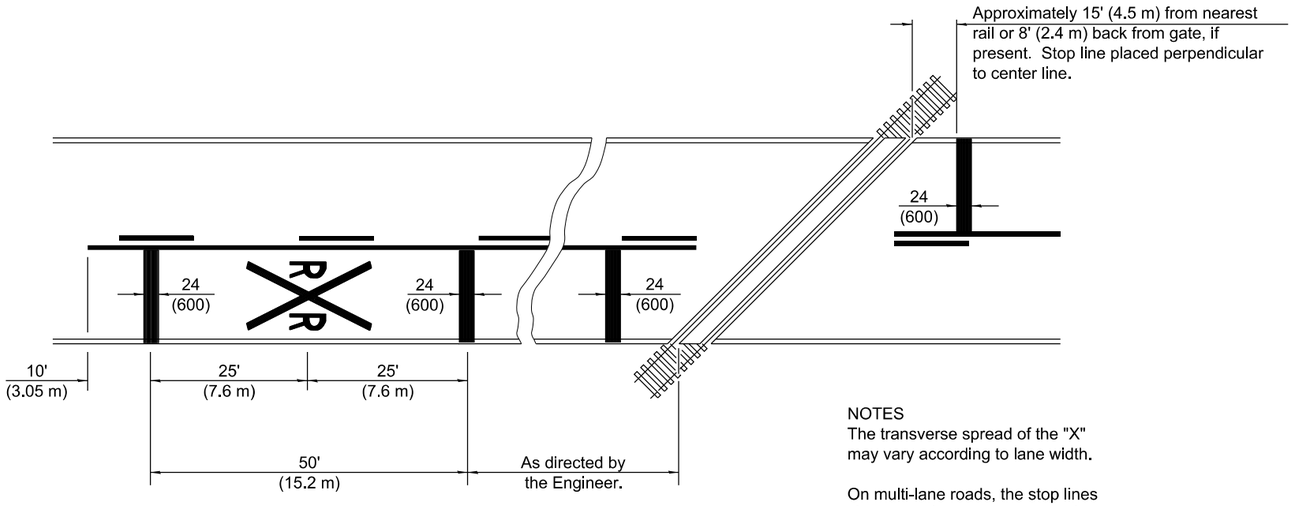


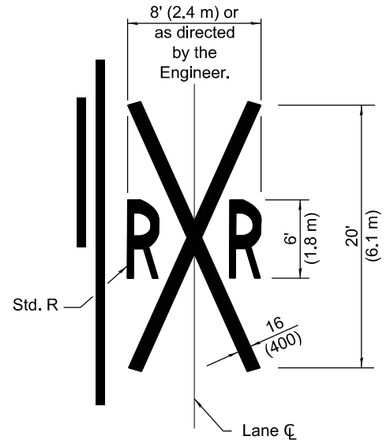
2 LANE



MULTI LANE

LANE AND EDGE LINES





NOTES
The transverse spread of the "X" may vary according to lane width.

On multi-lane roads, the stop lines shall extend across all approach lanes and separate RXR symbols shall be placed adjacent to each other in each lane.

When the pavement marking symbol is used, a portion of the symbol should be located directly adjacent to the Advance Warning Sign (W10-1) as placed by Table 2C-4, Condition B of the MUTCD.

PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

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

Illinois Department of Transportation

APPROVED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

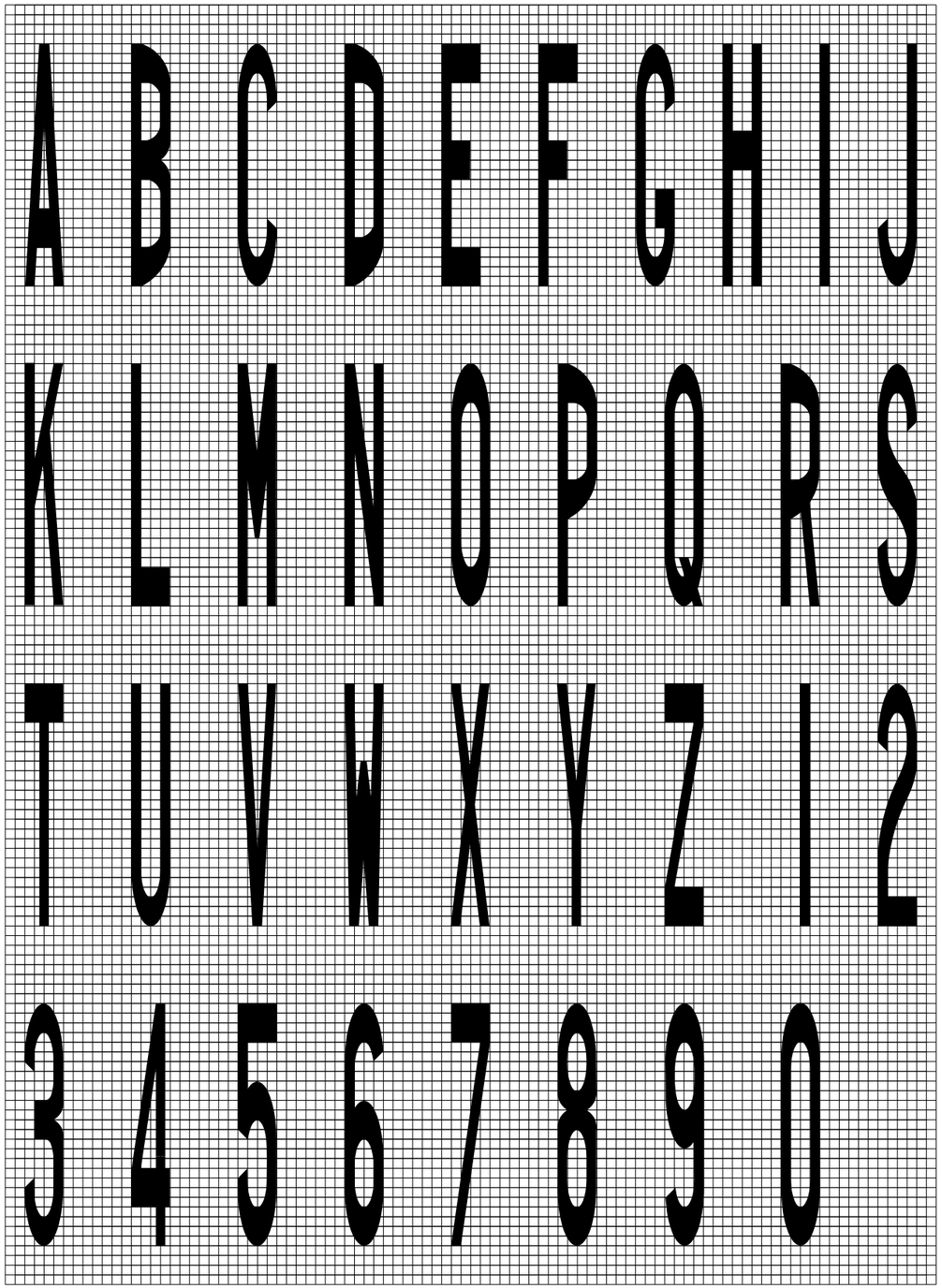
ISSUED 1-1-97

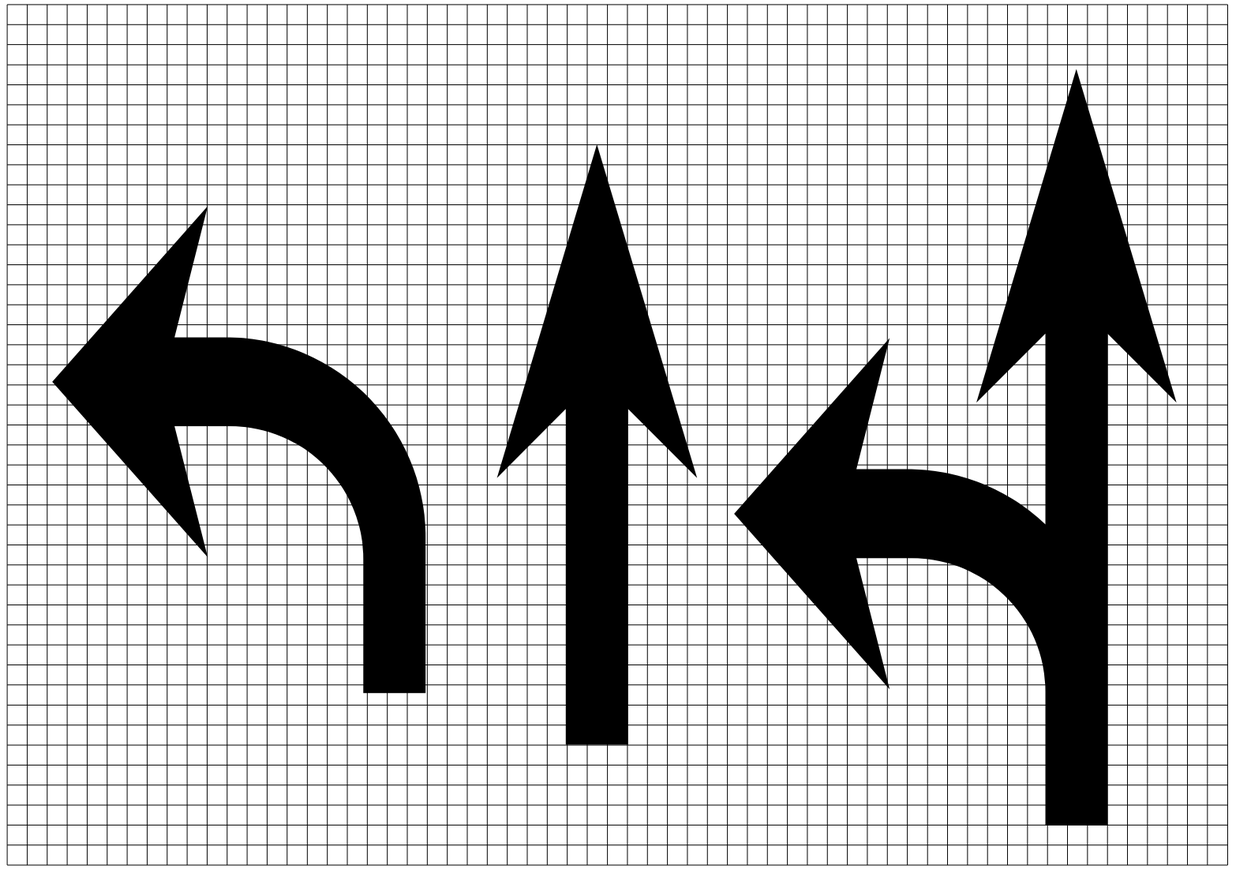
DATE	REVISIONS
1-1-15	Added symbols. Revised bike symbol.
	Revised note for stop line at
	RR crossing.
1-1-14	Added bike symbol. Renamed 'LANE
	DROP ARROW' detail to 'LANE-
	REDUCTION ARROW'.

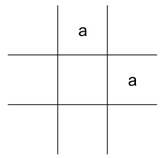
TYPICAL PAVEMENT MARKINGS

(Sheet 1 of 3)

STANDARD 780001-05







Legend Height	Arrow Size	a
6' (1.8 m)	Small	2.9 (74)
8' (2.4 m)	Large	3.8 (96)

The space between adjacent letters or numerals should be approximately 3 (75) for 6' (1.8 m) legend and 4 (100) for 8' (2.4 m) legend.

LETTER AND ARROW GRID SCALE

Illinois Department of Transportation

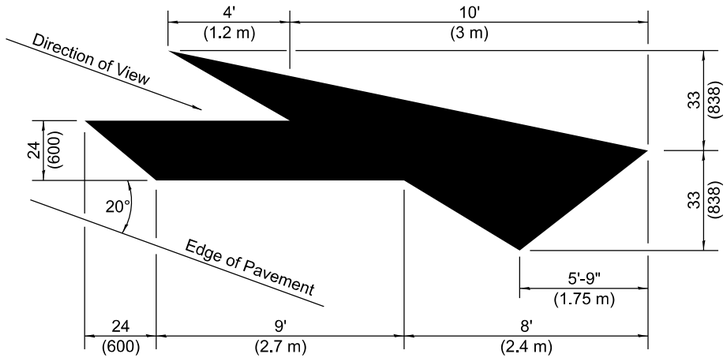
APPROVED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

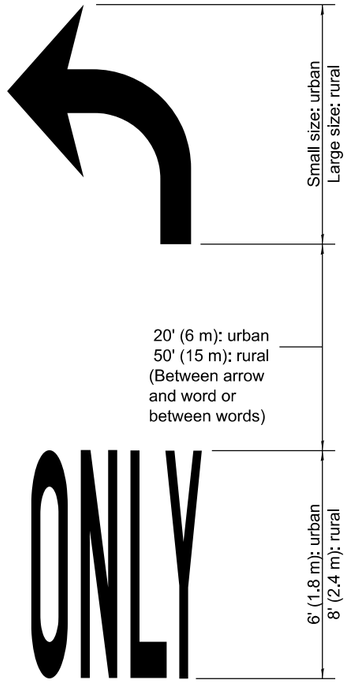
TYPICAL PAVEMENT MARKINGS

STANDARD 780001-05

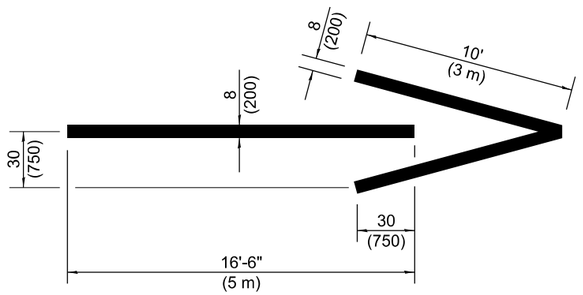


LANE-REDUCTION ARROW

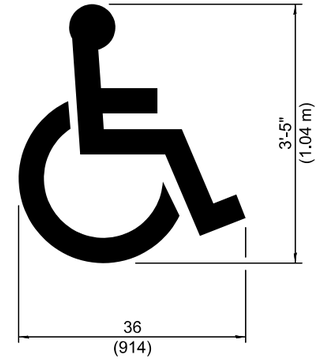
Right lane-reduction arrow shown.
Use mirror image for left lane.



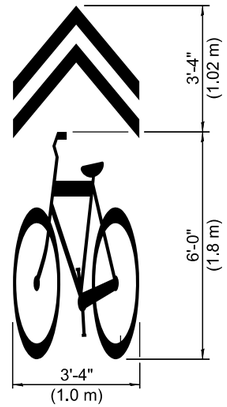
WORD AND ARROW LAYOUT



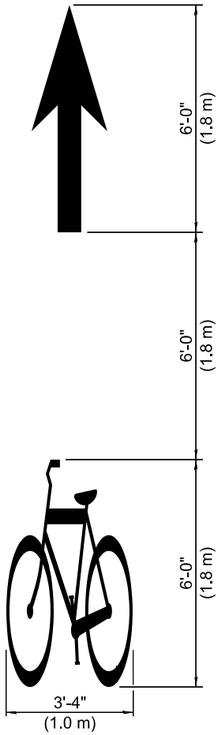
WRONG WAY ARROW



INTERNATIONAL SYMBOL OF ACCESSIBILITY



SHARED LANE SYMBOL



BIKE SYMBOL

(Arrow is optional.)

Illinois Department of Transportation

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ENGINEER OF OPERATIONS

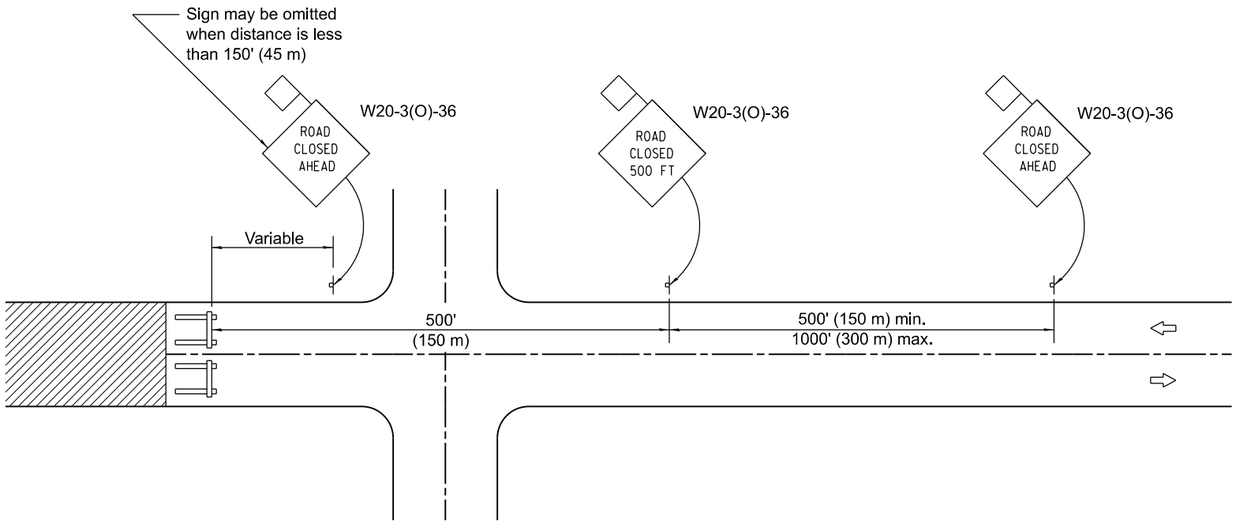
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TYPICAL PAVEMENT MARKINGS

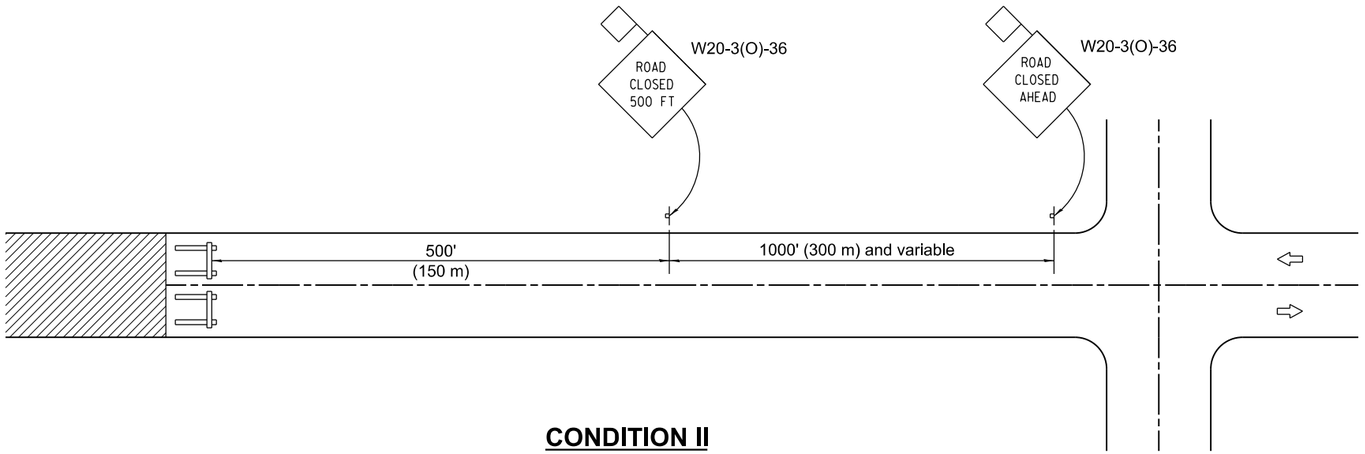
(Sheet 3 of 3)

STANDARD 780001-05



CONDITION I

When distance from closure to crossroad is less than 1500' (450 m)



CONDITION II

When distance from closure to crossroad is greater than 1500' (450 m)

SYMBOLS

Work area

Type III Barricade

Sign with 18 x 18 (450x450) min. orange flag attached

GENERAL NOTES

Type III Barricades and R11-2-4830 signs shall be positioned as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area during hours of darkness. One light shall be installed above the barricades and the other above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

When the distance between the barricade and the intersection is between 1500' (450 m) and 2000' (600 m), the advance sign shall be placed at the intersection. When the distance between the barricade and the intersection is over 2000' (600 m), an additional sign shall be placed at the intersection. The additional sign shall give the distance to the barricade in miles or fractions of a mile.

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

Illinois Department of Transportation

APPROVED January 1, 2012
ENGINEER OF LOCAL ROADS AND STREETS

APPROVED January 1, 2012
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-12	Omitted two notes from
	GENERAL NOTES.
1-1-09	Switched units to English (metric).

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

STANDARD B.L.R. 21-9

Bid 24-068
2024 Bridge Rehabilitation Program
Bid opening: August 21, 2024

ADDENDUM NO. 1
Page 1 of 7

TO: **All Bidders**

FROM: **Engineering Division, City of Aurora**

DATE: **August 15, 2024**

THIS ADDENDUM FORMS A PART OF THE BIDDING AND CONTRACT DOCUMENTS.

1. There was recent motorist caused damage to the inner and outer bridge railing in the southeast quad of the High St Bridge. 2 pay items have been added to the contract, and a new Schedule of Prices is attached. Existing bridge plans required for the work are attached, and the following specification has been added to the contract:

   SP. 25 Bridge Rail

   This work shall be performed in accordance with Section 509 of the Standard Specifications. Existing damaged bridge rail sections shall be removed and replaced with in-kind aluminum railing. The railing shall match the style and dimensions described in the original bridge plans.

   Bridge rail will be measured along the top face of the rail.

   This work will be paid for per foot at the unit price for INSIDE BRIDGE RAIL REPAIR or OUTSIDE BRIDGE RAIL REPAIR which price shall include all labor, materials, and equipment necessary to complete the work.

   Removals, including any remaining welds on the top of base plates, will not be measured for payment.

2. The bid documents referenced the following, “The Contractor shall provide insurance with limits as stated in the Article 6.7 of the City of Aurora - General Specifications”. I did not see Article 6.7 with in the bid documents. Would you happen to have Article 6.7 for me to review? Additionally, there was mention of railroad Protective liability insurance that the contractor is to provide. Do you know if this is required for this project? Article 6.7 is included in the proposal and begins on page 30 of 216. Railroad insurance will be required as described in the BDE spec beginning on page 198 of 216.

Sincerely,

Timothy Weidner, P.E.
Engineering Coordinator
City of Aurora Engineering Division

PLEASE ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID PROPOSAL FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

SCHEDULE OF PRICES – ADDENDUM 1

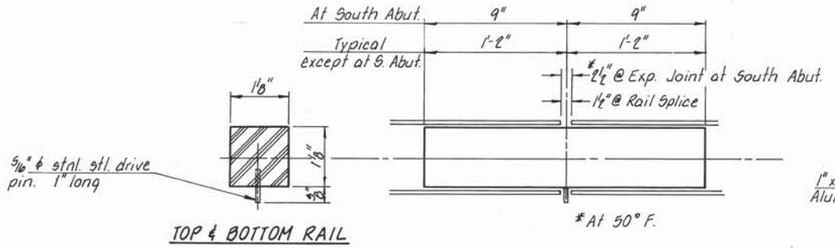
RFB 24-068 (2024 Bridge Rehabilitation Program)

#	Items	Unit	Quantity	Unit Price	Total
1	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	14		
2	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	2		
3	WELDED WIRE REINFORCEMENT	SQ YD	216		
4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	216		
5	PROTECTIVE COAT	SQ YD	4163		
6	PAVEMENT REMOVAL	SQ YD	230		
7	COMBINATION CURB AND GUTTER REMOVAL	FOOT	42		
8	PREFORMED JOINT STRIP SEAL	FOOT	97		
9	MANHOLES TO BE ADJUSTED WITH NEW TYPE 11 FRAME AND GRATE	EACH	1		
10	FRAMES AND GRATES, TYPE 11	EACH	1		
11	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	42		
12	GRAFFITI REMOVAL	SQ YD	822		
13	BOLT REPLACEMENT	EACH	3		
14	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1		
15	CONCRETE REMOVAL	CU YD	15.6		
16	SLOPE WALL REMOVAL	SQ YD	260		
17	CONCRETE SUPERSTRUCTURE	CU YD	15.3		
18	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3630		
19	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1		
20	REINFORCEMENT BARS, EPOXY COATED	POUND	2060		
21	PEDESTRIAN RAILING	FOOT	22		
22	SLOPE WALL 4 INCH	SQ YD	260		
23	GRANULAR BACKFILL FOR STRUCTURES	CU YD	261		
24	CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	SQ YD	4		
25	ANTI-GRAFFITI COATING	SQ FT	7395		
26	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, NO. 1	L SUM	1		
27	BRIDGE CLEANING AND PAINTING WARRANTY	L SUM	1		

28	STRUCTURAL STEEL REMOVAL	POUND	3630		
29	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	761		
30	DRILL AND GROUT BARS	EACH	60		
31	RAILING REMOVAL AND RE-INSTALLATION	FOOT	263		
32	SIDEWALK REMOVAL	SQ FT	334		
33	PORTLAND CEMENT CONCRETE SIDEWALK (6 INCH)	SQ FT	334		
34	TURF REINFORCEMENT MAT	SQ YD	16		
35	FURNISHED EXCAVATION	CU YD	3		
36	SIGN PANEL, TYPE 1	SQ FT	3		
37	EPOXY CRACK INJECTION	FOOT	20		
38	LANDSCAPE RESTORATION	L SUM	1		
39	TRAFFIC CONTROL AND PROTECTION, SPECIAL	L SUM	1		
40	ITEMS TO BE ORDERED BY THE ENGINEER	ALLOWANCE	1	$100,000.00	$100,000.00
41	INSIDE BRIDGE RAIL REPAIR	FOOT	63		
42	OUTSIDE BRIDGE RAIL REPAIR	FOOT	36		
				TOTAL	

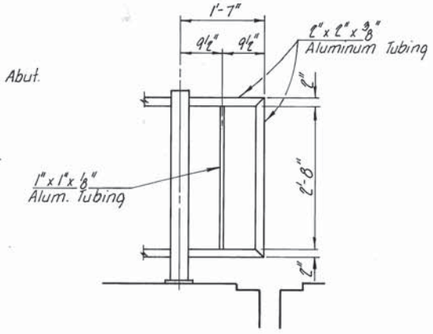
ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	83-00155 -00-BR	AURORA	60	34
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Sheet 16 of 42

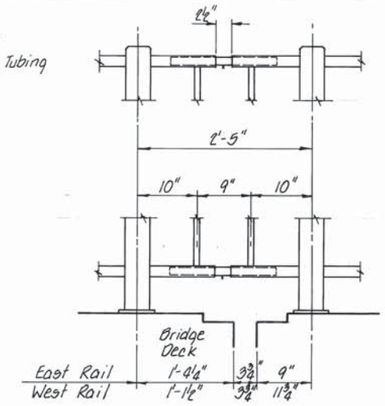


TOP & BOTTOM RAIL SPLICE BAR

RAIL SPLICE



RAIL OVERHANG AT NORTH ABUT.



RAIL SPLICE AT SOUTH ABUT.

EXTERIOR RAILING DETAILS AT ABUTMENTS

NOTES

All posts shall be normal to parapet or curb.

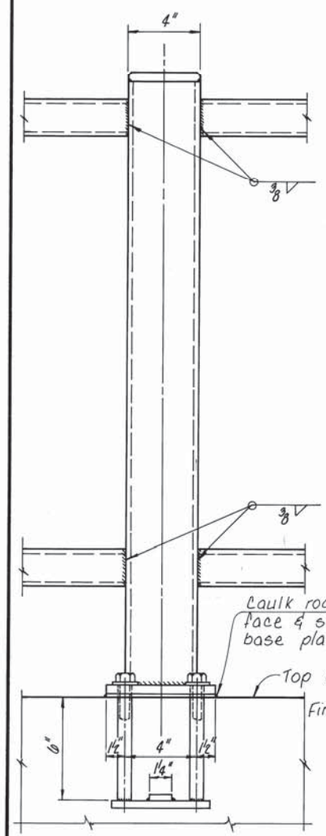
All joints in rail shall be spliced per detail. Splices shall be provided at the one quarter points of the horizontal rail span between posts and not more than three posts shall be included between any two splices.

Provide ⅛" and 2/16" Aluminum shims for 25% of the posts. Horizontal rail elements shall be parallel to grade. High spots shall be ground and low spots shimmed.

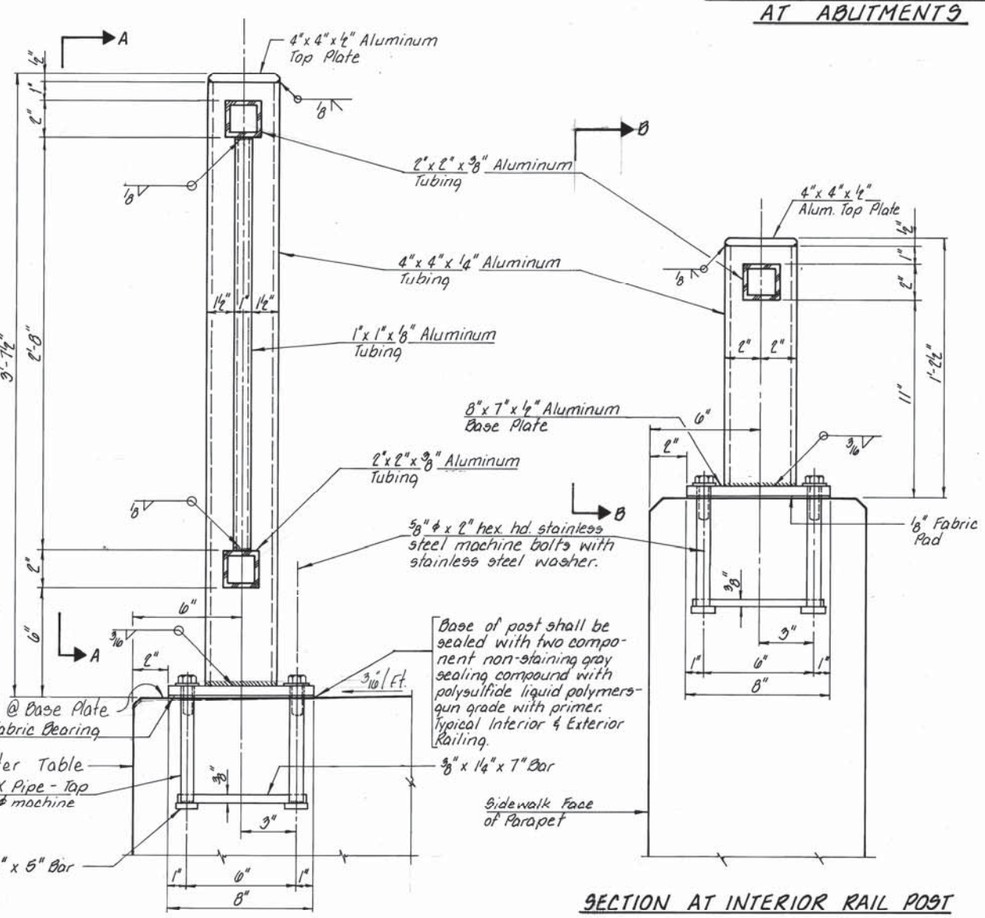
Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for ALUMINUM RAILING.

Aluminum alloy extruded rail shall conform to ASTM B221 alloy 6061-T6 or 6351-T5 with minimum yield 35 ksi, minimum tensile 38 ksi, and elongation of 10% in 2 inches.

Aluminum surfaces to come in contact with steel shall be painted in accordance with Section 1.5.4 of the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" published by the American Association of State Highway and Transportation Officials. Members which are covered by this specification are the Rail Post Base Plates.

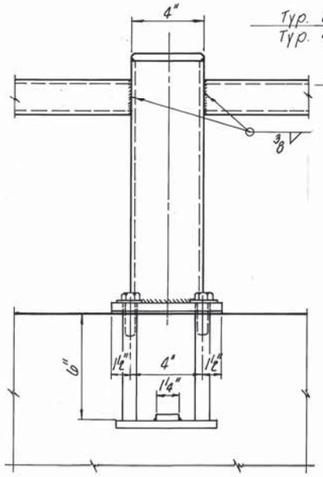


VIEW A-A



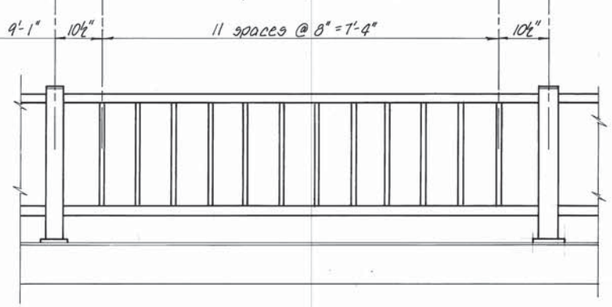
SECTION AT EXTERIOR RAIL POST

SECTION AT INTERIOR RAIL POST

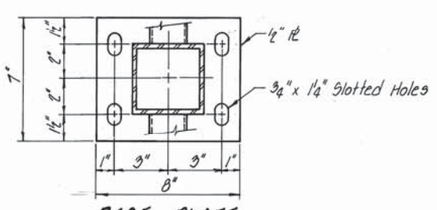


VIEW B-B

Typ. 7'-6"	9"	9 spaces @ 8" = 6'-0"	9"
Typ. 7'-10¾"	11⅜"	9 spaces @ 8" = 6'-0"	11⅜"
Typ. 8'-0⅝"	8⅝"	10 spaces @ 8" = 6'-8"	8⅝"
Typ. 8'-6¾"	11⅛"	10 spaces @ 8" = 6'-8"	11⅛"
Typ. 8'-11¼"	9⅜"	11 spaces @ 8" = 7'-4"	9⅜"
Typ. 9'-0"	10"	11 spaces @ 8" = 7'-4"	10"
Typ. 9'-1"	10½"	11 spaces @ 8" = 7'-4"	10½"



TYPICAL EXTERIOR RAILING SECTION



BASE PLATE

Work this sheet with sheet 17 & 18.

RAILING DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

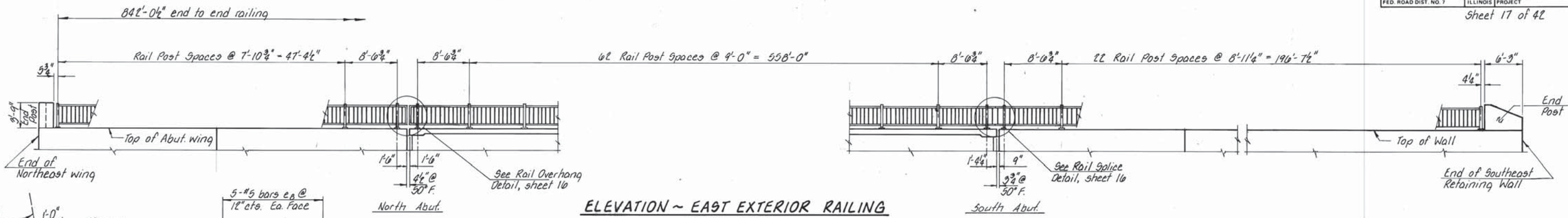
DESIGNED F.S. CHECKED A.R.K.
DRAWN M.G. DATE 8-17-84 NO. 18112

10-1-84

14-3-06

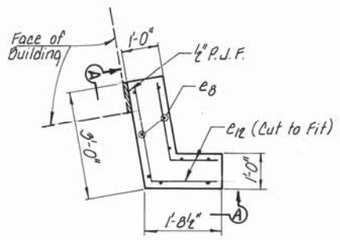
ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	03-00155 -00-BR	AURORA	60	35
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Sheet 17 of 42

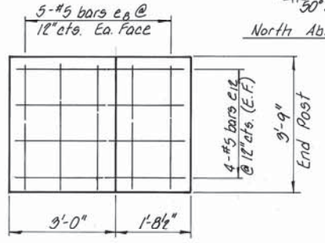


ELEVATION ~ EAST EXTERIOR RAILING

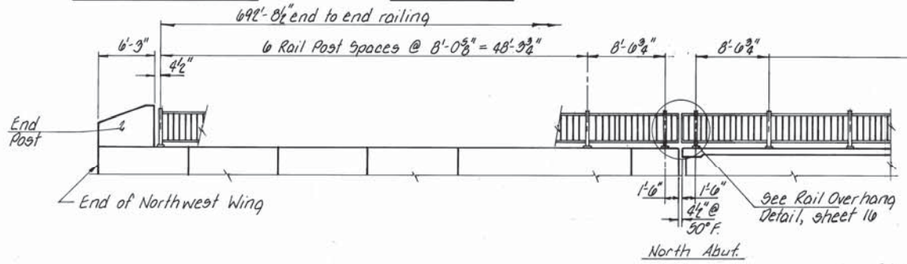
LOOKING EAST



CORNER DETAIL

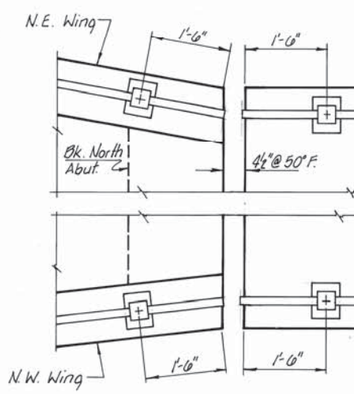


VIEW A-A

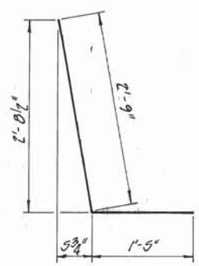


ELEVATION ~ WEST EXTERIOR RAILING

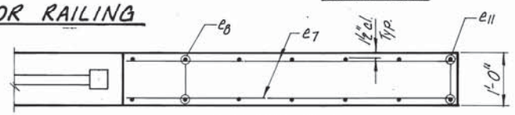
LOOKING EAST



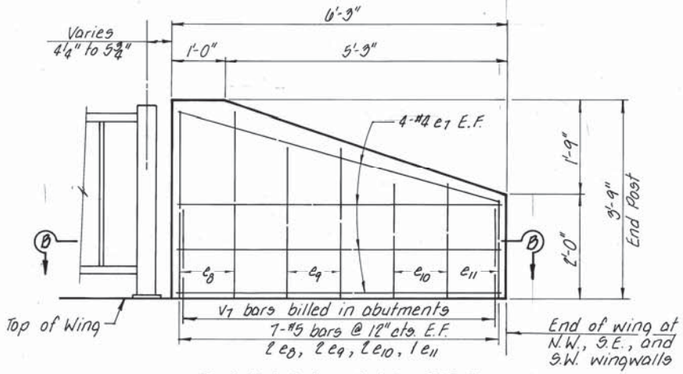
PLAN VIEW AT RAIL OVERHANG



BAR e12



SECTION B-B



ELEVATION ~ END POST

Note ~ Concrete end posts shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
e7	24	#4	6'-0"	—
e8	22	#5	3'-7"	—
e9	12	#5	2'-11"	—
e10	12	#5	2'-3"	—
e11	6	#5	1'-11"	—
e12	8	#5	4'-2"	⌐
Reinforcement Bars (Epoxy Coated)		Pound		290
Class X Concrete		Cu. Yd.		2.7
Aluminum Railing, Exterior		Lin. Ft.		1,535

All reinforcement listed above shall be epoxy coated.

Work this sheet with sheets 16 & 18

EXTERIOR RAILING DETAILS

SECTION 03-00155-00-BR

CITY OF AURORA

STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

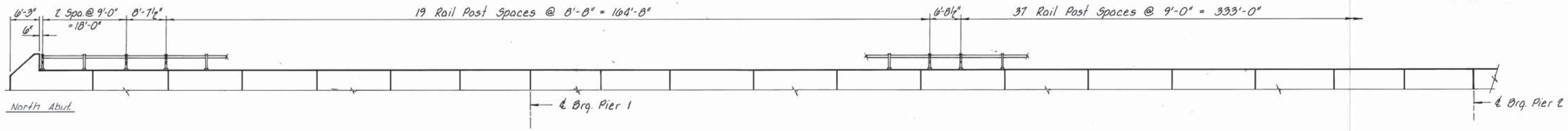
DESIGNED F.S. CHECKED A.R.K.
DRAWN M.G. DATE 8-17-04 NO. 1811.2

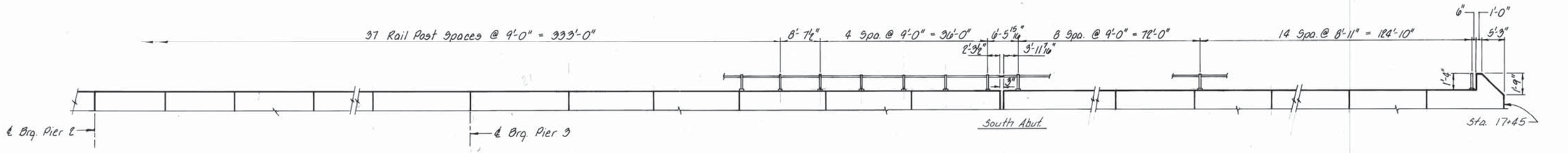
10-1-84

14-3-06

ROUTE NO.	SECTION	CITY	TOTAL SHEETS	SHEET NO.
HIGH STREET	83-00155 -00-BR	AURORA	60	30
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

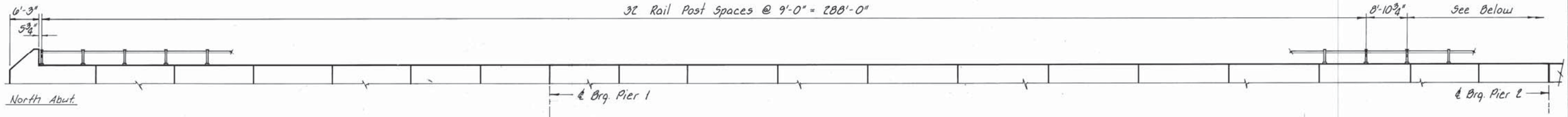
Sheet 18 of 42

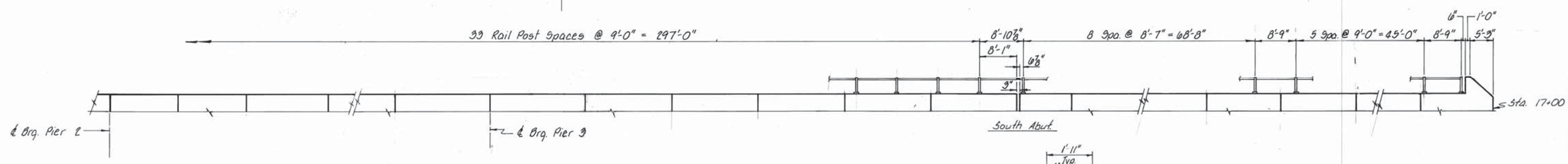




ELEVATION ~ EAST INTERIOR RAILING

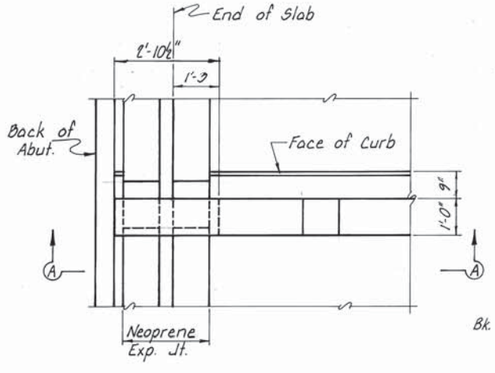
LOOKING EAST



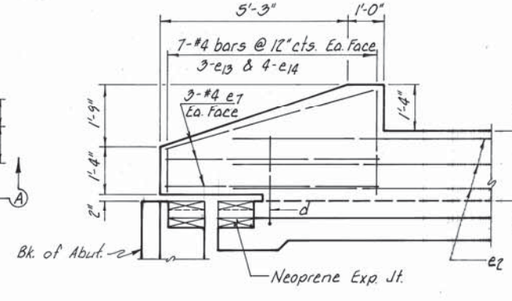


ELEVATION ~ WEST INTERIOR RAILING

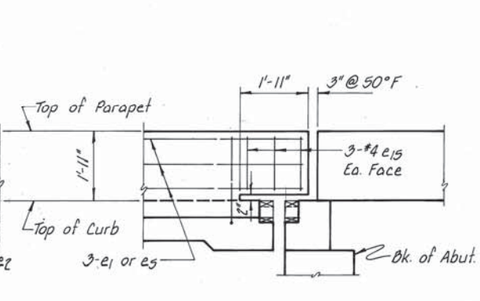
LOOKING EAST



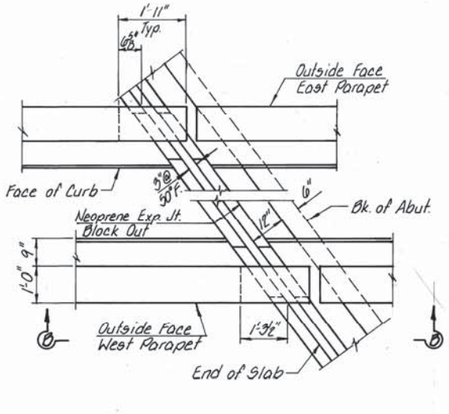
PLAN ~ PARAPET OVERHANG
NORTH ABUTMENT



SECTION A-A



SECTION B-B



PLAN ~ PARAPET OVERHANGS
SOUTH ABUTMENT

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Aluminum Railing, Interior	Lin. Ft.	1,510

Work this sheet with sheets 16 & 17.

INTERIOR RAILING DETAILS
SECTION 83-00155-00-BR
CITY OF AURORA
STATION 12+77

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S. CHECKED R.M.B.
DRAWN M.C. DATE 8-17-84 NO. 1811.2

10-1-84

14-3-06

Bid 24-068
2024 Bridge Rehabilitation Program
Bid opening: August 21, 2024

ADDENDUM NO. 2
Page 1 of 3

TO: **All Bidders**

FROM: **Engineering Division, City of Aurora**

DATE: **August 16, 2024**

THIS ADDENDUM FORMS A PART OF THE BIDDING AND CONTRACT DOCUMENTS.

1. Please see Addendum 1, Schedule of Prices, Item #24 CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS - The Unit of Measure is SQ YD and should be EACH. Please advise. Item 24 should have Unit of Measure EACH. The quantity remains unchanged. An updated Schedule of Prices is attached.

Sincerely,

Timothy Weidner, P.E.
Engineering Coordinator
City of Aurora Engineering Division

PLEASE ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID PROPOSAL FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

SCHEDULE OF PRICES – ADDENDUM 2

RFB 24-068 (2024 Bridge Rehabilitation Program)

#	Items	Unit	Quantity	Unit Price	Total
1	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	14		
2	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	2		
3	WELDED WIRE REINFORCEMENT	SQ YD	216		
4	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	216		
5	PROTECTIVE COAT	SQ YD	4163		
6	PAVEMENT REMOVAL	SQ YD	230		
7	COMBINATION CURB AND GUTTER REMOVAL	FOOT	42		
8	PREFORMED JOINT STRIP SEAL	FOOT	97		
9	MANHOLES TO BE ADJUSTED WITH NEW TYPE 11 FRAME AND GRATE	EACH	1		
10	FRAMES AND GRATES, TYPE 11	EACH	1		
11	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	42		
12	GRAFFITI REMOVAL	SQ YD	822		
13	BOLT REPLACEMENT	EACH	3		
14	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1		
15	CONCRETE REMOVAL	CU YD	15.6		
16	SLOPE WALL REMOVAL	SQ YD	260		
17	CONCRETE SUPERSTRUCTURE	CU YD	15.3		
18	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3630		
19	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1		
20	REINFORCEMENT BARS, EPOXY COATED	POUND	2060		
21	PEDESTRIAN RAILING	FOOT	22		
22	SLOPE WALL 4 INCH	SQ YD	260		
23	GRANULAR BACKFILL FOR STRUCTURES	CU YD	261		
24	CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	EACH	4		
25	ANTI-GRAFFITI COATING	SQ FT	7395		
26	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, NO. 1	L SUM	1		
27	BRIDGE CLEANING AND PAINTING WARRANTY	L SUM	1		

28	STRUCTURAL STEEL REMOVAL	POUND	3630		
29	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	761		
30	DRILL AND GROUT BARS	EACH	60		
31	RAILING REMOVAL AND RE-INSTALLATION	FOOT	263		
32	SIDEWALK REMOVAL	SQ FT	334		
33	PORTLAND CEMENT CONCRETE SIDEWALK (6 INCH)	SQ FT	334		
34	TURF REINFORCEMENT MAT	SQ YD	16		
35	FURNISHED EXCAVATION	CU YD	3		
36	SIGN PANEL, TYPE 1	SQ FT	3		
37	EPOXY CRACK INJECTION	FOOT	20		
38	LANDSCAPE RESTORATION	L SUM	1		
39	TRAFFIC CONTROL AND PROTECTION, SPECIAL	L SUM	1		
40	ITEMS TO BE ORDERED BY THE ENGINEER	ALLOWANCE	1	$100,000.00	$100,000.00
41	INSIDE BRIDGE RAIL REPAIR	FOOT	63		
42	OUTSIDE BRIDGE RAIL REPAIR	FOOT	36		
				TOTAL	