

# 89

**Letting April 24, 2026**

## **Notice to Bidders, Specifications and Proposal**



**Contract No. 87899  
KENDALL County  
Section 22-00168-00-RP  
Routes FAS 285 & FAU 384 (Ridge Road)  
Project 32ZU-960 ()  
District 3 Construction Funds**

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. April 24, 2026 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 87899  
KENDALL County  
Section 22-00168-00-RP  
Project 32ZU-960 ()  
Routes FAS 285 & FAU 384 (Ridge Road)  
District 3 Construction Funds**

**Reconstruction of Ridge Road to an HMA four-lane from Holt Road to Black Road. Includes; curb & gutter, raised median, driveways, drainage improvements, traffic signals, and a shared-use path.**

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.  
  
(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to re-advertise the proposed improvement, and to waive technicalities.

By Order of the  
Illinois Department of Transportation

Gia Biagi,  
Secretary

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2026

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 1-1-26)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>		<u>Page No.</u>
109	Measurement and Payment .....	1
202	Earth and Rock Excavation .....	2
204	Borrow and Furnished Excavation .....	3
207	Porous Granular Embankment .....	4
211	Topsoil and Compost .....	5
214	Grading and Shaping Ditches .....	6
406	Hot-Mix Asphalt Binder and Surface Course .....	7
407	Hot-Mix Asphalt Pavement (Full-Depth) .....	9
420	Portland Cement Concrete Pavement .....	10
502	Excavation for Structures .....	11
504	Precast Concrete Structures .....	12
509	Metal Railings .....	13
522	Retaining Walls .....	14
540	Box Culverts .....	15
542	Pipe Culverts .....	35
550	Storm Sewers .....	44
586	Granular Backfill for Structures .....	51
601	Pipe Drains, Pipe Underdrains, and French Drains .....	52
630	Steel Plate Beam Guardrail .....	53
632	Guardrail and Cable Road Guard Removal .....	54
644	High Tension Cable Median Barrier .....	55
665	Woven Wire Fence .....	56
701	Work Zone Traffic Control and Protection .....	57
781	Raised Reflective Pavement Markers .....	59
782	Reflectors .....	60
801	Electrical Requirements .....	62
821	Roadway Luminaires .....	65
1003	Fine Aggregates .....	66
1004	Coarse Aggregates .....	67
1010	Finely Divided Minerals .....	69
1020	Portland Cement Concrete .....	70
1030	Hot-Mix Asphalt .....	73
1040	Drain Pipe, Tile, and Wall Drain .....	74
1042	Precast Concrete Products .....	75
1061	Waterproofing Membrane System .....	76
1067	Luminaire .....	77
1097	Reflectors .....	84
1102	Hot-Mix Asphalt Equipment .....	85

RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>		<u>PAGE NO.</u>
1	<input checked="" type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts .....	87
2	<input checked="" type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts) .....	90
3	<input checked="" type="checkbox"/> EEO .....	91
4	<input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts .....	101
5	<input type="checkbox"/> Required Provisions - State Contracts .....	106
6	<input type="checkbox"/> Asbestos Bearing Pad Removal .....	112
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal .....	113
8	<input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads .....	114
9	<input checked="" type="checkbox"/> Construction Layout Stakes .....	115
10	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing .....	118
11	<input type="checkbox"/> Subsealing of Concrete Pavements .....	120
12	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction .....	124
13	<input type="checkbox"/> Pavement and Shoulder Resurfacing .....	126
14	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal .....	127
15	<input type="checkbox"/> Polymer Concrete .....	129
16	<b>Reserved</b> .....	131
17	<input type="checkbox"/> Bicycle Racks .....	132
18	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals .....	134
19	<input checked="" type="checkbox"/> Nighttime Inspection of Roadway Lighting .....	136
20	<input type="checkbox"/> English Substitution of Metric Bolts .....	137
21	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete .....	138
22	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant .....	139
23	<input checked="" type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures .....	147
24	<b>Reserved</b> .....	163
25	<b>Reserved</b> .....	164
26	<input type="checkbox"/> Temporary Raised Pavement Markers .....	165
27	<input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam .....	166
28	<input type="checkbox"/> Portland Cement Concrete Inlay or Overlay .....	169
29	<input type="checkbox"/> Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching .....	173
30	<input type="checkbox"/> Longitudinal Joint and Crack Patching .....	176
31	<input type="checkbox"/> Concrete Mix Design – Department Provided .....	178
32	<input checked="" type="checkbox"/> Station Numbers in Pavements or Overlays .....	179

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Table of Contents

<u>CHECK SHEET #</u>		<u>PAGE NO.</u>
LRS 1	<b>Reserved</b> .....	181
LRS 2	<input type="checkbox"/> Furnished Excavation .....	182
LRS 3	<input checked="" type="checkbox"/> Work Zone Traffic Control Surveillance .....	183
LRS 4	<input checked="" type="checkbox"/> Flaggers in Work Zones .....	184
LRS 5	<input type="checkbox"/> Contract Claims .....	185
LRS 6	<input type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals .....	186
LRS 7	<input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals .....	192
LRS 8	<b>Reserved</b> .....	198
LRS 9	<input type="checkbox"/> Bituminous Surface Treatments .....	199
LRS 10	<b>Reserved</b> .....	203
LRS 11	<input type="checkbox"/> Employment Practices .....	204
LRS 12	<input type="checkbox"/> Wages of Employees on Public Works .....	206
LRS 13	<input type="checkbox"/> Selection of Labor .....	208
LRS 14	<input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks .....	209
LRS 15	<input type="checkbox"/> Partial Payments .....	212
LRS 16	<input type="checkbox"/> Protests on Local Lettings .....	213
LRS 17	<input type="checkbox"/> Substance Abuse Prevention Program .....	214
LRS 18	<input type="checkbox"/> Multigrade Cold Mix Asphalt .....	215
LRS 19	<input type="checkbox"/> Reflective Crack Control Treatment .....	216

**TABLE OF CONTENTS**

LOCATION OF PROJECT ..... 1  
DESCRIPTION OF PROJECT ..... 1  
STATUS OF UTILITIES TO BE ADJUSTED: ..... 2  
UTILITY DELAYS..... 3  
TRAFFIC CONTROL PLAN ..... 4  
TRAFFIC CONTROL AND PROTECTION (SPECIAL)..... 5  
SUITABLE ACCESS ..... 5  
ROAD CLOSURE - NOTIFICATIONS ..... 5  
EARTH EXCAVATION..... 6  
INITIAL SITE PREPARATION AND SUBGRADE TREATMENT ..... 6  
AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS ..... 7  
PRESERVING PROPERTY MARKERS..... 8  
AGGREGATE SHOULDERS TYPE B..... 8  
AGGREGATE SURFACE COURSE, TYPE B..... 8  
PIPE CULVERT REMOVAL ..... 8  
STORM SEWER REMOVAL..... 9  
MODIFIED URETHANE PAVEMENT MARKING – TWO APPLICATIONS ..... 9  
SHORT-TERM PAVEMENT MARKINGS ..... 9  
TEMPORARY PAVEMENT ..... 10  
TEMPORARY PAVEMENT (VARIABLE DEPTH) ..... 10  
REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES ..... 10  
STORM SEWER (WATER MAIN REQUIREMENTS)..... 12  
ISLAND REMOVAL..... 12  
TEMPORARY CONNECTION TO EXISTING STORM SEWER..... 13  
REMOVE AND RELOCATE END SECTIONS ..... 13  
EQUIPMENT ILLUMINATION..... 13  
GRANULAR MATERIALS ..... 13  
RESTORATION OF WORK AREA..... 13  
BOX CULVERT REMOVAL ..... 14  
CONCRETE MEDIAN, TYPE SB (SPECIAL)..... 14  
WATER MAIN REMOVAL..... 14  
MAINTAIN EXISTING LIGHTING SYSTEM ..... 15

SERVICE INSTALLATION, ELECTRIC.....	18
SERVICE INSTALLATION, GROUND MOUNTED.....	19
LUMINAIRE, TYPE A (SPECIAL).....	20
LUMINAIRE, TYPE B (SPECIAL).....	21
LUMINAIRE, TYPE C (SPECIAL).....	21
LUMINAIRE, TYPE D (SPECIAL).....	21
UNIT DUCT.....	22
COMBINATION LIGHTING CONTROLLER.....	23
LED INTERNALLY ILLUMINATED STREET NAME SIGN (AT RIDGE ROAD INTERSECTIONS WITH KHATER DRIVE AND WILDY ROAD).....	23
LED INTERNALLY ILLUMINATED STREET NAME SIGN (AT RIDGE ROAD INTERSECTIONS WITH US ROUTE 52 AND BLACK ROAD).....	25
MODIFY EXISTING CONTROLLER CABINET.....	28
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC, SPECIAL.....	28
DOUBLE HANDHOLE OR HANDHOLE, PORTLAND CEMENT CONCRETE.....	28
TRAFFIC SIGNAL HEADS.....	29
UNINTERRUPTABLE POWER SUPPLY, EXTENDED.....	29
SIGNAL TIMING.....	29
LOOP DETECTOR TESTING.....	31
INDUCTIVE LOOP DETECTOR.....	32
LUMINAIRE SAFETY CABLE ASSEMBLY.....	32
RELOCATE EXISTING PTZ CAMERA.....	33
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.....	34
EMERGENCY VEHICLE PRIORITY SYSTEM.....	34
VIDEO VEHICLE DETECTION SYSTEM.....	35
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL.....	39
BLACK POWDER COAT FINISH REQUIREMENT.....	42
RECESSED REFLECTIVE PAVEMENT MARKER.....	42
WHITEWASHING FOR CONCRETE PAVEMENT.....	42
FENCE REMOVAL.....	43
AVAILABLE REPORTS.....	44
EXISTING STRUCTURE PLANS.....	45
PSI INFORMATION.....	71
SWPPP.....	89
LR 107-4 - INSURANCE.....	102

LR 702 – CONSTRUCTION AND MAINTENANCE SIGNS..... 103  
LR 1030-2 – LOCAL QUALITY ASSURANCE/QUALITY MANAGEMENT QC/QA..... 104  
ILLINOIS URBAN MANUAL PRACTICE STANDARDS..... 106  
IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING ..... 132

## BDE SPECIAL PROVISIONS

The following special provisions indicated by an "X" are applicable to this contract. An \* indicates a new or revised special provision for the letting.

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099	134	<input checked="" type="checkbox"/>	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
80274	136	<input checked="" type="checkbox"/>	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
80192		<input type="checkbox"/>	Automated Flagger Assistance Device	Jan. 1, 2008	April 1, 2023
80173	139	<input checked="" type="checkbox"/>	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
* 80426		<input type="checkbox"/>	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	April 1, 2026
80475		<input type="checkbox"/>	Bridge Deck Concrete Overlays	Jan. 1, 2026	
80241		<input type="checkbox"/>	Bridge Demolition Debris	July 1, 2009	
50531		<input type="checkbox"/>	Building Removal	Sept. 1, 1990	Aug. 1, 2022
50261		<input type="checkbox"/>	Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
80460	141	<input checked="" type="checkbox"/>	Cement, Finely Divided Minerals, Admixtures, Concrete, and Mortar	Jan. 1, 2025	Jan. 1, 2026
80384	158	<input checked="" type="checkbox"/>	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198		<input type="checkbox"/>	Completion Date (via calendar days)	April 1, 2008	
80199		<input type="checkbox"/>	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80461		<input type="checkbox"/>	Concrete Barrier	Jan. 1, 2025	
80453		<input type="checkbox"/>	Concrete Sealer	Nov. 1, 2023	
80261		<input type="checkbox"/>	Construction Air Quality – Diesel Retrofit	June 1, 2010	Jan. 1, 2025
80476		<input type="checkbox"/>	Deck Slab Repair	Jan. 1, 2026	
80029		<input type="checkbox"/>	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 2, 2025
80467	162	<input checked="" type="checkbox"/>	Erosion Control Blanket	Aug. 1, 2025	
80229	165	<input checked="" type="checkbox"/>	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80452		<input type="checkbox"/>	Full Lane Sealant Waterproofing System	Nov. 1, 2023	
80433		<input type="checkbox"/>	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
80471		<input type="checkbox"/>	Guardrail	Nov. 1, 2025	
80472		<input type="checkbox"/>	High Friction Surface Treatment	Nov. 1, 2025	
* 80456	168	<input checked="" type="checkbox"/>	Hot-Mix Asphalt	Jan. 1, 2024	April 1, 2026
80446	172	<input checked="" type="checkbox"/>	Hot-Mix Asphalt – Longitudinal Joint Sealant	Nov. 1, 2022	Aug. 1, 2023
80438		<input type="checkbox"/>	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	April 2, 2024
* 80483	174	<input checked="" type="checkbox"/>	Inlet Filters	April 1, 2026	
80477	176	<input checked="" type="checkbox"/>	Longitudinal Tining	Jan. 1, 2026	
80450		<input type="checkbox"/>	Mechanically Stabilized Earth Retaining Walls	Aug. 1, 2023	Aug. 1, 2025
80478		<input type="checkbox"/>	Modified Longitudinal Construction Joint	Jan. 1, 2026	
80464	177	<input checked="" type="checkbox"/>	Pavement Marking	April 1, 2025	Nov. 1, 2025
80468	178	<input checked="" type="checkbox"/>	Pavement Patching	Aug. 1, 2025	
* 80441	179	<input checked="" type="checkbox"/>	Performance Graded Asphalt Binder	Jan 1, 2023	April 1, 2026
80459	185	<input checked="" type="checkbox"/>	Preformed Plastic Pavement Marking	June 2, 2024	
34261		<input type="checkbox"/>	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80473	186	<input checked="" type="checkbox"/>	Raised Reflective Pavement Markers	Nov. 1, 2025	
* 80455	187	<input checked="" type="checkbox"/>	Removal and Disposal of Regulated Substances	Jan. 1, 2024	April 1, 2026
80474		<input type="checkbox"/>	Residential Driveway Temporary Signal	Nov. 1, 2025	
80445	189	<input checked="" type="checkbox"/>	Seeding	Nov. 1, 2022	
80457	195	<input checked="" type="checkbox"/>	Short Term and Temporary Pavement Markings	April 1, 2024	April 2, 2024
80462	199	<input checked="" type="checkbox"/>	Sign Panels and Appurtenances	Jan. 1, 2025	Jan. 1, 2026
80479		<input type="checkbox"/>	Sinusoidal Rumble Strips	Jan. 1, 2026	
80469		<input type="checkbox"/>	Slope Wall	Aug. 1, 2025	
80448	201	<input checked="" type="checkbox"/>	Source of Supply and Quality Requirements	Jan. 2, 2023	Jan. 1, 2026
80340		<input type="checkbox"/>	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
80127	203	<input checked="" type="checkbox"/>	Steel Cost Adjustment	April 2, 2004	Nov. 1, 2025
80480		<input type="checkbox"/>	Structural Repair of Concrete	Jan. 1, 2026	
80397	205	<input checked="" type="checkbox"/>	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	206	<input checked="" type="checkbox"/>	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80463	207	<input checked="" type="checkbox"/>	Submission of Bidders List Information	Jan. 2, 2025	Mar. 2, 2025

<b>File Name</b>	<b>Pg.</b>		<b>Special Provision Title</b>	<b>Effective</b>	<b>Revised</b>
* 80482	208	<input checked="" type="checkbox"/>	Submission of Payroll Records – Federal Aid Contract	April 1, 2026	
* 80437		<input type="checkbox"/>	Submission of Payroll Records – State Contract	April 1, 2021	April 1, 2026
80435		<input type="checkbox"/>	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
80465	210	<input checked="" type="checkbox"/>	Surveying Services	April 1, 2025	
80481	211	<input checked="" type="checkbox"/>	Temporary Concrete Barrier	Jan. 1, 2026	
80466		<input type="checkbox"/>	Temporary Rumble Strips	April 1, 2025	
80470		<input type="checkbox"/>	Traffic Signal Backplate	Aug. 1, 2025	
20338	212	<input checked="" type="checkbox"/>	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80429		<input type="checkbox"/>	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80439	215	<input checked="" type="checkbox"/>	Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
80458		<input type="checkbox"/>	Waterproofing Membrane System	Aug. 1, 2024	
80302		<input type="checkbox"/>	Weekly DBE Trucking Reports	June 2, 2012	Jan. 2, 2025
80454	216	<input checked="" type="checkbox"/>	Wood Sign Support	Nov. 1, 2023	
80427	217	<input checked="" type="checkbox"/>	Work Zone Traffic Control Devices	Mar. 2, 2020	Jan. 1, 2026
80071	220	<input checked="" type="checkbox"/>	Working Days	Jan. 1, 2002	

## GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET

Effective as of the: January 16, 2026 Letting

Pg #	√	File Name	Title	Effective	Revised
	<input type="checkbox"/>	*GBSP 4	Polymer Modified Portland Cement Mortar	June 7, 1994	Oct 17, 2025
	<input type="checkbox"/>	GBSP 13	High-Load Multi-Rotational Bearings	Oct 13, 1988	June 28, 2024
	<input type="checkbox"/>	GBSP 14	Jack and Remove Existing Bearings	April 20, 1994	April 13, 2018
	<input type="checkbox"/>	GBSP 16	Jacking Existing Superstructure	Jan 11, 1993	April 13, 2018
	<input type="checkbox"/>	GBSP 18	Modular Expansion Joint	May 19, 1994	Oct 27, 2023
	<input type="checkbox"/>	GBSP 21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	June 30, 2003	Oct 23, 2020
	<input type="checkbox"/>	*GBSP 25	Cleaning and Painting Existing Steel Structures	Oct 2, 2001	Oct 17, 2025
	<input type="checkbox"/>	GBSP 26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	Apr 22, 2016
	<input type="checkbox"/>	GBSP 33	Pedestrian Truss Superstructure	Jan 13, 1998	Oct 27, 2023
	<input type="checkbox"/>	*GBSP 34	Concrete Wearing Surface	June 23, 1994	Oct 17, 2025
	<input type="checkbox"/>	GBSP 45	Bridge Deck Thin Polymer Overlay	May 7, 1997	June 28, 2024
	<input type="checkbox"/>	GBSP 55	Erection of Curved Steel Structures	June 1, 2007	
	<input type="checkbox"/>	GBSP 59	Diamond Grinding and Surface Testing Bridge Sections	Dec 6, 2004	April 15, 2022
	<input type="checkbox"/>	GBSP 60	Containment and Disposal of Non-Lead Paint Cleaning Residues	Nov 25, 2004	Apr 22, 2016
	<input type="checkbox"/>	GBSP 61	Slipform Parapet	June 1, 2007	April 15, 2022
	<input type="checkbox"/>	GBSP 67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	Oct 5, 2015
	<input type="checkbox"/>	GBSP 71	Aggregate Column Ground Improvement	Jan 15, 2009	Oct 15, 2011
	<input type="checkbox"/>	GBSP 78	Bridge Deck Construction	Oct 22, 2013	Dec 21, 2016
	<input type="checkbox"/>	GBSP 79	Bridge Deck Grooving (Longitudinal)	Dec 29, 2014	Mar 29, 2017
221	<input checked="" type="checkbox"/>	GBSP 81	Membrane Waterproofing for Buried Structures	Oct 4, 2016	March 1, 2019
	<input type="checkbox"/>	GBSP 82	Metallizing of Structural Steel	Oct 4, 2016	Oct 20, 2017
	<input type="checkbox"/>	GBSP 83	Hot Dip Galvanizing for Structural Steel	Oct 4, 2016	June 28, 2024
	<input type="checkbox"/>	GBSP 85	Micropiles	Apr 19, 1996	Oct 23, 2020
	<input type="checkbox"/>	GBSP 86	Drilled Shafts	Oct 5, 2015	Oct 27, 2023
	<input type="checkbox"/>	GBSP 87	Lightweight Cellular Concrete Fill	Nov 11, 2001	Apr 1, 2016
	<input type="checkbox"/>	GBSP 88	Corrugated Structural Plate Structures	Apr 22, 2016	April 13, 2018
	<input type="checkbox"/>	GBSP 89	Preformed Pavement Joint Seal	Oct 4, 2016	March 24, 2023
	<input type="checkbox"/>	GBSP 90	Three Sided Precast Concrete Structure (Special)	Dec 21, 2016	March 22, 2024
	<input type="checkbox"/>	GBSP 91	Crosshole Sonic Logging Testing of Drilled Shafts	Apr 20, 2016	March 24, 2023
	<input type="checkbox"/>	GBSP 92	Thermal Integrity Profile Testing of Drilled Shafts	Apr 20, 2016	March 24, 2023
	<input type="checkbox"/>	GBSP 93	Preformed Bridge Joint Seal	Dec 21, 2016	June 28, 2024
	<input type="checkbox"/>	GBSP 94	Warranty for Cleaning and Painting Steel Structures	Mar 3, 2000	Nov 24, 2004
	<input type="checkbox"/>	GBSP 96	Erection of Bridge Girders Over or Adjacent to Railroads	Aug 9, 2019	
	<input type="checkbox"/>	GBSP 97	Folded/Formed PVC Pipeliner	April 15, 2022	
	<input type="checkbox"/>	GBSP 98	Cured-in-Place Pipe Liner	April 15, 2022	
	<input type="checkbox"/>	GBSP 99	Spray-Applied Pipe Liner	April 15, 2022	
	<input type="checkbox"/>	GBSP 100	Bar Splicers, Headed Reinforcement	Sept 2, 2022	Oct 27, 2023
	<input type="checkbox"/>	*GBSP 101	Noise Abatement Wall, Ground Wall	Dec 9, 2022	Oct 17, 2025
	<input type="checkbox"/>	*GBSP 102	Noise Abatement Wall, Structure Mounted	Dec 9, 2022	Oct 17, 2025
	<input type="checkbox"/>	GBSP 103	Noise Abatement Wall Anchor Rod Assembly	Dec 9, 2022	

An \* indicates a new or revised special provision.

## STATE OF ILLINOIS

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### SPECIAL PROVISIONS

The following Special Provisions supplement the “Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022”, the latest edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways”, and the “Manual of Test Procedures for Materials” in effect on the date of invitation for bids, and the “Supplemental Specifications and Recurring Special Provisions” indicated on the Check Sheet included herein, which apply to and govern the construction of CH 11 (Ridge Road), Section 22-00168-00-RP, in Kendall County, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

#### LOCATION OF PROJECT

This project is located in Kendall County, Illinois, in Sections 1, 2, 11, 12, 13, 14, 23, 24, 25, and 26 of Township 35 North, Range 8 East of Seward Township. The County Highway 11 (Ridge Rd.) improvement begins approximately 0.08 mile north of Holt Road and continues northerly along Ridge Rd. approximately 4.56 miles to just north of Black Road.

#### DESCRIPTION OF PROJECT

The work consists of roadway reconstruction of CH 11 (Ridge Rd) to a four lane suburban roadway with 12’ wide travel lanes, 18’ wide raised median abutted by B-6.24 concrete curb and gutter, and 8’ wide shoulders. Other major work items include pavement removal, earthwork, aggregate subgrade, combination curb and gutter, driveway entrance reconstruction, pavement marking, signing, pipe culverts, storm sewers, box culvert replacement, temporary and permanent traffic signal installations, shared use path installation, and seeding.

**STATUS OF UTILITIES TO BE ADJUSTED:**

Name & Address of Utility	Type	Location	Estimated Date Relocation Complete
Commonwealth Edison Paul Edwards 1 Lincoln Center Oakbrook Terrace, IL 60181 (630) 437-3381	Electric Overhead Lines	Along east side of C.H. 11; south side of Wildy Rd west leg and Bell Rd, north side of Wildy Rd east leg, US 52, Jones Rd, and Black Rd east leg	Relocations are anticipated to be ongoing through 2026 and up to spring 2027.
Nicor Karey Johnson 1844 Ferry Rd. Naperville, IL 60563 (630) 388-2923	Natural Gas	Along west and east sides of C.H. 11 from Holt Rd to Wildy Rd, and east side of CH 11 from US 52 to Jones Rd and north of Black Road; along north side of Khater Dr, Fair Lane Dr, Wildy Rd east leg, Jones Rd, and Black Rd east leg; along south side of US 52	Relocations are anticipated to be ongoing through 2026.
Kinder Morgan Mark Cavazos 1001 Louisiana St Houston, TX 77002 (713) 420-4363	Natural Gas	Three pipelines crossing C.H. 11 near Sta. 173+69.4, 179+53.6, and 182+28.6.	Relocations and/or casing extensions required are anticipated to be ongoing through 2026.
AT&T Tom Laskowski 1000 Commerce Dr Oak Brook, IL 60523 (630) 573-5643	Telephone	Conduits, buried and overhead cables throughout project limits	Relocations are anticipated to be ongoing through 2026.
Comcast Ted Wyman 688 Industrial Dr Elmhurst, IL 60126 (224) 229-5850	Telephone	Buried and overhead cables throughout project limits.	Relocations are anticipated to be ongoing through 2026 and up to spring 2027.

TC Energy/ANR Pipeline Company Chad Klatt 6650 Sandy Bluff Rd Sandwich, IL 60548 (815) 826-0987	Natural Gas	Two pipelines crossing C.H. 11 near Sta. 196+52 and 196+78	Relocations and/or casing extensions are anticipated to be completed prior to letting date.
ONEOK Pipeline Danielle Wallin 23823 Amoco Rd Channahon, IL 60410 (779) 435-2197	Natural Gas	One pipeline crossing C.H. 11 near Sta. 198+03	Relocations and/or casing extensions are anticipated to be completed prior to letting date.
Enridge Pipeline Lisa Depew 222 Indianapolis Boulevard Suite 100 Schererville, IN 46375 (219) 864-5471	Natural Gas	One pipeline crossing C.H. 11 near Sta. 197+39	Relocations and/or casing extensions are anticipated to be completed prior to letting date.
BP Pipelines Inc. Alicia Haley 30 South Wacker Dr Suite 900 Chicago, IL 60606 (312) 809-3001	Natural Gas	One pipeline crossing C.H. 11 near Sta. 222+06.5 and crossing US near Sta. 415+00.8	Relocations and/or casing extensions are anticipated to be ongoing through 2026.
Village of Minooka Ryan Anderson 608 Twin Rail Dr Minooka, IL 60447 (815) 467-8868	Water Main, Storm Sewer, Sanitary Sewer	Water main along west side of C.H. 11 from Holt Rd to Khater Dr; sewers and water along Khater Dr, Fair Lane Dr, and south side of Wildy Rd	Fire hydrants to be relocated by contractor per contract pay items.
City of Joliet Jonathon Hall, P.E. 150 W. Jefferson St Joliet, IL 60432 (815) 724-4220	Water Main, Storm Sewer, Sanitary Sewer	Water main along west side of C.H. 11 from Meriwether Blvd to Black Rd and along Black Rd; sewers along Black Rd	Fire hydrants to be relocated by contractor per contract pay items.

The above represents the best information of the Kendall County Highway Department and is only included for the convenience of the bidder. The applicable provisions of Section 102 and Articles 105.07, 107.20, 107.37, 107.38, 107.39, 107.40, and 108.02 of the Standard Specifications for Road and Bridge Construction shall apply.

The estimated utility relocation dates should be part of the progress schedule submitted by the Contractor.

### UTILITY DELAYS

Known utilities are identified in the plans and are not anticipated to be relocated at the time of letting. The contractor should assume delays in its bids and in accordance with applicable portions of Article 107.37; Article 107.40; and Article 108.04,(b),(4).

## TRAFFIC CONTROL PLAN

Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, these special provisions, and any special details and highway standards herein and in the plans.

Special attention is called to the following sections of the Standard Specifications, the highway standards, and the special provisions relating to traffic control:

### Standard Specifications:

- Section 701 - Work Zone Traffic Control and Protection
- Section 703 - Work Zone Pavement Marking
- Section 780 - Pavement Striping
- Section 1106 - Work Zone Traffic Control Devices

### Highway Standards:

701001	701006	701011	701201	701301	701306
701311	701326	701501	701801	701901	BLR 17-4
BLR 18-6	BLR 21-9	BLR 22-7			

In addition, the following also relate to traffic control for this project:

ERRATA – N/A

SUPPLEMENTAL SPECIFICATIONS – N/A

### SPECIAL PROVISIONS

- Vehicle and Equipment Warning Lights (BDE)
- Work Zone Traffic Control Devices (BDE)
- Traffic Control and Protection (Special)

### Traffic:

Ridge Road, US Route 52, and Black Road will be open to two-way traffic during all construction via stage construction.

Local roads (Khater Dr, Fair Lane Dr, Wildy Rd, Bell Rd, Jones Rd, and Meriwether Blvd) will be open to two-way traffic when not under closure. Local road adjacent legs with the Ridge Road staged construction sequence may be closed for a maximum of 30 calendar days to construct the local road. Closures shall be scheduled to ensure consecutive roads are not under closure at the same time.

#### Drop-off Near the Edge of Traveled Way:

Excavation will only be allowed on one side of the pavement at a time, and the sequence of construction shall be scheduled so that when a drop-off of 12 inches or greater occurs, flaggers must be present. At the end of any working day, the drop-off shall be less than 12 inches.

Any costs associated with these requirements shall be included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL).

## **TRAFFIC CONTROL AND PROTECTION (SPECIAL)**

Description: This work shall consist of providing all labor, equipment and materials necessary to provide and maintain all traffic control and protection for the duration of the project as shown on the plans.

The traffic control and protection shall be in accordance with the details in the plans and the applicable portions of Sections 701 & 703 of the Standard Specifications.

Method of Measurement: This work will be measured for payment by lump sum.

Basis of Payment: This work shall be paid for at the contract lump sum price for TRAFFIC CONTROL & PROTECTION (SPECIAL).

## **SUITABLE ACCESS**

All commercial, private, and field entrances within the limits of improvements shall have suitable access, as determined by the Engineer, at all times during construction of this project. Estimated quantities of aggregate surface course for temporary access (AGGREGATE FOR TEMPORARY ACCESS) have been included in the plans for this purpose. The Engineer will determine the amount and when to place the aggregate. The Contractor shall begin placement of the aggregate within 2 hours of notice to proceed from the Engineer or the Contractor will be liable for liquidated damages in accordance with Article 108.09 of the Standard Specifications.

## **ROAD CLOSURE - NOTIFICATIONS**

Notifications: Prior to the closure of any traffic lanes that will be in effect for more than four (4) hours), the Contractor shall provide a minimum of seven (7) days' notice to the following emergency service units, governmental agencies and school districts:

County Engineer:	Fran Klaas, Kendall County	(630) 553-7616
Sheriff :	Kendall County Sheriff	(630) 553-7500
Police Department.:	Joliet Police Department	(815) 724-3100
	Minooka Police Department	(815) 467-2298
	Shorewood Police Department	(815) 725-4636
Fire & Ambulance	Joliet Fire Department	(815) 724-3500
	Minooka Fire Protection District	(815) 467-5637
	Troy Fire Protection District	(815) 651-2100
Schools:	Minooka 201 CCSD	(815) 467-6121
	Minooka CHSD #111	(815) 467-2557
	Troy CCSD 30-C	(815) 577-6760
Post Office:	Joliet, IL	(815) 773-1060
	Minooka, IL	(815) 467-6360
Public Works:	City of Joliet	(815) 724-4200
	Minooka	(815) 467-8868

## **EARTH EXCAVATION**

Earth excavation shall be in accordance with Section 202 of the Standard Specifications for Road and Bridge Construction. Additionally, the following shall be included in the cost of earth excavation:

Abandoned underground utilities that conflict with construction shall be disposed of outside the limits of the right-of-way according to Article 202.03 and as directed by the Engineer. This work will not be paid for separately but will be included in the cost of earth excavation.

The removal and disposal of all fencing, delineators, debris, brush, riprap, stone concrete slabs, tile, etc. not paid for specifically on the plans will be included in the cost of earth excavation.

All existing granular and hot-mix asphalt materials to be removed and not paid as a specific item shall be considered earth excavation. The Contractor will have the option of removing the existing hot-mix asphalt material by grinding or excavating the material. If the hot-mix asphalt material is removed by excavation, no such material may be used in embankment areas unless specifically authorized by the Engineer.

Utility poles, pedestals, and manholes to remain in place shall not be disturbed by the Contractor. Finishing around these poles, pedestals or manholes shall be the responsibility of the Contractor and shall be included in the cost of earth excavation.

All clearing, removal of bushes, hedges, and trees under 6" diameter shall be included in the cost of earth excavation.

## **INITIAL SITE PREPARATION AND SUBGRADE TREATMENT**

In addition to the requirements of Sections 205 and 301 of the Standard Specifications, the following requirements shall apply:

### Site Preparation and Earthwork

- Topsoil within the limits of the proposed pavement, shoulders, and curb and gutter shall be removed. This work will be paid for as EARTH EXCAVATION, or if used for topsoil purposes, TOPSOIL EXCAVATION AND PLACEMENT.
- The stability of the exposed soils will be observed for the presence of any unsuitable and unstable soils. The soils shall be proof rolled to observe the amount of deflection and rutting taking place under the wheels of heavy construction equipment.

### Subgrade Treatment and Recommendations

- For embankments greater than 8 feet in height, no site preparation action required, other than what is required in the Standard Specifications.
- The existing soils may be prone to swelling upon wetting. Therefore, at locations where new embankment fill height is greater than 2 feet and less than 8 feet, the top 6 inches of subgrade soils shall be disked, dried, and re-compacted between 2% and 4% greater than the optimum moisture content. *No additional compensation will be provided for diskings, drying and re-compacting.*

### Roadway Drainage

- The subgrade will likely exhibit poor drainage characteristics. The proposed subgrade and pavement should have proper surface grading to remove water accumulations and prevent the pooling of water.

### **AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS**

Revise Article 402.10 of the Standard Specifications to read:

“402.10 For Temporary Access. The contractor shall construct and maintain aggregate surface course for temporary access to private entrances, commercial entrances, field entrances and roads according to Article 402.07 and as directed by the Engineer.

The aggregate surface course shall be constructed to the dimensions and grades specified below, except as modified by the plans or as directed by the Engineer.

- (a) Private Entrance. The minimum width shall be 12 ft (3.6 m). The minimum compacted thickness shall be 6 in. (150 mm). The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial and Field Entrances. The minimum width shall be 24 ft (7.2 m) for a commercial entrance and 20 ft (6.0 m) for a field entrance. The minimum compacted thickness shall be 9 in. (230 mm). The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Road. The minimum width shall be 20 ft (6.0 m). The minimum compacted thickness shall be 9 in. (230 mm). The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

Maintaining the temporary access shall include relocating and/or regrading the aggregate surface course for any operation that may disturb or remove the temporary access. The same type and gradation of material used to construct the temporary access shall be used to maintain it.

When use of the temporary access is discontinued, the aggregate shall be removed and utilized in the permanent construction or disposed of according to Article 202.03.”

Add the following to Article 402.12 of the Standard Specifications:

“Aggregate surface course for temporary access will be measured for payment per each for every private entrance, commercial entrance, or field entrance, and in square yards for roads constructed for the purpose of temporary access. If a residential drive, commercial entrance, field entrance or road is to be constructed under multiple stages, the aggregate needed to construct the second or subsequent stages will not be measured for payment but shall be included in the cost per each of the type specified.”

Revise the second paragraph of Article 402.13 of the Standard Specifications to read:

“Aggregate surface course for temporary access will be paid for at the contract unit price per each for TEMPORARY ACCESS (PRIVATE ENTRANCE), TEMPORARY ACCESS (COMMERCIAL ENTRANCE), and TEMPORARY ACCESS (FIELD ENTRANCE).

Partial payment of each amount bid for temporary access for private, commercial and field entrances will be paid according to the following schedule:

- (a) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.
- (b) Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access.”

### **PRESERVING PROPERTY MARKERS**

The Contractor shall protect the existing property corner markers. Any such monuments disturbed or destroyed by the Contractor’s operations shall be replaced by a Professional Land Surveyor at the Contractor’s expense.

### **AGGREGATE SHOULDERS TYPE B**

The aggregate shoulder shall be constructed according to Section 481 of the Standard Specifications. The shoulder shall be constructed in two lifts. The first lift shall be placed and compacted flush with the top of the adjacent HMA shoulder or leveling binder. Placement of the HMA surface course will not be allowed until the first lift of aggregate shoulder is constructed.

### **AGGREGATE SURFACE COURSE, TYPE B**

Add the following to Article 402.07 of the Standard Specifications:

The top layer shall be given a final rolling with a roller meeting the requirements of Article 1101.01.

### **PIPE CULVERT REMOVAL**

Description: This work shall consist of removing existing pipe culverts, regardless of type of material, at locations shown in the plans and disposed of outside the right-of-way in accordance with Article 202.03 of the Standard Specifications.

The existing end sections associated with the pipe culverts shall be removed in conjunction with the pipe culverts. Removal and disposal of end sections will not be measured or paid for separately but shall be considered as included in the cost of PIPE CULVERT REMOVAL.

Any trench as described in Article 208.01 of the Standard Specifications shall be backfilled with a granular material meeting the specifications for FA-1 or FA-2. The cost of all labor, materials, and equipment required to complete backfilling will not be measured or paid for separately but shall be considered as included in the cost of PIPE CULVERT REMOVAL.

Method of Measurement: This work will be measured in feet.

Basis of Payment: This work will be paid for at the contract unit price per foot for PIPE CULVERT REMOVAL.

### **STORM SEWER REMOVAL**

Description: This work shall consist of removing existing storm sewers at locations shown in the plans and disposed of outside the right-of-way in accordance with Article 202.03 of the Standard Specifications.

The existing end sections associated with the storm sewers shall be removed in conjunction with the storm sewers. Removal and disposal of end sections will not be measured or paid for separately but shall be considered as included in the cost of STORM SEWER REMOVAL.

Any trench as described in Article 208.01 of the Standard Specifications shall be backfilled with a granular material meeting the specifications for FA-1 or FA-2. The cost of all labor, materials, and equipment required to complete backfilling will not be measured or paid for separately but shall be considered as included in the cost of STORM SEWER REMOVAL.

Method of Measurement: This work will be measured in feet.

Basis of Payment: This work will be paid for at the contract unit price per foot for STORM SEWER REMOVAL.

### **MODIFIED URETHANE PAVEMENT MARKING – TWO APPLICATIONS**

Description. This work consists of furnishing and applying modified urethane pavement marking according to Section 780 of the Standard Specifications except that the modified urethane shall be applied in two applications.

Materials. Each application shall meet the requirements of Article 780.12 of the Standard Specifications.

#### Construction Requirements

General. The first application shall be allowed to cure for a minimum of 14 days prior to placing the second application over the first. The Contractor shall not place one thick application in lieu of two regular applications.

Basis of Payment. Each application will be measured and paid for.

### **SHORT-TERM PAVEMENT MARKINGS**

Work shall be in accordance with Article 703.05 and shall include removal of the temporary markings after the permanent markings are installed.

## **TEMPORARY PAVEMENT**

Description. This work shall consist of furnishing all necessary excavation, embankment, installation, maintenance, saw cutting, labor, equipment and materials to install and remove temporary pavement including hot-mix asphalt and prime coat in accordance with applicable portions of Sections 355, 406 and 440 of the Standard Specifications and at the locations shown in the plans.

The top two inches (2") of all temporary pavement areas shall be constructed of Hot-Mix Asphalt Surface course. The remaining asphalt shall be Hot-Mix Asphalt Base Course.

Method of Measurement. This work will be measured for payment by square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for TEMPORARY PAVEMENT.

## **TEMPORARY PAVEMENT (VARIABLE DEPTH)**

Description. This work shall consist of the construction of temporary pavement in locations on and abutting existing and proposed pavement. This work shall be completed in accordance with the applicable portions of Sections 351, 355, and 406 of the Specifications.

Construction. Temporary pavement shall be constructed as variable depth hot-mix asphalt atop existing pavement surface to raise the intersection pavement to proposed elevation as detailed in the plans in pre-stage. Additionally, in various other stages temporary pavement shall be placed as variable depth hot-mix asphalt atop existing pavement to connect existing pavement surface to proposed pavement surface or proposed pavement surface to proposed pavement surface.

This work shall include all necessary excavation, installation, maintenance, saw cutting, and removal of temporary pavement.

Method of Measure. Variable depth temporary pavement will be measured for payment by tons.

Basis of Payment. This work will be paid for at the contract unit price per ton for TEMPORARY PAVEMENT (VARIABLE DEPTH). Bituminous materials (prime coat or tack coat) and all work required for pavement maintenance will not be measured separately but shall be included in the cost of TEMPORARY PAVEMENT (VARIABLE DEPTH).

## **REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES**

Description. This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications as revised below.

Contract Specific Work Areas. The excavated soil and groundwater within the work areas listed below shall be managed as either "uncontaminated soil," hazardous waste, special waste, or non-special waste. For stationing, the lateral distance is measured from centerline and the farther distance is the offset distance or construction limit, whichever is less.

**Soil Disposal Analysis.** When the waste material requires sampling for landfill disposal acceptance, the Contractor shall secure a written list of the specific analytical parameters and analytical methods required by the landfill. The Contractor shall collect and analyze the required number of samples for the parameters required by the landfill using the appropriate analytical procedures. A copy of the required parameters and analytical methods (from landfill email or on landfill letterhead) shall be provided as Attachment 4A of the BDE 2733 (Regulated Substances Final Construction Report). The price shall include all sampling materials and effort necessary for collection and management of the samples, including transportation of samples from the job site to the laboratory. The Contractor shall be responsible for determining the specific facilities to be utilized; and collect and analyze any samples required for the disposal facility acceptance using a NELAP certified analytical laboratory registered with the State of Illinois.

The following contract specific work areas shall be monitored by the Environmental Firm for soil contamination and workers protection.

**Site 6-SB-1 – Agricultural Land, 15000 block of Ridge Road, unincorporated Seward Township, Kendall County**

- Station 188+50 to Station 197+50 (75 feet LT to 75 feet RT). The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: Manganese.

**Site 4734-4 – Agricultural Land, 900 block of US 52, unincorporated Seward Township, Kendall County**

- Station 420+75.6 (67.5 feet RT) to Station 421+95.2 (24.7 feet RT). The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: VOCs, SVOCs, and Metals.
- Station 420+88.6 (51.9 feet RT). The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: VOCs, SVOCs, and Metals.
- Station 420+75.6 to Station 422+00 (RT). The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: VOCs, SVOCs, and Metals.

**Site 4734-5 – Residence, 950 US 52, unincorporated Seward Township, Kendall County**

- Station 422+00 to Station 423+00 (RT). The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: VOCs, SVOCs, and Metals.

**Work Zones**

Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites:

**None.**

Additional information on the contract specific work areas listed above collected during the regulated substances due-diligence process is available through the District's Environmental Studies Unit (DESU).

### **STORM SEWER (WATER MAIN REQUIREMENTS)**

This work shall consist of constructing storm sewers meeting water main requirements.

Storm Sewer (Water Main Requirements) shall be used at locations where lateral separation between the sewer and water main or water service line is less than 10 feet and the water main invert is less than 18 in. above the storm sewer crown. Also, Storm Sewer (Water Main Requirements) shall be used where the sewer crosses above the water main or water service line with 18 in. minimum vertical separation.

The storm sewer shall be constructed of

Ductile iron pipe, Class 52 with bell and rubber gasket joint or

Concrete pressure pipe conforming to the latest AWWA Standard C300, C301, C303 or

Plastic pipe meeting the material requirements of Section 40. Pipe for Water Mains and Service Connections of the Standard Specifications for Water and Sewer Main Construction in Illinois and Section 550 of the Standard Specifications.

This work shall be done according to the applicable portions of Sections 550 and 561 of the Standard Specifications.

Method of Measurement. This work will be measured for payment according to Article 550.09 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per foot for STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified.

### **ISLAND REMOVAL**

This work shall consist of complete removal of existing islands in accordance with the applicable articles of Standard Specification Section 440.

The limits of removal shall include existing curb or curb and gutter and any materials above the existing subgrade including the top island surface.

Basis of Measurement. This work will be measured for the removed area of island in the field and computed in square feet.

Basis of Payment. This work will be paid for at the contract unit price per square feet for ISLAND REMOVAL and the price shall include materials and labors required for the complete removal of the island to the satisfaction of the Engineer. When the existing island includes bordering curb and/or curb and gutter, no additional compensation will be allowed for the removal of the curb and/or curb and gutter. It shall be included in the unit price of ISLAND REMOVAL.

## **TEMPORARY CONNECTION TO EXISTING STORM SEWER**

Description: This work shall consist of providing a temporary connection to an existing circular culvert as noted in the plans during various stage of traffic control. This pay item shall include providing all time, labor and materials to make, and ultimately remove, the proposed temporary connection. All time, labor, excavation and materials necessary to complete the operation are considered included in this pay item.

Method of Measurement: This work will be measure for payment by each.

Basis of Payment: This work shall be paid for at the contract unit price per each for TEMPORARY CONNECTION TO EXISTING STORM SEWER.

## **REMOVE AND RELOCATE END SECTIONS**

Description: This work shall consist of removal of the existing precast concrete flared end section and re-installation of the end section at a different location. The work shall be completed according to Section 542 of the Standard Specifications and this special provision. The existing end block shall be removed. An existing precast end block may be reused with approval of the Engineer, otherwise a new end block shall be installed.

Basis of Payment: This work will be paid for at the contract unit price each for REMOVE AND RELOCATE END SECTIONS, and no additional compensation will be allowed.

## **EQUIPMENT ILLUMINATION**

The Contractor shall equip all vehicles entering and exiting the work area with flashing amber lights, installed so the illumination is visible from all directions.

## **GRANULAR MATERIALS**

For trench backfill and bedding for pipe culverts and storm sewers, gradations CA 7 or CA 11 may be used, however, the granular material shall be encased in filter fabric. The filter fabric shall be installed according to Article 282 of the Standard Specifications, except that the work will not be measured for payment, but will be included in the cost of the pipe culverts or storm sewers. Lifts for gradations CA 7 or CA 11 may exceed 8 inches (200 mm) in depth provided the material is seated to the satisfaction of the Engineer.

## **RESTORATION OF WORK AREA**

Add to Section 801 of the Standard Specifications:

The Contractor shall restore the work area as specified in Article 104.06 of the Standard Specifications. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. Restoration of the work area will not be paid for separately, but shall be included in the cost of the associated pay items.

## **BOX CULVERT REMOVAL**

Description. This work shall include furnishing all labor, material, and equipment necessary for removing and disposing of existing box culvert(s) at locations shown in the plans and as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Section 501 of the Standard Specifications, the details in the plans, and as herein specified.

General. The work shall include excavation and disposal of existing structure and incidentals for the BOX CULVERT REMOVAL locations as shown on the plans. The Contractor shall ensure that any embankment fill is in accordance with all plans and specifications. Removal of any end sections (headwalls, wingwalls, or other) shall be paid for separately.

Method of Measurement. This work will be measured for payment in place per foot.

Basis of Payment. This work will be paid for at the contract unit price per foot for BOX CULVERT REMOVAL, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation, and backfilling, dewatering, bedding, construction, and all incidentals required to construct the complete removal as shown in the plans.

## **CONCRETE MEDIAN, TYPE SB (SPECIAL)**

Description. This work shall consist of constructing solid concrete median in accordance with Section 606 of the Standard Specifications, Highway Standard 606301, plans, and as modified herein.

General. This item includes the solid concrete median to be constructed along the left-turn lane storage bays and tapers where the median width from edge of pavement to edge of pavement is 12' or less (see plans for exact locations). The gutter width shall be 24" wide on the side adjacent to the left-turn lanes and 24" on the departure side of the median as shown on the plans.

Method of Measurement. Concrete median will be measured for payment in place and the area computed in square feet in accordance with Article 606.14 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price square foot for CONCRETE MEDIAN, TYPE SB (SPECIAL). Payment shall include all labor, materials, equipment, tools, transportation, and appurtenances necessary to complete this work as detailed in the plans and specified herein.

## **WATER MAIN REMOVAL**

Description: This work shall consist of the removal of existing water main in direct conflict with the proposed improvements.

This work shall be completed in accordance with applicable portions of Section 551 of the Standard Specifications, except that the material shall not be salvaged, but shall be disposed of according to Article 202.03 of the Standard Specifications.

All diameters of water main to be removed will be covered under this pay item.

This work shall also include any necessary saw cutting of the existing water main and the removal of valves, tees, and other appurtenances (excluding fire hydrants).

Trenches resulting from the removal of water main shall be backfilled in accordance with the applicable requirements of Article 550.07. Backfill of removal trenches (including Trench Backfill) shall be included in this item.

Basis of Payment: This work will be paid for at the contract unit price per foot for WATER MAIN REMOVAL of the diameter specified. The price shall include the cost of all labor, equipment, and materials required to perform the work as specified.

### **MAINTAIN EXISTING LIGHTING SYSTEM**

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. During the maintenance preconstruction inspection, the party responsible for existing maintenance shall perform testing of the existing system in accordance with Article 801.13a. The Contractor shall request a date for the preconstruction inspection no less than fourteen (14) days prior to the desired date of the inspection.

The Engineer will document all test results and note deficiencies. All substandard equipment will be repaired or replaced by the existing maintenance contractor, or the Engineer can direct the Contractor to make the necessary repairs under Section 109.04.

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained. Contract documents shall indicate the circuit limits.

### **Maintenance of Existing Lighting Systems**

**Existing lighting systems.** Existing lighting systems shall be defined as any lighting system or part of a lighting system in service at the time of contract Letting. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

## **Extent of Maintenance.**

**Partial Maintenance.** Unless otherwise indicated, if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits within the project limits. The project limits are defined as those limits indicated in the contract plans. Equipment outside of the project limits, on the affected circuits shall be maintained and paid for under Article 109.04. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer. The unaffected circuits and the controller will remain under the maintenance of the State.

**Full Maintenance.** If the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work, the Contractor shall maintain the entire controller and all associated circuits within the project limits. Equipment outside of the project limits shall be maintained and paid for under Article 109.04.

If the existing equipment is damaged by normal vehicular traffic, not contractor operations, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

## **Maintenance of Proposed Lighting Systems**

**Proposed Lighting Systems.** Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract regardless of the project limits indicated in the plans.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately.

## **Lighting System Maintenance Operations**

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, District One. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. The equipment shall then be re-set by the contractor within the time limits specified herein.

If the existing equipment is damaged by normal vehicular traffic, not contractor operations, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the

contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey or reported to EMC	na	na	7 Calendar days
Navigation light outage	na	na	24 hours

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)
- **Permanent Repair Time** – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed

within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from any monies owed to the Contractor. Repeated failures and/or a gross failure of maintenance shall result in the State's Electrical Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

### **Operation of Lighting**

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

### **Method of Measurement**

The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid. Payment shall not be made retroactively for months in which lighting systems were not operational.

**Basis of Payment.** Maintenance of lighting systems shall be paid for at the contract lump sum price for MAINTAIN EXISTING LIGHTING SYSTEM.

## **SERVICE INSTALLATION, ELECTRIC**

In addition to the requirements of Section 805 of the Standard Specifications, this item shall require the Contractor to contact the utility company, prior to beginning work, to determine the utility company regulations relating to electrical service. The Contractor shall provide the utility company an estimated date that the service connection will be required, the agency which will be responsible for monthly service charges, and the connected load for flat rate billing if required. The responsible agency and connected load information is included in the plans. The customer service agreement with the utility company shall be executed by the agency responsible for monthly service charges.

All information furnished to the utility company shall be in writing with a copy provided to the Engineer.

During the interim between the service activation date and signal turn on day, all energy charges for the intersection shall be paid by the Contractor according to Article 109.05 of the Standard Specifications. Beginning the day of the traffic signal turn on, all energy charges for the intersection will be paid by the responsible agency listed in the plans. The Contractor is responsible for making arrangements with the responsible agency to transfer billing to the responsible agency.

This work shall be included in the cost of the SERVICE INSTALLATION, of the type specified.

## **SERVICE INSTALLATION, GROUND MOUNTED**

In addition to the requirements of Section 805 of the Standard Specifications the following shall apply:

Description: This work shall install, modify, or extend the electric service installation. All installations shall meet the requirements of the details included on the plans and applicable portions of these specifications.

### Materials.

General. The completed control panel shall be constructed in accordance with UL Std. 508, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

- a. Enclosures: Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished signal door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125 inch thick, the top 0.250 inch thick and the bottom 0.500 inch thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamper proof stainless steel .075 inch thick hinge bolted to the cabinet with stainless steel carriage bolts and nylock nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40 inches high, 16 inches wide, and 15 inches in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.
- b. Surge Protector. Over voltage protection, with LED indicator, shall be provided for the 120 volt load circuit by means of MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of -40° F to 185° F (-40° C to 85° C). The surge protector shall be UL 1449 Listed.
- c. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes. Unless otherwise noted on the plans, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- d. Fuses. Fuseholders, and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- e. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel, shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
- f. Utility Services Connections. The Contractor shall contact the utility company, prior to beginning work, to determine the utility company regulations relating to electrical

service. The Contractor shall provide the utility company an estimated date that the service connection will be required, the agency which will be responsible for monthly service charges, and the connected load for flat rate billing if required. The customer service agreement with the utility company shall be executed by the agency responsible for monthly service charges.

All information furnished to the utility company shall be in writing with a copy provided to the Engineer. Prior to contacting the Utility Company for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

During the interim between the service activation date and the signal turn on day, all energy charges for the intersection shall be paid by the Contractor according to Article 109.05 of the Standard Specifications. Beginning the day of the traffic signal turn on, all energy charges for the intersection will be paid by the responsible agency listed in the plans. The Contractor is responsible for making arrangements with the responsible agency to transfer billing to the responsible agency.

- g. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10' in length, and 0.75 inch in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary, additional rods shall be installed to meet resistance requirements at no additional cost.

#### Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the Engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Ground mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and top of the foundation shall be caulked at the base with silicone.

Basis of Payment. The service installation will be paid for at the contract unit price per each for SERVICE INSTALLATION, GROUND MOUNTED. The Type A foundation which includes the ground rod will be paid for separately.

### **LUMINAIRE, TYPE A (SPECIAL)**

Description: This work shall be done in accordance with sections 821 and 1067 of the Standard Specifications for Road and Bridge Construction and shall conform to the details provided in the engineering plans. LED Fixtures, as identified on the engineering plans and described herein, shall be provided per the approved manufacturer's specifications. Contractor is required to submit shop drawings for fixtures prior to purchase.

#### Luminaire.

The luminaires shall be the GE Evolve ERLH Series LED Roadway Luminaire, 98 Watts, 11,500 lumens, 240 V, Type III Distribution, 4000K, black. The catalog number shall be as follows:

- ERLH-3-11-C3-40-BLCK

Basis of Payment: This work shall be paid for at the contract unit price per EACH for LUMINAIRE, TYPE A (SPECIAL).

#### **LUMINAIRE, TYPE B (SPECIAL)**

Description: This work shall be done in accordance with sections 821 and 1067 of the Standard Specifications for Road and Bridge Construction and shall conform to the details provided in the engineering plans. LED Fixtures, as identified on the engineering plans and described herein, shall be provided per the approved manufacturer's specifications. Contractor is required to submit shop drawings for fixtures prior to purchase.

##### Luminaire.

The luminaires shall be the GE Evolve ERL2 Series LED Roadway Luminaire, 160 Watts, 21,000 lumens, 240 V, Type IV Distribution, 4000K, black. The catalog number shall be as follows:

- ERL2-3-21-D5-40-BLCK

Basis of Payment: This work shall be paid for at the contract unit price per EACH for LUMINAIRE, TYPE B (SPECIAL).

#### **LUMINAIRE, TYPE C (SPECIAL)**

Description: This work shall be done in accordance with sections 821 and 1067 of the Standard Specifications for Road and Bridge Construction and shall conform to the details provided in the engineering plans. LED Fixtures, as identified on the engineering plans and described herein, shall be provided per the approved manufacturer's specifications. Contractor is required to submit shop drawings for fixtures prior to purchase.

##### Luminaire.

The luminaires shall be the Lumec Roadfocus RFL Series LED Roadway Luminaire, 180 Watts, 240 V, Type R2M Distribution, 4000K, gray. The catalog number shall be as follows:

- RFL-180W80LED-4K-G2-R2M-UNV-GY3

Basis of Payment: This work shall be paid for at the contract unit price per EACH for LUMINAIRE, TYPE C (SPECIAL).

#### **LUMINAIRE, TYPE D (SPECIAL)**

Description: This work shall be done in accordance with sections 821 and 1067 of the Standard Specifications for Road and Bridge Construction and shall conform to the details provided in the engineering plans. LED Fixtures, as identified on the engineering plans and described herein, shall be provided per the approved manufacturer's specifications. Contractor is required to submit shop drawings for fixtures prior to purchase.

##### Luminaire.

The luminaires shall be the Lumec Roadfocus RFL Series LED Roadway Luminaire, 215 Watts, 240 V, Type 4 Distribution, 4000K, gray. The catalog number shall be as follows:

- RFL-215W96LED-4K-G2-4-UNV-GY3

Basis of Payment: This work shall be paid for at the contract unit price per EACH for LUMINAIRE, TYPE D (SPECIAL).

**UNIT DUCT**

Revise the first paragraph of Article 810.04 to read:

“The unit duct shall be installed at a minimum depth of 30-inches (760 mm) unless otherwise directed by the Engineer.”

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

General:

The duct shall be a plastic duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.

Submittal information shall demonstrate compliance with the details of these requirements.

Dimensions:

Duct dimensions shall conform to the standards listed in ASTM D 2447. Submittal information shall demonstrate compliance with these requirements.

Nominal Size		Nominal I.D.		Nominal O.D.		Minimum Wall	
mm	in	mm	in	mm	in	mm	in
31.75	1.25	35.05	1.380	42.16	1.660	3.556 +0.51	0.140 +0.020
38.1	1.50	40.89	1.610	48.26	1.900	3.683 +0.51	0.145 +0.020

Nominal Size		Pulled Tensile	
mm	in	N	lbs
31.75	1.25	3322	747
38.1	1.50	3972	893

Marking:

As specified in NEMA Standard Publication No. TC-7, the duct shall be clearly and durably marked at least every 10 feet (3.05 meters) with the material designation (HDPE for high density polyethylene), nominal size of the duct, and the name and/or trademark of the manufacturer.

**Performance Tests:**

Polyethylene Duct testing procedures and test results shall meet the requirements of UL 651. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
35	1.25	4937	1110
41	1.50	4559	1025

**COMBINATION LIGHTING CONTROLLER**

Description: This work shall consist of furnishing and installing a photocell with integral surge arrester, 3-position selector switch (H-O-A), terminal/splice blocks, and 30 Amp lighting contactor (120V) in the traffic signal cabinet to control the operation of the combination lighting units.

A 120 Volt 20 Amp circuit breaker shall be installed inside the traffic signal controller connected to the main breaker, to serve the roadway lighting, per section 1068.01(e)(3) of the Standard Specifications. The circuit breaker shall be clearly labeled for lighting according to Article 1068.01(f) of the Standard Specifications.

Install all lighting components independent of the traffic signal components on one side of the cabinet and label as "LIGHTING." The under eave photocell shall be mounted on the traffic signal controller cabinet, per section 1068.01(e)(2) of the Standard Specifications. Furnish and install all wiring between components to make a fully functional lighting control system for the combination lights.

Basis of Payment: This work shall be paid for at the contract unit price per each for COMBINATION LIGHTING CONTROLLER, which shall be payment in full for all labor, materials, and equipment required to the complete the installation.

**LED INTERNALLY ILLUMINATED STREET NAME SIGN (AT RIDGE ROAD INTERSECTIONS WITH KHATER DRIVE AND WILDY ROAD)**

Overview

- This sign specification denotes both the general and details for internally-illuminated LED Street Signs. All materials used in fabrication must be new. The LED signs must be new and unused. These signs shall be compliant to relevant traffic control requirements as required by the Manual of Uniform Traffic Control Devices (MUTCD), 11<sup>th</sup> Edition (2023)

- Upon request the vendor shall furnish, at no cost to the city, the city may require that one complete sample sign assembly and mounting assemble for inspection by the engineer prior to awarding the contract.

Construction

- Each sign body is constructed from 5052 H32 .125" thick aluminum. Single face signs shall be one-piece construction and all seams shall be continuously welded to ensure a watertight seal. Double face sign bodies shall be continuously welded on all seams. The double face sign also features doors on both sides for easy access. 1/8" holes shall be incorporated in the bottom of the enclosure to prevent possible buildup of condensation.
- The signs must be available with viewable areas up to 30" high and 10' in width. The height shall vary in 1" increments from 12" to 27" and the width in one foot increments from 4' to 10'.
- The maximum thickness shall not exceed 4" for a single sided sign and 6" for a double sided sign.
- The sign shall be constructed so that it is serviceable without any special tools. The lenses shall be mounted in doors that open down and allow for the lens to be replaced without removing the sign.
- There shall be an external panel to allow access to the terminal block and fuse.

Finish

- The sign bodies and doors shall be polyester powder coated for durability using a satin black finish or other colors to match mast arms to the external aluminum surfaces.

Mounting

- Signs must be built to accommodate standard traffic hardware made by Pelco, Zapp, MD Solutions and other approved mounting hardware manufacturers.

Maximum Weights (Excluding brackets)

		<b>Viewing Heights</b>			
		<b>Single Face</b>		<b>Double Face</b>	
		<b>15 inch</b>	<b>20 inch</b>	<b>15 inch</b>	<b>20 inch</b>
<b>Viewing Widths</b>	<b>4 ft</b>	34 lbs	40 lbs	38 lbs	43 lbs
	<b>6 ft</b>	48 lbs	58 lbs	52 lbs	59 lbs
	<b>8ft</b>	62 lbs	72 lbs	67 lbs	75 lbs

Illumination and Power

- The sign shall be illuminated by LED inside the top, the bottom or both top and bottom to provide even illumination without hot spots from top to bottom. The minimum brightness shall be 400 lux. The LEDs light panels shall be engineered such that the failure of one LED does not result in the failure of other LEDs. The LEDs shall have a minimum life of 60,000 hours.
- The power supply shall be housed internally and have a minimum IP rating of 66.
- The sign should be protected by a commercially available fuse mounted such that it can be changed without opening the sign.

AC Loading Matrix for all sign types

- The incoming voltage shall be a minimum of 100 volts and a maximum of 277 volts AC. The maximum power consumption in watts shall not exceed 40 watts for signs with a viewable height of 18" or less and 70 watts for a viewable area of 19" or greater.

Tests, Certifications, and Warranty

- UL 48 Listed
- Certified to 150 MPH wind load
- Made in the USA
- Manufacturer's warranty of not less than seven (7) years
- Manufactured in a ISO 9001 registered factory
- A list of references from at least six municipalities including one in the state of Illinois or a contiguous state where signs have been in service for at least one year

Basis of Payment.

This work will be paid for at the contract unit price each for LED INTERNALLY ILLUMINATED STREET NAME SIGN, of the length as specified in the contract plans which shall be payment in full for furnishing and installing the LED internally illuminated street name sign, complete with circuitry and mounting hardware including photo cell, circuit breaker, fusing, relay, connections and cabling as shown on the plans for proper operation and installation.

The illuminated street name sign cable will be paid for at the contract unit price per foot for CABLE (SPECIAL) which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.

**LED INTERNALLY ILLUMINATED STREET NAME SIGN (AT RIDGE ROAD INTERSECTIONS WITH US ROUTE 52 AND BLACK ROAD)**

Description.

This work shall consist of furnishing and installing a LED internally illuminated street name sign.

Materials.

The illuminated street name sign shall be as follows.

(a) Description.

The sign face shall be constructed of 0.125" white translucent polycarbonate. The sign face legend background shall consist of white diamond grade sheeting with transparent green acrylic EC (electronic cut-able) film applied to the front of the sign face. The legend shall be framed by a white polycarbonate border.

(b) Environmental Requirements.

The LED lamp shall be rated for use in the ambient operating temperature range of -40 to +50°C (-40 to +122°F) for storage in the ambient temperature range of -40 to +75°C (-40 to +167°F).

(c) General Construction.

1. The LED components, power supply, and wiring harness shall be arranged as to allow for maintenance, up to and including the replacement of all three components. The

LED Light Engine shall be mounted in the top and/or bottom of the sign housing and no components of the light source shall sit between the sign faces.

2. The assembly and manufacturing processes of the LED Light Engine shall be designed to ensure that all LED and electronic components are adequately supported to withstand mechanical shocks and vibrations in compliance with the specifications of the ANSI C136.31-2001 standards.

(d) Mechanical Construction.

1. The sign shall be constructed using a weatherproof, aluminum housing consisting of an extruded aluminum with the maximum sign dimensions of 30" in height, 96" in length, 10.75" in depth (including the drip edge) and shall not weight more than 110 pounds. All housing corners are continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal.
2. The sign doors shall be continuous TIG welded along the two corners with the other two screwed together to make one side of the door removable for installation of the sign face. The door is fastened to the housing on the bottom by a full length stainless steel hinge. The sign shall also be fabricated in a way to ensure that no components fall out while a technician is opening or working inside the sign enclosure. The door shall be held secure onto a 1" wide by 5/32" thick neoprene gasket by an appropriate number of quarter-turn fasteners to form a watertight seal between the door and the housing.
3. The sign face shall be constructed of .125" white translucent polycarbonate or acrylic. Sign legend shall be according to D1 Mast Arm Mounted Street Name Sign detail and MUTCD. The sign face legend background shall consist of translucent Type ZZ white reflective sheeting and transparent green film applied to the front of the sign face. The legend shall be framed by a white border. A logo symbol and/or name of the community may be included with approval of the Engineer.
4. All surfaces of the sign shall be powder coated black.
5. All fasteners and hardware shall be corrosion resistant stainless steel. No special tools shall be required for routine maintenance.
6. All wiring shall be secured by insulated wire compression nuts or barrier type terminal blocks.
7. A wire entrance junction box shall be supplied with the sign assembly. The box may be supplied mounted to the exterior or interior of the sign and shall provide a weather tight seal.
8. A photoelectric switch shall be mounted inside control cabinet to control lighting functions for day and night display. Each sign shall be individually fused.
9. Brackets and Mounting: LED internally illuminated street name signs will be factory drilled to accommodate mast arm two-point support assembly mounting brackets unless indicated otherwise in the plans.

(e) Electrical.

1. Photocell shall be rated 105-305V, turn on at 1.5 fcs. with a 3-5 second delay. A manufacturer's warranty of six (6) years shall be provided. Power consumption shall be no greater than 1 watt at 120V.
  2. The LED Light Engine shall operate from a 60 +/- 3 cycle AC line power over a voltage range of 80 to 135 Vac rms. Fluctuations in line voltage over the range of 80 to 135 Vac shall not affect luminous intensity by more than +/- 10%.
  3. Total harmonic distortion induced into the AC power line by the LED Light Engine, operated at a nominal operating voltage and at a temperature of +25°C (+77°F), shall not exceed 20%.
  4. The LED Light Engine shall cycled ON and OFF with a photocell as shown on the detail sheet and shall not exceed 120 Watts. The signs shall be installed such that they are not energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power supply (UPS).
- (f) Photometric Requirements.
1. The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m<sup>2</sup>.
  2. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.
  3. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.

(g) Quality Assurance.

The LED Light Engine shall be manufactured in accordance with a vendor quality assurance (QA) program. The production QA shall include statistically controlled routine tests to ensure minimum performance levels of the LED Light Engine build to meet this specification. QA process and test result documentations shall be kept on file for a minimum period of seven (7) years. The LED Light Engine that does not satisfy the production QA testing performance requirements shall not be labeled, advertised, or sold as conforming to these specifications. Each LED Light Engine shall be identified by a manufacturer's serial number for warranty purposes. LED Light Engines shall be replaced or repaired if they fail to function as intended due to workmanship or material defects within the first sixty (60) months from the date of acceptance. LED Light Engines that exhibit luminous intensities less than the minimum value specified in Photometric Section within the first thirty-six (36) months from the date of acceptance shall be replaced or repaired.

Installation.

The sign shall be located on a steel traffic signal mast arm no further than 8-feet from the center of the pole to the center of the sign at a height of between 16 to 18-feet above traveled pavement. Mounting hardware shall be from an approved vendor, utilizing stainless steel components.

Basis of Payment.

This work will be paid for at the contract unit price each for LED INTERNALLY ILLUMINATED STREET NAME SIGN, of the length as specified in the contract plans which shall be payment in full for furnishing and installing the LED internally illuminated street name sign, complete with circuitry and mounting hardware including photo cell, circuit breaker, fusing, relay, connections and cabling as shown on the plans for proper operation and installation.

The illuminated street name sign cable will be paid for at the contract unit price per foot for CABLE (SPECIAL) which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.

### **MODIFY EXISTING CONTROLLER CABINET**

In addition to the requirements of Section 885, 886, 888 and 895 of the Standard Specifications, this pay item shall include modifying the existing controller and cabinet for the installation of detector loops, wiring, inductive loop detectors, emergency vehicle pre-emption equipment and additional traffic signal heads at the intersection of C.H. 11 (Ridge Road) and US Route 52. All other work inside the cabinet necessary for correct operation for the traffic signal equipment shall be included in this pay item. New cabinet drawings shall be needed as directed by the Engineer.

Basis of payment. This item will be paid for at the contract unit price each for MODIFY EXISTING CONTROLLER CABINET, which price shall include payment in full for all labor and material necessary to perform the work.

### **TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC, SPECIAL**

Description. This item consists of furnishing and installing a LOUVERED, FORMED PLASTIC TRAFFIC SIGNAL BACKPLATE as specified herein and all hardware and accessories required to install on all proposed signal heads as described in Article 882 and 883.

The vacuum formed ABS plastic backplate shall have a nominal ½ inch deep back flange on all inside and outside edges. The backplate shall be louvered and provide openings (louvers) to all wind to penetrate and reduce wind loading. The louver openings shall cover a minimum of 20 percent of the surface area of the backplate. The entire front and side surface of the backplate including louver shall manufactured so that it is imprinted with fluorescent yellow sheeting. The sheeting shall be Type AZ sheeting according to Article 1091.03 and applied to the preferred orientation for the maximum angularity according to the manufacturer's recommendation.

Basis of Payment. This item shall be paid for at the contract unit price each for TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC, SPECIAL.

### **DOUBLE HANDHOLE OR HANDHOLE, PORTLAND CEMENT CONCRETE**

In addition to the requirements of Section 814 of the Standard Specifications the following shall apply:

Description: This work includes placing the double handhole at a lower elevation than the traffic signal controller cabinet. This work also includes turning the hooks down in the handholes. All installation shall meet the requirements of the details included on the plans and applicable portions of these specifications.

Basis of Payment: The double handhole or handhole will be paid for at the contract unit price respectively per each for DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE or HANDHOLE, PORTLAND CEMENT CONCRETE.

## **TRAFFIC SIGNAL HEADS**

In addition to the requirements of Section 880 of the Standard Specifications the following shall apply:

Description: This work includes having a 15 year warrant with warranty certification on all signal heads for this project. This work also includes having a manufacture snow cone on all red, yellow and green signal heads for this project. Any other devices that have a proven record of removing snow when snow is compacted in the signal lenses and visors may be used on this project. All installations shall meet the requirements of the details included on the plans and applicable portions of these specifications.

Basis of Payment: Traffic signal heads will be paid for at the contract unit price respectively per each for PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER and SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED or MAST ARM MOUNTED, 3-SECTION, 4-SECTION or 5-SECTION.

## **UNINTERRUPTABLE POWER SUPPLY, EXTENDED**

In addition to the requirements of Section 862 of the Standard Specifications, the following shall apply:

Description: This work also includes placing heating pads below each battery and providing a blue indicator light. All installations shall meet the requirements of the details included on the plans and applicable portions of these specifications.

Basis of Payment: UNINTERRUPTABLE POWER SUPPLY, EXTENDED will be paid for at the contract unit price respectively each for UNINTERRUPTABLE POWER SUPPLY, EXTENDED.

## **SIGNAL TIMING**

This work shall consist of preparing a signal timing plan for approval and programming the permanent traffic signal controller accordingly.

The traffic signal shall be optimized by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 3 of the Illinois Department of Transportation (IDOT). Traffic signal optimization work, including fine-tuning adjustments,

shall follow the requirements stated in the most recent IDOT SCAT Guidelines, except as noted herein.

Signal timing plans for the AM Peak, PM Peak, and Off Peak shall be prepared for approval by the Kendall County Engineer.

- 1) The following tasks are associated with SIGNAL TIMING.
  - a. Collect Existing Traffic Data Count Data.
  - b. Appropriate signal timings shall be developed for the intersection and appropriate cycle lengths shall be developed.
  - c. Proposed signal timing plan for the new or modified intersection shall be forwarded to IDOT for review prior to implementation.
  - d. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations. The Consultant shall respond to Kendall County and IDOT comments and public complaints for a minimum period of 90 days from date of timing plan implementation.
- 2) The following deliverables shall be provided for SIGNAL TIMING.
  - a. Consultant shall furnish to the Kendall County Engineer one (1) copy each of a SCAT Report for the optimized intersection. The SCAT Report shall include the following elements:

Table of Contents
Tab 1: Final Report <ol style="list-style-type: none"> <li>1. Project Overview</li> <li>2. System and Location Description (Project specific)</li> <li>3. Methodology</li> <li>4. Data Collection</li> <li>5. Data Analysis and Timing Plan Development</li> <li>6. Implementation             <ol style="list-style-type: none"> <li>a. TOD</li> </ol> </li> </ol>
Tab 2: Turning Movement Counts <ol style="list-style-type: none"> <li>1. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)</li> </ol>
Tab 3: Synchro Analysis <ol style="list-style-type: none"> <li>1. AM: Intersection Synchro report (Timing report) summarizing the implemented timings.</li> <li>2. Midday: Same as AM</li> <li>3. PM: Same as AM</li> </ol>
Tab 5: Environmental Report <ol style="list-style-type: none"> <li>1. Environmental impact report including gas consumption, NO2, HCCO, improvements.</li> </ol>
Tab 6: Electronic Files <ol style="list-style-type: none"> <li>1. Two (2) CDs for the optimized system. The CDs shall include the following elements:             <ol style="list-style-type: none"> <li>a. Electronic copy of the SCAT Report in PDF format</li> <li>b. Copies of the Synchro files for the optimized system</li> <li>c. Traffic counts for the optimized system</li> <li>d. New or updated intersection graphic display files for each of the system intersections and the system graphic display file including system detector locations and addresses</li> </ol> </li> </ol>

Basis of Payment: The work shall be paid for at the contract unit price per LUMP SUM for SIGNAL TIMING, which price shall be payment in full for performing all work described herein

for the intersection of C.H. 11 (Ridge Road) and Black Road. Following the completion of the Synchro analysis, 50 percent of the bid price will be paid. Following the setup and fine-tuning of the timings, 25 percent of the bid price will be paid. The remaining 25 percent will be paid when the system is working to the satisfaction of the Engineer.

## **LOOP DETECTOR TESTING**

The Contractor is advised of the presence of existing detector loops which shall be retained in the completed signal installation. The condition of each existing loop detector which will be retained shall be documented.

The required loop detector testing shall consist of measuring the following electrical characteristics of each loop within the intersection to determine if the loop meets the indicated criteria:

1. Loop Inductance. Stable frequency (frequency varies by less than +/-3 hertz) and minimum 50 microhenries when driven by amplifier.

For any loop that does not show a stable frequency, the Contractor shall determine if the unstable frequency is due to equipment malfunctions in the cabinet or outside the cabinet. The Contractor shall notify the Engineer of the source of the unstable frequency. Any problem due to existing equipment problems in the cabinet shall be repaired by city maintenance. Any problem caused by the required construction work shall be repaired and paid for separately on this contract.

Any loop that does not exceed 50 microhenries inductance shall be replaced.

2. Loop Resistance to Ground. Minimum 50 megohms.

For any loop circuit with less than 50 megohms resistance to ground or any loop that is being replaced, the Contractor shall break the loop to lead-in splice and measure the resistance to ground of the detector loop alone and each leg of the detector loop lead-in cable. If a single leg of the lead-in cable has a low resistance to ground, the Contractor shall replace the lead-in cable. If the detector loop, separated from the lead-in cable, passes the required tests, the loop shall not be replaced.

3. Loop Circuit Resistance. Maximum 3 ohms for lead-in less than 200 feet. Maximum 5 ohms for lead-in greater than 200 feet.

For any loop circuit with resistance greater than stated above, the splice shall be opened and the loop and each leg of the lead-in cable shall be tested. If the detector loop cable is the cause of the high resistance reading, the detector loop shall be replaced. If the lead-in cable is the cause of the high resistance reading, the lead-in cable shall be replaced.

The Contractor shall furnish a Decatur Electronics Loop Tester, Model DLT-150, or superior, to measure the loop resistance above ground, and quality factor of each loop. This unit shall remain the property of the Contractor.

The measurements shall be recorded for each loop circuit, including lead-in cable, following completion of the work, in the presence of the Engineer. The measurements shall be taken at the controller cabinet.

Any damaged detector loop or lead-in cable shall be replaced.

If an existing detector loop is damaged due to construction operations, the Contractor shall notify the Department at 815-434-8505 to modify the signal program until the detector loop can be replaced. The Contractor shall replace the loop as soon as possible.

Loop detector testing will be performed at each loop detector circuit following completion of work likely to damage the existing loops. The lead-in cable must be disconnected from the detector loop panel in the cabinet to prevent damage to the inductive loop detector. When the Contractor has made all necessary repairs, the Department's Traffic Signal Section shall be contacted to meet with the Contractor at the intersection to confirm the satisfactory readings.

Method of Measurement. This work will be measured for payment per intersection, regardless of the number of tests required. Any work required to replace any splices broken for testing of the lead-in cable and detector loop shall be included in the cost of this pay item.

Basis Of Payment. This work will be paid for at the contract unit price per each intersection as LOOP DETECTOR TESTING.

## **INDUCTIVE LOOP DETECTOR**

Inductive loop detectors shall meet the requirements of Sections 885 and 1079 of the Standard Specifications with the following modifications:

Each inductive loop detector amplifier shall be rack mounted. Each inductive loop detector amplifier channel shall have a minimum of :

- 8 sensitivity settings
- LCD program menu
- Detector logs and displays number of loop failure incidents since last reset
- Internal function to determine the ideal sensitivity setting for every loop system
- 8 frequency settings
- 32 second call extend timer
- 32 second delay timer
- Call extend and delay timers able to operate cooperatively
- LED indication for detection

The detector supplied shall be the latest Reno model or equivalent.

The Contractor shall label each amplifier for the loop and movement where they provide input according to the chart in the plans.

Basis of Payment. This item will be paid for according to Article 885.04 of the Standard Specifications.

## **LUMINAIRE SAFETY CABLE ASSEMBLY**

Description: This item shall consist of providing a luminaire safety cable assembly as specified herein and as indicated in the plans.

Materials. Materials shall be according to the following:

Wire Rope. Cables (wire rope) shall be manufactured from Type 304 or Type 316 stainless steel having a maximum carbon content of 0.08 % and shall be a stranded assembly. Cables shall be 3.18 mm (0.125") diameter, 7x19 Class strand core and shall have no strand joints or strand splices.

Cables shall be manufactured and listed for compliance with Federal Specification RR-W-410 and Mil-DTL-83420.

Cable terminals shall be stainless steel compatible with the cable and as recommended by the cable manufacturer. Terminations and clips shall be the same stainless steel grade as the wire rope they are connected to.

U-Bolts. U-Bolts and associated nuts, lock washers, and mounting plates shall be manufactured from Type 304 or Type 316 stainless steel.

### CONSTRUCTION REQUIREMENTS

General. The safety cable assembly shall be installed as indicated in the plan details. One end of the cable assembly shall have a loop fabricated from a stainless steel compression sleeve. The other end of the cable assembly shall be connected with stainless steel wire rope clips as indicated. Slack shall be kept to a minimum to prevent the luminaire from creeping off the end of the mast arm. Unless otherwise indicated in the plans, the luminaire safety cable shall only be used in conjunction with luminaires which are directly above the traveled pavement.

Basis of Payment: This work shall be paid for at the contract price each for LUMINAIRE SAFETY CABLE ASSEMBLY, which shall be payment for the work as described herein and as indicated in the plans.

### RELOCATE EXISTING PTZ CAMERA

This work shall consist of the removal of the existing domed pan, tilt, zoom camera from the existing location on the northeast combination mast-arm pole and relocating it to the new combination mast-arm in the same quadrant.

This work shall be in accordance with the applicable portions of Section 895 of the Standard Specifications.

New stainless, steel banding shall be provided to reinstall the camera to the mast-pole.

The camera shall be positioned on the pole 1 ft. under the luminaire truss arm and shall be mounted in a position to view each street approaching the intersection without obstruction from the mast-pole.

New ethernet cable shall be installed from the relocated camera to the ethernet switch installed in the control cabinet. The contractor shall supply and install Superior Essex or the preapproved equivalent Outside Plant (OSP) unshielded Broadband Category 6 cable.

This work shall be paid for per the unit price EACH for RELOCATE EXISTING PTZ CAMERA and shall include all labor and material necessary to bring the relocated camera to the intended function. No additional compensation will be allowed.

## **REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT**

Description: In addition to the requirements of Section 895 of the Standard Specifications, the following shall apply:

This work shall consist of removing the existing traffic signal equipment at the intersection as noted in the plans. The items to be removed by the contractor shall be protected until coordination of salvage with both the IDOT D3 Traffic Signal Section and the Kendall County Highway Department has been completed.

Any items not salvaged and returned to IDOT and/or Kendall County shall become the property of the contractor and/or shall be disposed of by the contractor outside the right-of-way.

Basis of Payment: This work will be paid for at the contract unit price each for REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT. The price shall be payment in full for removing the equipment, storing, protecting, salvaging, and/or disposing of it as required.

## **EMERGENCY VEHICLE PRIORITY SYSTEM**

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, or a 7 watt Par 30 LED flood lamp with a 15 degree or greater spread, maximum 7 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signaled by a flashing indication at the rate specified by Section 4L.01 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signaled by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz  $\pm$ 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the EMERGENCY VEHICLE PRIORITY SYSTEM.

Basis of Payment.

This work will be paid for at the contract unit price each for EMERGENCY VEHICLE PRIORITY SYSTEM which price shall include all labor, equipment, material and testing necessary to complete the work as specified and ensure proper operation.

All cable required for the installation of the System and confirmation beacons shall be considered included in the cost of EMERGENCY VEHICLE PRIORITY SYSTEM and will not be paid for separately.

LED Confirmation Beacons will be considered as included in the cost of the EMERGENCY VEHICLE PRIORITY SYSTEM and will not be paid for separately.

## **VIDEO VEHICLE DETECTION SYSTEM**

Description. This work shall consist of furnishing and installing a Video Vehicle Detection System for traffic signals without remote access capabilities.

Materials. Materials shall be according to the following.

Item	Article/Section
a) Video Sensor.....	Note 1
b) Communications Interface Panel.....	Note 2
c) Wired Input/Output Card.....	Note 3
d) Management Software.....	Note 4
e) Video Monitor.....	Note 5

Note 1. The video sensor shall integrate a high-definition camera with an embedded processor for analyzing the video and performing detection. The camera shall include a color complementary metal oxide semiconductor (CMOS) imaging array and optical zoom. The integrated processor shall provide direct, real time iris and shutter speed control. The optical zoom shall satisfy across-the-intersection detection objectives, including stop line and advance detection.

The camera and processor shall be housed in a sealed weatherproof enclosure with an integral aiming sight and all necessary mounting hardware. The faceplate of the enclosure shall be glass and have a hydrophilic coating on the exterior surface to reduce debris accumulation and maintenance and a thermostatically controlled heater applied directly on the interior surface to keep the faceplate clear of condensation, snow, ice, and frost. An adjustable aluminum visor shall shield the faceplate from the sun and extraneous light sources.

Power and communications for the video sensor shall utilize a broadband-over-power connection using cables approved by the manufacturer of the video sensor. The video sensor shall operate over an input voltage range of 89 to 265 V AC at 50 or 60 Hz. Typical power consumption shall be no more than 16 watts. All surge suppression shall be located inside the controller cabinet.

Note 2. The communications interface panel shall manage communications between the video sensors, and the traffic cabinet itself. The communications interface panel shall provide connection points for all video sensors.

The broadband-over-power communications shall provide a throughput of 70 to 90 megabits per section (Mbps) and shall support a minimum of 1,000 feet of cable to the video sensor. Each video sensor connection shall include a power switch, a power indicator, a communication status indicator, a resettable fuse, and high-energy transient protection.

Two ethernet ports capable of 10/100/1000 Mbps shall be provided for maintenance. The communications interface panel shall proxy all network requests that arrive on the ethernet ports to avoid unwanted network traffic from reaching the broadband-over-power network between the communications interface panel and the video sensors. All communications to the video detection system through the ethernet ports shall be to a single IP address. The maintenance port shall support dynamic host configuration protocol to automatically assign an IP address to the user's computer.

An 802.11g Wi-Fi access point (WAP) shall allow a wireless connection to the video detection system. All communications to the video detection system through the WAP shall be to a single IP address. The WAP shall support Dynamic Host Configuration Protocol to automatically assign an IP address to the user's computer. A momentary pushbutton shall allow the user to turn the WAP on or off. The WAP shall turn itself off automatically after a period of inactivity from connected devices and include a LED to indicate when the WAP is enabled. The WAP shall operate simultaneously with the maintenance port and the TMC connection. The WAP shall require a customizable password for connection by a user's computer.

The communications interface panel shall provide one connection to communicate to the traffic controller through the cabinet. The traffic controller connection shall support a TS2 Type 1 compatible Software Development Life Cycle (SDLC) interface. The traffic controller connector shall be a 15-pin female metal shell D sub-miniature type connector to support a standard NEMA TS2 or TEES SDLC cable. The traffic controller connection shall support a protocol interface to SDLC-capable traffic controllers (NEMA or TEES). The traffic controller connection shall support the NEMA TS2 SDLC protocol to include up to 64 detector outputs and 32 inputs.

The traffic controller connection shall be able to connect to a wired input/output card, which supports wired I/O in cabinets without a SDLC capable controller. The wired I/O data communications link shall support at least 24 outputs and 16 inputs. It shall be possible to connect and use both SDLC communications and communications to the wired input/output card simultaneously.

The communications interface panel shall include two USB 2.0 ports. It shall be possible to reinstall all system and application software from a USB memory stick without removal of the communications interface panel from the cabinet. Video recording of up to 2 cameras simultaneously shall commence automatically when an appropriately configured USB memory stick is installed in either USB port.

The communications interface panel shall accept input voltage in the range of 89 to 265 V AC, 50 to 60 Hz power from the transient-protected side of the cabinet. The communications interface panel shall be protected by two slow blow fuses. Two spare fuses shall be attached to the panel.

Note 3. An input/output card with real-time detection shall reside in a standard detector rack or shelf-mount enclosure with power module.

The wired input/output card shall comply with the form factor and electrical characteristics to plug directly into a NEMA Type C or D detector rack. The card shall provide four detector outputs on a rear-edge connector. A front connector shall provide communication to the communications interface panel and allow 16 inputs and 24 contact closure detector outputs for wiring into the cabinet. A front panel LED for each of the 16 inputs and 24 outputs shall indicate the state of the input or output.

The wired input/output card shall support optional expansion cards in other slots. Each expansion card shall support 4 outputs to the rear edge of the card. The wired input/output card shall support optional harnesses for connection to Input Files or C1, C4, C11, and C12 ports to support Type 170 or Type 2070 controllers.

Note 4. Management software shall be a Windows-based application and communicate with the video detection system via ethernet. The management software shall automatically determine all video sensors and communications interface panels available on the local network and populate a list of all devices and provide a means to add video sensors and communications interface panels on routed networks by the communications panel's wide area network IP address.

The management software shall provide the user a means to name individual video sensors and communications interface panels, zoom the camera optics while viewing a live video stream, calibrate distances in the field of view to create a 3-dimensional mapping of the complete field of view, and to create 4-sided detection zones in the field of view using either a still snapshot or live video.

The management software shall detect the presence of vehicles in defined zones and turn on the assigned output when a vehicle or bicycle is present in the zone. Each detection zone shall be displayed over the background image. It shall be possible for the user to place detection zones anywhere in the field of view, set the desired color of both the "on" and "off" states of the overlay for individual detection zones, set the desired color for the "on" state for different types of vehicles, alter the size and shape of any previously created zone, click and drag any of the four sides of a zone to automatically scale the length of the side consistent with the 3-dimensional field of view, to move an entire zone without automatic rescaling, create a new zone by selecting an existing zone and duplicating it on either the left or right side or specifying a new zone with a specific distance from the selected zone, rotate a zone by selecting any of its four corners and dragging, flip the zone direction 180 degrees from its current orientation, name each zone, assign each zone to detect vehicles, bicycles or both, and to specify different outputs for each type.

It shall be possible for the user to specify the output of a zone as a presence, pulse, or snappy type output (presence during red and pulse during green signal phase state). The pulse output shall be usable for both approaching and receding traffic and have a user programmable duration from 100 to 400 milliseconds. It shall be possible for a zone to have multiple output types (presence, pulse, snappy) on separate output channels, for the user to tie the presence outputs of multiple zones as well as signal phase state together with Boolean logic and assign the same output to multiple zones such that the output will be on if any of the zones are detecting a vehicle or bicycle. It shall be possible for the user to assign a single zone to more than one output such that if a vehicle or bicycle is detected, all the assigned outputs

shall be turned on. The management software shall be capable of creating at least 99 detection zones per video sensor, retrieving all configuration parameters from video sensors or communications interface panels. It shall be possible for the user to save all the settings for a video sensor or a communications interface panel and read or import all the settings from a previously saved configuration file for a video sensor or a communications interface panel.

For detection zones placed at the stop line, the probability of not detecting the presence of a vehicle shall be 1% or less when aggregated over a 24-hour period when the video sensor is installed and configured properly and the probability of falsely detecting a vehicle that is not present shall be 3% or less when aggregated over a 24-hour period when the video sensor is installed and configured properly. To ensure statistical significance for the above detection performance specifications, data shall be collected over 24-hour time intervals and shall contain a minimum of one hundred (100) vehicles per lane. The calculations of detection performance shall not include turning movements where vehicles do not pass through the detectors, vehicle lane-change anomalies, or where they stop short or stop beyond the combined detection zones.

The video detection system shall be capable of detecting receding vehicles in day or night conditions when the video sensor is installed and configured properly.

The management software shall be able to download a new version of the application software into a communications interface panel and its attached video sensors. The management software shall provide the current time in the video sensor image, a user-configurable title or name, the version number of the video sensor software, and configurable text as defined by the user. Undo/Redo functions shall be available for operations during detection zone setup and programming. It shall be possible for the user to turn the overlay graphics on or off with a single setting.

The management software shall provide a live video output to the video monitor. The user shall be able to select if a single video output or four video outputs are displayed simultaneously. It shall be possible for the user to configure the order that the sensor videos appear in the quad-view. The real-time quad-view video stream shall be capable of displaying the overlay graphics for all four sensors simultaneously.

While monitoring the video of a single video sensor or of the quad-view, it shall be possible for the user to request a "snapshot" or single-frame image to save to a named file on a laptop. It shall be possible for the user to record a period of the video to save to a named file.

The management software shall provide three failsafe options during optical contrast loss. The default shall be maximum recall. The user may also choose to use minimum recall or fixed recall in which a user-defined number of seconds may be implemented to hold call during green. The video sensor shall continuously monitor the overall contrast in the video. If the overall contrast falls below a preset level or if a video sensor goes offline the sensor shall enable the chosen failsafe mode. When sufficient contrast is restored in the video or the video sensor comes online, the sensor shall exit the failsafe mode.

The management software shall maintain a time-stamped operations log of routine and special events in non-volatile memory.

The management software shall provide the following methods to synchronize the time-of-day clocks in the communication interface panel and the video sensors: set the time to the current time on the computer where the management software is running; automatically obtain the

time from the NEMA TS2 protocol on the SDLC channel; and allow the communications interface panel to automatically obtain the time from up to five Network Time Protocol (NTP) sources.

Note 5. The video monitor shall have a minimum screen size of 12 inches and be located in the controller cabinet. The video monitor shall include a live video stream from the video sensor with indications of detection in real time by changing the color of the detection zone. A standard mouse and keyboard shall be provided in the cabinet with the video monitor.

## CONSTRUCTION REQUIREMENTS

General. This work shall be according to applicable portions of Sections 812, 817, and 873 of the Standard Specifications for Road and Bridge Construction.

The Video Vehicle Detection System shall be capable of communicating with the software systems shown on the plans.

The Video Vehicle Detection System shall be integrated to the controller inside the traffic signal cabinet.

Removed amplifiers shall be returned to the Engineer.

Training. The contractor shall provide one day of training by a factory representative on the software for up to ten people.

Installation. The manufacturer shall recommend the height and location of the video camera(s) for detection and monitoring of all legs from 10 feet in front of the stop bar until the advance detection distance shown in the plans. The Video Vehicle Detection System shall use as many cameras as needed to provide proper detection for all legs and all cable necessary for successful operation. The video camera(s) shall either be mounted on the luminaire arm, the mast arm, or a 6-foot video detection pipe extension mounted on the mast arm to withstand 100 mph wind. The extension shall not exceed 6 feet in length.

Warranty, Service and Support. The manufacturer shall warrant the video detection system for a minimum of five years. Ongoing software support by the manufacturer shall include software updates of the video sensor, communications interface panel, and management software. These updates shall be provided free of charge during the warranty period. The manufacturer shall provide a technical support website, email address and a phone number.

Basis of Payment. This work will be paid for at the contract unit price per each for VIDEO VEHICLE DETECTION SYSTEM. Each intersection will be paid for separately.

## **FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL**

Description. This work shall consist of furnishing and installing a Super P Size Full-actuated Controller and Type IV Cabinet at location shown on plan details. A Super P Size Cabinet shall have an additional built-in compartment for battery backup in a single cabinet shell.

## CONSTRUCTION REQUIREMENT

General. The Super P Size Full Actuated Controller and Type IV Cabinet shall be a NEMA TS2 Type 1 and meet the requirements of Sections 857, 1073 and 1074 of the Standard Specifications with the following modifications.

- a) This item requires that a factory representative capable of ensuring that the controller and cabinet are operating to the satisfaction of the Engineer shall be present at the turn on of the controller and shall remain until the intersection is operating to the satisfaction of the Engineer. Should a defect appear in the controller or cabinet operation, the representative shall return as often as necessary until all defects are repaired.
- b) At the preconstruction meeting, the Contractor shall provide the names and phone numbers of two technicians who would be able to respond to controller malfunctions that occur within the 30-day acceptance period after the controller is turned on. If neither person can be reached at the time of the malfunction nor be at the location within 2 hours of receiving the call, any available electrician capable of evaluating and correcting the malfunction may be called at the State's discretion. All bills resulting from defective operation of the controller or cabinet shall be the responsibility of the Contractor.

Controller.

- a) The controller shall be capable of uploading and downloading its database to a laptop computer that has been installed with the proper software. All uploaded data shall be able to be changed within the laptop and then downloaded to the controller. The necessary cables for upload/download shall be provided and upload/download software shall be provided and installed onto the District Three laptop computer if the software and cables have not already been supplied to District Three or the software presently being used by District Three requires updating. The controller shall be the latest version of TS 2 and shall have two (2) data keys.
- b) The controller data entry fields shall have a clear distinction between data fields and information. Data fields shall be in matrix format with a minimum of eight phases wide and four data lines deep.
- c) The active status screen shall display the following information for all operating phases in an alpha-numeric display.
- d) A clear distinction between the following detections for each phase: vehicle recall, vehicle detection, pedestrian recall, and pedestrian detection.
- e) A clear distinction among the phases receiving detection.
- f) Status displayed simultaneously whenever one or more of the following is operating: vehicle passage timer, maximum phase timer, added initial timer, time before reduction timer, time to reduce timer, existing gap timer, walk timer, don't walk timer.
- g) When a phase ends, the controller shall report whether the exit was a max out, gap out or force out condition. The controller shall show the yellow and red timers timing and any trailing overlap timers timing.
- h) The color of all operating overlaps.

- i) The phase of the controller shall be as shown in the plans.
- j) The controller shall be the latest version of the fully actuated unit.

Controller Cabinet.

- a) The police door compartment shall contain a manual control cord from which the signals may be operated manually. The inside door toggle switches shall be protected from accidental contact by vertical metal slats. The slats shall extend beyond the switches, in a manner like the terminals on the back panel. A plastic plans holder shall be installed on the cabinet door. The holder shall be at least 11 in. high and 17 in. wide, shall open from the side, and shall not interfere with the filter. The holder shall have a means of closing the side opening to prevent water from entering.
- b) A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power panel. The cover shall completely shield the service wires, and circuit breaker wires from accidental contact.
- c) A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power terminals for the thermostatically controlled exhaust fan. The thermostat shall be of the knob type capable of adjustment by hand and without tools. The thermostat and terminals shall be mounted on the left or right side of the controller cabinet.
- d) All harness wiring of connectors A, B, C and D shall be factory installed so that an additional phase may be added to the existing phasing by the addition of a load switch and the proper conflict monitor card pinning.
- e) A self-adhering phasing diagram shall be placed on the inside of the cabinet door. Attach a phase and direction decal below the amplifiers.
- f) Train the wire along the inside of the cabinet for length and cleanliness.
- g) Place a thermostatically controlled electric heater in the cabinet with LED light bulbs.
- h) Traffic signal control and cabinet assembly shall be fully tested by the equipment supplier. Five (5) copies of the complete cabinet wiring showing all connections shall be furnished to the Engineer.
- i) Control cabinet shall have a pull-out drawer for a place to set a laptop and provide storage for cabinet prints and plans.
- j) A generator factory outlet in an enclosed door shall be provided for the Uninterruptable power supply.

Basis of Payment. This work will be paid for at the contract unit price per each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET,SPECIAL which price shall be payment in full to complete this work.

## **BLACK POWDER COAT FINISH REQUIREMENT**

This work shall consist of black powder coat finish requirement for proposed above ground traffic signal and lighting items along CH 11 (Ridge Road) from the southern limit of the project, just north of Holt Road, to a northern limit of the intersection of Wildy Road.

All proposed traffic signal posts, signal poles, mast arms, luminaires, light poles, and davit arms from southern project start northerly up to and including the Wildy Road intersection shall have a black powder coat finish. The black powder coat finish shall match the existing traffic signal items at the Ridge Road and Holt Road intersection and shall match the existing lighting units in the raised median just north and south of the Ridge Road and Holt Road intersection.

The black powder coat finish will not be paid for separately but shall be included in the cost of associated traffic signal pay items and lighting pay items.

## **RECESSED REFLECTIVE PAVEMENT MARKER**

Description. This work shall consist of furnishing and setting reflective pavement markers in a recessed groove in the pavement. The recessed pavement markers shall be used to supplement other pavement markings, similar to the use of Raised Reflective Pavement Markers.

Materials. The epoxy used shall be as recommended by the pavement marker manufacturer.

Installation. Spacing and orientation of the pavement markers shall be as detailed in the plans or as directed by the Engineer. A recessed groove shall be cut in the pavement 5.25" wide and 1.0" deep on a 15.5" diameter. A 3.5' long groove shall taper from 0" (normal pavement) to 0.3" depth (full-recessed) before and after the groove. For 1-way markers heading uphill, uphill grind taper may be omitted.

The recessed area shall be cleaned free of all loose material and be dry before the placement of the pavement marker. All excess material resulting from the construction of the recessed area shall be completely removed from the surface of the roadway by means of a vacuum sweeper truck. The pavement marker shall be cemented with epoxy in the center of the 1.0" deep recessed groove.

Basis of Payment. This work will be paid for at the contract unit price each for RECESSED REFLECTIVE PAVEMENT MARKER. Payment shall be made according to the inspection and bonding requirements in Article 781.04 of the Standard Specifications. The unit price shall include all costs for cutting the grooves into the pavement. The unit price shall also include all equipment, materials and labor required to install the recessed reflective pavement markers.

## **WHITEWASHING FOR CONCRETE PAVEMENT**

Description. This work shall consist of whitewashing the bituminous concrete or bituminous stabilized subbase for concrete pavement.

Materials. Materials shall meet the requirements of the following Articles of the Standard Specifications:

Item	Article/Section
(a) Water	1002
(b) Hydrated Lime	1012.01
(c) Calcium Carbonate Pigments (Note 1)	

Note 1: ASTM D-1199, Type GC or PC, Grade II or finer. Other materials or grades may be used with the approval of the Engineer provided the resulting coating is bright white and uniform in nature. By-product lime will not be allowed.

Equipment. Equipment shall be capable of mixing, continuously agitating, and applying the prepared solution in a uniform manner.

Construction Requirements. When the pavement will be placed between May 15 and October 15, the surface of the bituminous concrete base or bituminous stabilized subbase shall be whitewashed. Whitewashing shall be completed prior to placing the reinforcing steel or load transfer devices. Whitewashing shall not be applied when rain is imminent.

The whitewash shall be prepared by combining two parts water to one part pigment by weight. The ingredients shall be mixed until smooth in consistency and free of lumps. If sufficient coating can be demonstrated, the ratio may be increased up to three parts water to one part pigment by weight with the approval of the Engineer. After mixing, the whitewash shall be continually agitated until applied.

The whitewash shall be uniformly applied to the entire bituminous concrete base or bituminous stabilized subbase at a rate of 0.35 L/sq m (0.075 gal/sq yd). The method of application shall be approved by the Engineer. Thick films from splits or over application shall be removed by means that does not damage the base or subbase. Once the whitewash mixture is placed, traffic shall be kept to a minimum on the bituminous concrete base or subbase. The whitewash shall be maintained until placement of the PCC pavement and shoulders

Method of Measurement. Whitewashing the bituminous concrete base or subbase will be measured for payment in place and the area computed in square yards. The white pigment and water for the whitewash mixture will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per square yard for WHITEWASHING FOR CONCRETE PAVEMENT.

## **FENCE REMOVAL**

Description. This work shall consist of the removal, salvage, and/or disposal or portions of the existing fence, as shown in the plans or as directed by the Engineer.

Construction Requirements. All associated hardware and appurtenances of the existing fence including but not limited to post, foundations, fittings, gates, and accessories shall be removed. Contractor shall coordinate with the Engineer on delivery of fence to the owner. If the Owner does not want to salvage the fence, it shall be disposed of by the Contractor. All post or foundation holes shall be backfilled and compacted to the satisfaction of the Engineer.

Any part of the fence that is not called out to be removed and damaged by the Contractor's work shall be replaced to the satisfaction of the Engineer at the expense of the Contractor.

Method of Measurement. Fence removal shall be measured for payment per foot and measured along the top of the fence from center to center of end posts, including length occupied by gates.

Basis of Payment. This work will be paid for at the contract unit price per foot for FENCE REMOVAL.

## AVAILABLE REPORTS

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

- Preliminary Site Investigation (PSI)
- Preliminary Environmental Site Assessment (PESA)
- Soils/Geotechnical Report
- Location Drainage Study (LDS)
- Hydraulic Report
- Noise Analysis
- Other:

Those seeking these reports should request access from:

Luke Zeller, P.E.  
Phase II Project Manager  
lzeller@hutchisoneng.com

Hutchison Engineering, Inc.  
605 Rollingwood Drive  
Shorewood, IL 60404

B.M.: Mao Vail in Asphalt, ±1' East  
of West EOP in Ridge Rd  
Sta. 204+46, 14' Lt.  
Elev. 588.95

**Existing Structure:**

Single span precast prestressed concrete deck beam superstructure supported on concrete closed abutments with spread footings. The structure is 36'-0" back to back of abutments, 36'-0" out to out of deck, and is not skewed. The structure was constructed in 1948 and reconstructed in 1986.  
Str. No. 047-3011

Salvage: None

2-way traffic to be maintained using staged construction.

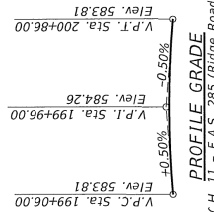
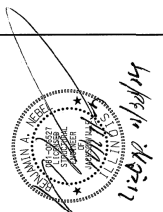
**INDEX TO SHEETS**

SHEET #s	DESCRIPTION
1	General Plan & Elevation
2	General Data
3	Temporary Soil Retention System
4	Stage Construction Details
5	Temporary Concrete Barrier
6-8	Top of Slab Elevations
9-10	Approach Slab Elevations
11-12	Superstructure
13	Superstructure Details
14	Diaphragm Details
15-17	Bridge Approach Slab Details
18-19	Forming Plan
20	Beam Details
21	U.L. 27 Beam Details
22-25	Abutment
26	HP Pipe Details
27	Stage Construction Bar-Splicer Details

Notes:  
See Sheet 2 of 27 for Sections, Details, Bill of Material, and General Notes.

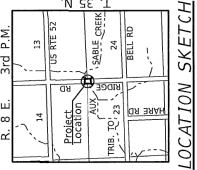
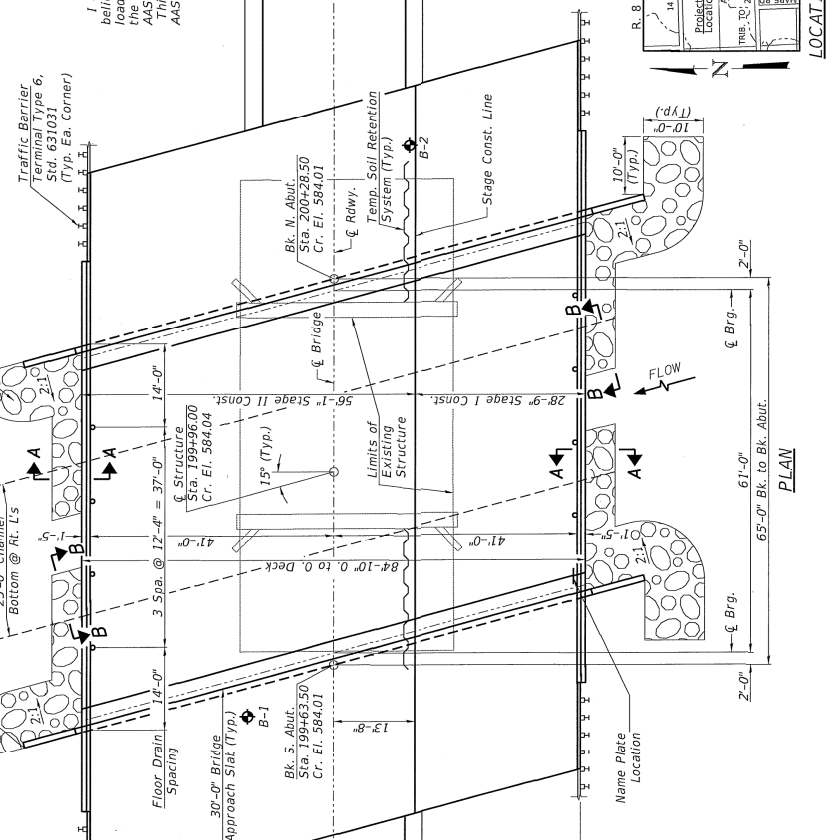
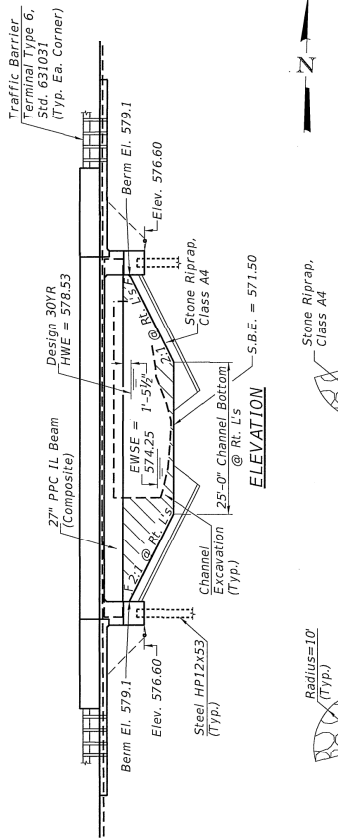
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications.  
This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of Highway Bridges.

Illinois Structural No. 6527  
Expires 11/30/2024



PROFILE GRADE  
C.H. 11 - F.A.S. 285 (Ridge Road)

GENERAL PLAN & ELEVATION  
C.H. 11 - F.A.S. 285 (RIDGE ROAD)  
OVER TRIB. TO AUX SABLE CREEK  
SECTION 22-00167-00-BR  
KENDALL COUNTY  
STATION 199+96.00  
STRUCTURE NO. 047-3189



**DESIGN SPECIFICATIONS**  
2020 AASHTO LRFD Bridges Design Specifications, 9th Edition

**DESIGN STRESSES**  
(FIELD UNITS)

- $f_c = 4,000$  p.s.i. (Superstructure)
- $f_c = 3,500$  p.s.i. (Substructure)
- $f_y = 60,000$  p.s.i. (Rein.)
- $f_y = 36,000$  p.s.i. (Structural Steel) (AASHTO M270 Grade 58)
- (PRECAST PRESTRESSED UNITS)
- $f_c = 8,500$  p.s.i.
- $f_{ci} = 6,500$  p.s.i.
- $f_s = 270,000$  p.s.i. (0.6\"/>
- $f_{si} = 202,300$  p.s.i. (0.5\"/>

**LOADING HL-93**

Allow 50 #/sq. ft. for future wearing surface.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (S<sub>01</sub>) = 0.096g  
Design Spectral Acceleration at 0.2 sec. (S<sub>05</sub>) = 0.192g  
Soil Site Class = D

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevations (ft.)	Item 113	
	S. Abut. H. Abut.	Head = Ft.
0.100	576.6	576.6
0.100	576.6	576.6
DESIGN	576.6	576.6
CHECK	576.6	576.6

**WATERWAY INFORMATION**

Drainage Area = 2.08 Sq. Mi.	Low Grade Elev. = 583.28 @ Sta. 197+51.00	Head = Ft.	Headwater El.						
Flood	Freq. 1%	Opening Sq. Ft.	Prop. H.H.E.	Exist. Prop.	Exist. Prop.				
Design	30	406	158	276	578.53	0.05	0.00	578.58	578.53
Base	100	535	172	299	578.96	0.08	0.00	579.04	578.96

DESIGNED -	ZL	REVISION
USER NAME =	BRUSH	DRAWN -
NOT SCALE =	100.0000 / 1ft.	CHECKED -
POST DATE =	10/17/2023	DATE

Hatchison Engineering, Inc.  
Professional Engineer  
No. 047-3189  
2023

SCALE: N/A	SHEET 1	OF 27	SHEETS
<b>GENERAL PLAN &amp; ELEVATION</b>			
KENDALL COUNTY	SECTION	22-00167-00-BR	SHEET NO. 71
C.H. 11 - F.A.S. 285 (RIDGE ROAD)	COUNTY	KENDALL	NO. 27
OVER TRIB. TO AUX SABLE CREEK	SN	047-3189	

**GENERAL NOTES**

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line and remove the upper portion to ensure the remaining portion will not be prematurely damaged.

See Special Provisions for boring logs.

Reinforcement bars designated (E) shall be epoxy coated.

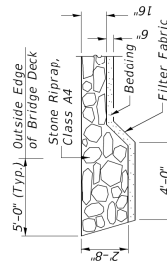
Layout of slope protection system may be varied in the field to meet site conditions.

Removal of the footing at the north abutment of existing structure will likely be required due to interference with proposed piles. Cost included in Removal of Existing Structures.

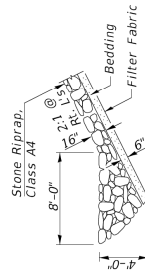
Fasteners shall be ASTM F 3125 Grade A325 Type 1. Fasteners shall be hot dip galvanized. See Special Provision for Hot Dip Galvanizing for Structural Steel.

See Sheets 58-65 of 70 for existing plans.

Slip forming of parapets is not allowed.



**SECTION A-A**



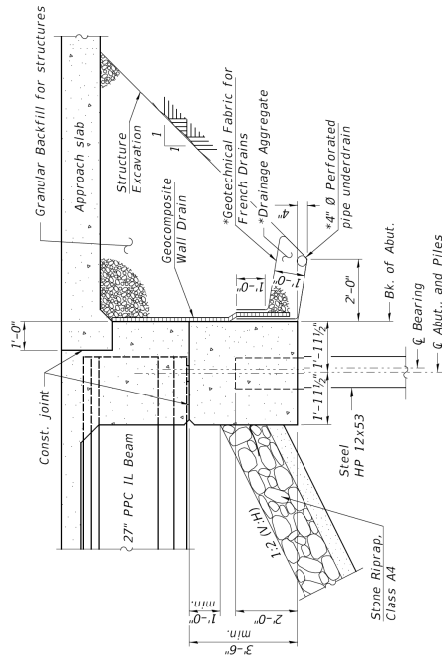
**SECTION B-B**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	CU YD	-	505	505
Stone Riprap, Class A4	50 YD	-	670	670
Filter Fabric	CU YD	-	615	615
Concrete Structures	CU YD	-	156.2	156.2
Concrete Superstructures (Approach Slab)	CU YD	215.5	-	215.5
Reinforcement Bars, Epoxy Coated	POUND	142,900	17,200	160,100
Furnishing and Erecting Precast Prestressed Concrete Beams, IL 27N	FOOT	685	-	685
Granular Backfill for Structures	CU YD	-	170	170
Name Plates	EACH	1	-	1
Furnishing Steel Pile HP 12x53	FOOT	-	540	540
Driving Piles	FOOT	-	540	540
Test Pile Steel HP 12x53	EACH	-	1	1
Bridge Deck Grooving (Longitudinal)	50 YD	1,093	-	1,093
Protective Coat	50 YD	1,210	-	1,210
Floor Drains	EACH	8	-	8
Geocomposite Wall Drain	50 YD	-	123	123
Pipe Underdrains for Structures #	FOOT	-	236	236
Channel Excavation	CU YD	-	1,035	1,035
Removal of Existing Structures	EACH	523	-	523
Bar Splicers	EACH	24	-	24
Temporary Soil Retention System	50 FT	-	346	346
See Special Provisions				

TRIB. TO AUX SABLE CREEK  
 BUILT 20 BY  
 KENDALL COUNTY  
 SEC. 22-00167-00-BR  
 C.H. 11 S'ATION 199+96.00  
 STR. NO. 047-3189 LOADING HL-93

**NAME PLATE**  
 Locate Name Plate on Parapet  
 S.E. Corner of Bridge  
 (See Std. 515001)

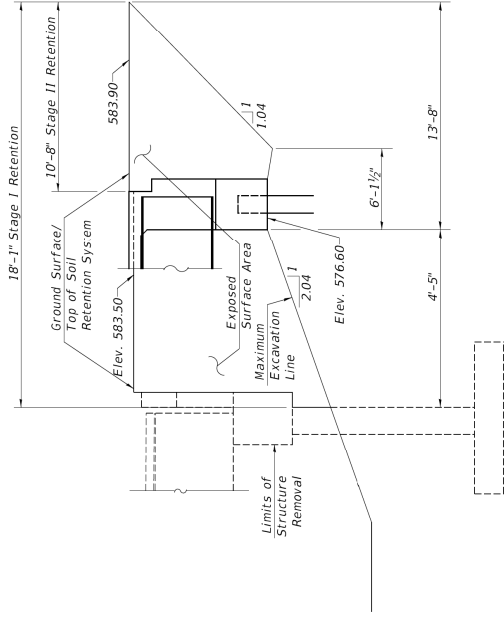


**SECTION THRU INTEGRAL ABUTMENT**  
 (Horizontal Dimensions @ Rt. Ls.)

\*Included in the cost of Pipe Underdrains for Structures #.

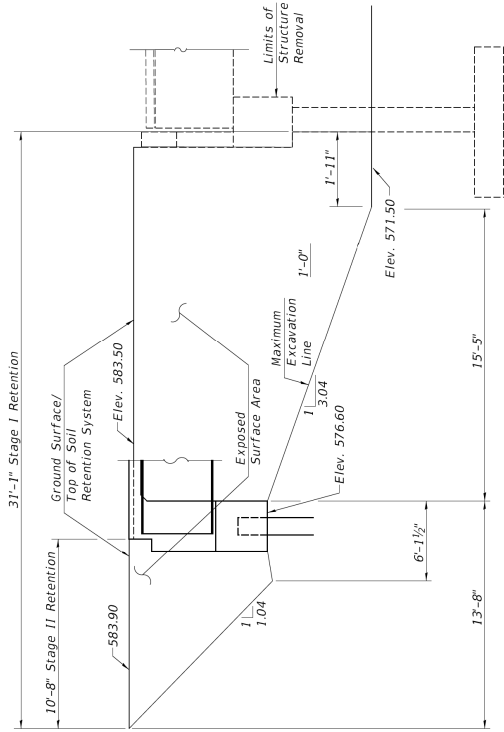
Notes:  
 All wall drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

HATCHSON Engineering, Inc. PROJECT NO. 22-00167-00-BR JOB#4943	USER NAME = BNSH FOOT SCALE = 100.0000 / ft. DATE = 01/17/23	DESIGNED - ZL DRAWN - ZL CHECKED - MMB/BN DATE - 7/19/22	REVISIONS REVISION - REVISION - REVISION - REVISION -	KENDALL COUNTY C.H. 11 - F.A.S. 285 (RIDGE ROAD) OVER TRIB. TO AUX SABLE CREEK	SCALE: N/A SHEET 2 OF 27 SHEETS	GENERAL DATA	F.A.S. SITE # 285 SECTION 22-00167-00-BR SN 047-3189 TUMORS	COUNTY KENDALL SHEETS 71, 33	TOTAL SHEET NO. 33
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**TEMPORARY SOIL RETENTION SYSTEM**

North Abutment



**TEMPORARY SOIL RETENTION SYSTEM**

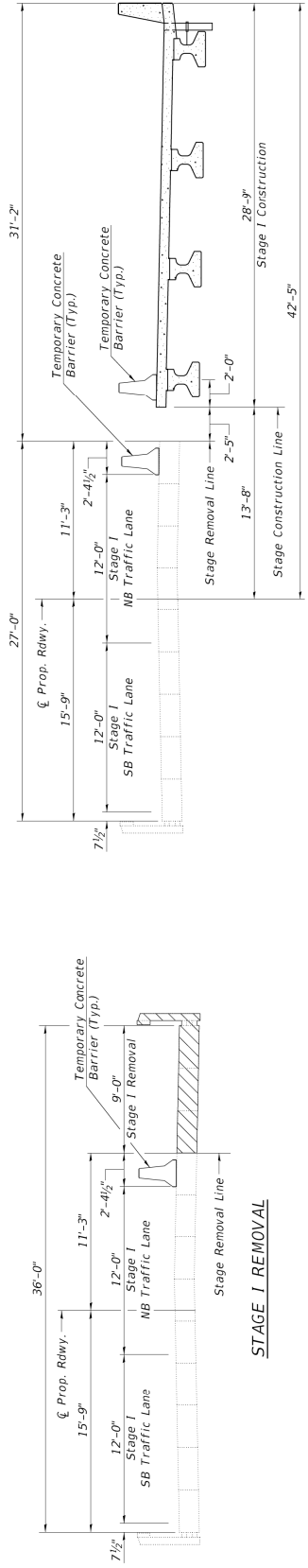
South Abutment

A cantilevered sheet piling design does not appear feasible. Additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.  
All horizontal dimensions are given along stage removal line.

**BILL OF MATERIAL**

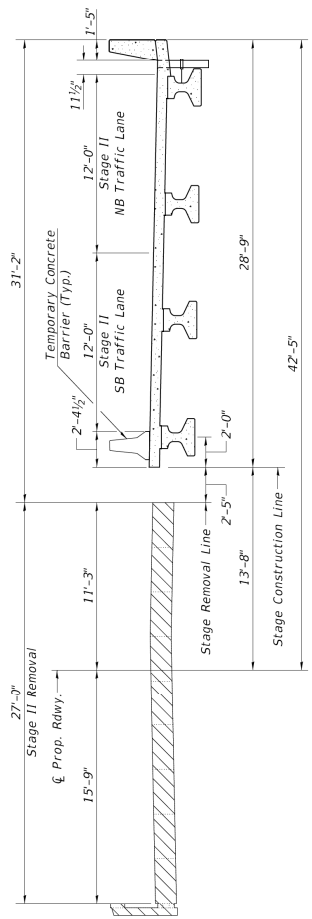
ITEM	UNIT	TOTAL
Temporary Soil Retention System	50 FT	346

Hutchison Engineering, Inc. 2200 W. 11th St., Suite 200 Omaha, NE 68104 (402) 442-3800 (402) 442-3801 (402) 442-3802 (402) 442-3803 (402) 442-3804 (402) 442-3805 (402) 442-3806 (402) 442-3807 (402) 442-3808 (402) 442-3809 (402) 442-3810 (402) 442-3811 (402) 442-3812 (402) 442-3813 (402) 442-3814 (402) 442-3815 (402) 442-3816 (402) 442-3817 (402) 442-3818 (402) 442-3819 (402) 442-3820 (402) 442-3821 (402) 442-3822 (402) 442-3823 (402) 442-3824 (402) 442-3825 (402) 442-3826 (402) 442-3827 (402) 442-3828 (402) 442-3829 (402) 442-3830 (402) 442-3831 (402) 442-3832 (402) 442-3833 (402) 442-3834 (402) 442-3835 (402) 442-3836 (402) 442-3837 (402) 442-3838 (402) 442-3839 (402) 442-3840 (402) 442-3841 (402) 442-3842 (402) 442-3843 (402) 442-3844 (402) 442-3845 (402) 442-3846 (402) 442-3847 (402) 442-3848 (402) 442-3849 (402) 442-3850 (402) 442-3851 (402) 442-3852 (402) 442-3853 (402) 442-3854 (402) 442-3855 (402) 442-3856 (402) 442-3857 (402) 442-3858 (402) 442-3859 (402) 442-3860 (402) 442-3861 (402) 442-3862 (402) 442-3863 (402) 442-3864 (402) 442-3865 (402) 442-3866 (402) 442-3867 (402) 442-3868 (402) 442-3869 (402) 442-3870 (402) 442-3871 (402) 442-3872 (402) 442-3873 (402) 442-3874 (402) 442-3875 (402) 442-3876 (402) 442-3877 (402) 442-3878 (402) 442-3879 (402) 442-3880 (402) 442-3881 (402) 442-3882 (402) 442-3883 (402) 442-3884 (402) 442-3885 (402) 442-3886 (402) 442-3887 (402) 442-3888 (402) 442-3889 (402) 442-3890 (402) 442-3891 (402) 442-3892 (402) 442-3893 (402) 442-3894 (402) 442-3895 (402) 442-3896 (402) 442-3897 (402) 442-3898 (402) 442-3899 (402) 442-3900 (402) 442-3901 (402) 442-3902 (402) 442-3903 (402) 442-3904 (402) 442-3905 (402) 442-3906 (402) 442-3907 (402) 442-3908 (402) 442-3909 (402) 442-3910 (402) 442-3911 (402) 442-3912 (402) 442-3913 (402) 442-3914 (402) 442-3915 (402) 442-3916 (402) 442-3917 (402) 442-3918 (402) 442-3919 (402) 442-3920 (402) 442-3921 (402) 442-3922 (402) 442-3923 (402) 442-3924 (402) 442-3925 (402) 442-3926 (402) 442-3927 (402) 442-3928 (402) 442-3929 (402) 442-3930 (402) 442-3931 (402) 442-3932 (402) 442-3933 (402) 442-3934 (402) 442-3935 (402) 442-3936 (402) 442-3937 (402) 442-3938 (402) 442-3939 (402) 442-3940 (402) 442-3941 (402) 442-3942 (402) 442-3943 (402) 442-3944 (402) 442-3945 (402) 442-3946 (402) 442-3947 (402) 442-3948 (402) 442-3949 (402) 442-3950 (402) 442-3951 (402) 442-3952 (402) 442-3953 (402) 442-3954 (402) 442-3955 (402) 442-3956 (402) 442-3957 (402) 442-3958 (402) 442-3959 (402) 442-3960 (402) 442-3961 (402) 442-3962 (402) 442-3963 (402) 442-3964 (402) 442-3965 (402) 442-3966 (402) 442-3967 (402) 442-3968 (402) 442-3969 (402) 442-3970 (402) 442-3971 (402) 442-3972 (402) 442-3973 (402) 442-3974 (402) 442-3975 (402) 442-3976 (402) 442-3977 (402) 442-3978 (402) 442-3979 (402) 442-3980 (402) 442-3981 (402) 442-3982 (402) 442-3983 (402) 442-3984 (402) 442-3985 (402) 442-3986 (402) 442-3987 (402) 442-3988 (402) 442-3989 (402) 442-3990 (402) 442-3991 (402) 442-3992 (402) 442-3993 (402) 442-3994 (402) 442-3995 (402) 442-3996 (402) 442-3997 (402) 442-3998 (402) 442-3999 (402) 442-4000	USER NAME = hroopen FOOT SCALE = 100.0000 / ft. PLOT DATE = 01/12/2023 JOB#4943	DESIGNED - ZL DRAWN - ZL CHECKED - MMORBAN DATE - 7/19/2023	REVISIONS REVISION REVISION REVISION	<b>KENDALL COUNTY</b> <b>C.H. 11 - F.A.S. 285 (RIDGE ROAD)</b> <b>OVER TRIB. TO AUX SABLE CREEK</b>	SCALE: N/A SHEET 3 OF 27 SHEETS	SECTION 22-00167-008B SN 047-3189 BLUMS	COUNTY KENDALL	TOTAL SHEET NO. 71 TOTAL SHEETS 34
	<b>TEMPORARY SOIL RETENTION SYSTEM</b>					SHEET 3 OF 27 SHEETS	F.A.S. RATE 285	COUNTY KENDALL



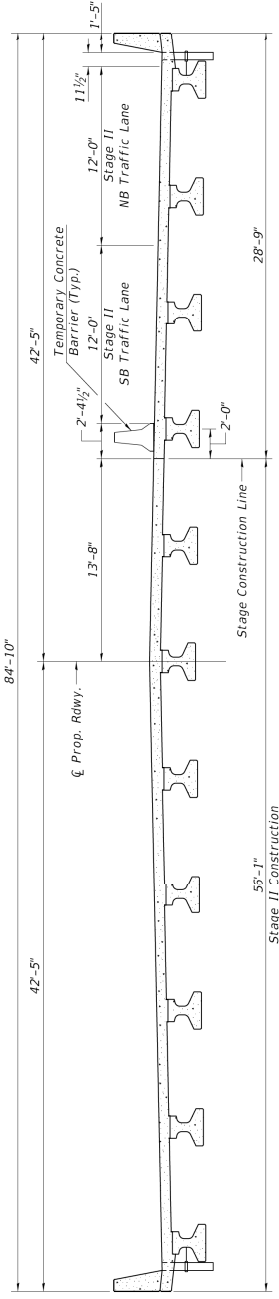
**STAGE I REMOVAL**

**STAGE I CONSTRUCTION**



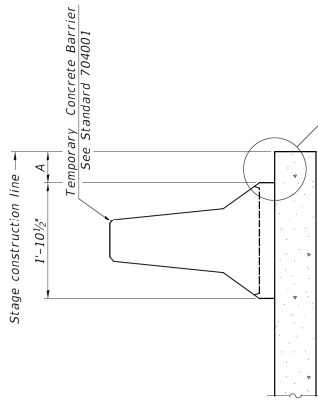
**STAGE II REMOVAL**

**STAGE II CONSTRUCTION**



**STAGE CONSTRUCTION DETAILS**  
(Looking North)

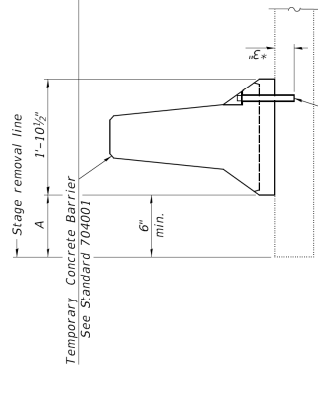
<b>Hutchinson Engineering, Inc.</b> 1000 W. 10th Street Suite 100 Okemune, OK 73045 Phone: 405-938-3800 Fax: 405-938-3801 Email: info@hutchinsoneng.com	USER NAME = hngsien FOOT SCALE = 100.0000 / ft. PLOT DATE = 01/23/2023	DESIGNED - ZL DRAWN - MIMO CHECKED - MIMORIAN DATE - 7/19/2023	REVISIONS REVISION - REVISION - REVISION - REVISION -	KENDALL COUNTY <b>C.H. 11 - F.A.S. 285 (RIDGE ROAD)          OVER TRIB. TO AUX SABLE CREEK</b>	SCALE: N/A SHEET 4 OF 27 SHEETS <b>STAGE CONSTRUCTION DETAILS</b>	SECTION 22-00167-008-B SN 047-3189	COUNTY KENDALL	TOTAL SHEETS 35 SHEETS 71	F.A.S. RATE 285	E.L.S. NO.
	JOB#4943	JOB#4943	JOB#4943	JOB#4943	JOB#4943	JOB#4943	JOB#4943	JOB#4943	JOB#4943	JOB#4943



Temporary Concrete Barrier  
See Standard 704001

When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1". See Detail I, II or III

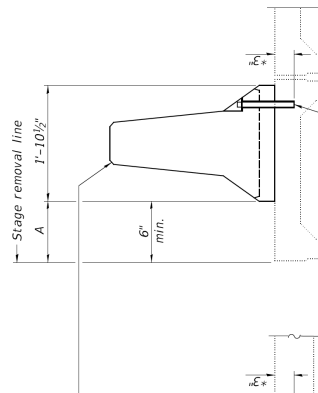
**NEW SLAB OR NEW DECK BEAM**



Temporary Concrete Barrier  
See Standard 704001

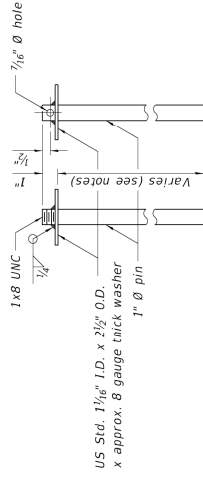
Drill 3-1/2" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**



\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

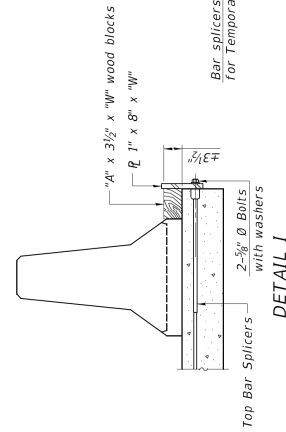
**EXISTING DECK BEAM**



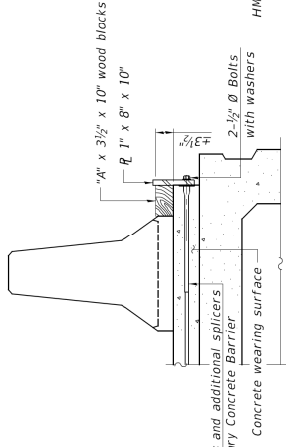
US Std. 1 1/8" I.D. x 2 1/2" O.D.  
x approx. 8 gauge thick washer  
1" Ø pin

**RESTRAINING PIN**

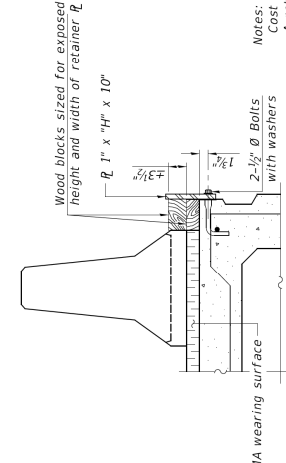
**SECTIONS THRU SLAB OR DECK BEAM**



**DETAIL I**



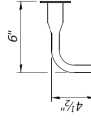
**DETAIL II**



**DETAIL III**

**Notes:**  
Cost of retainer assembly is included with Temporary Concrete Barrier.  
A retainer assembly shall be located at the approximate 1/4 of each temporary concrete barrier.  
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6' to accommodate the shear key clamping device.  
Detail I - Installation for a new bridge deck or bridge slab.  
Detail II - Installation for a new deck beam with an initial concrete wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam on which the temporary concrete barrier shall be fabricated shall be in place and ready for concrete placement. The cost of the concrete and the installation of the rebar assemblies, a pair of bar splicers 6" apart, shall be placed at 6-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.  
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam on which the temporary concrete barrier shall be fabricated shall be in place and ready for concrete placement. The cost of the concrete and the installation of the rebar assemblies, a pair of bar splicers 6" apart, shall be placed at 6-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

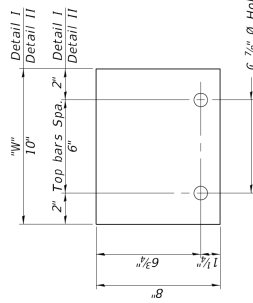
**BAR SPLICER FOR #4 BAR - DETAIL III**



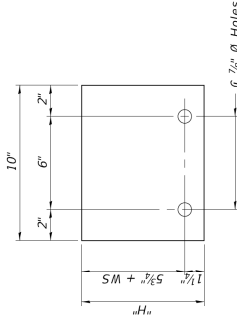
**RAILING CRITERIA**

NCHRP 350 Test Level	3
Railing Weight (lb/ft)	440

**STEEL RETAINER 1" x 8" x "W"**  
(Detail I and II)



**STEEL RETAINER 1" x "H" x 10"**  
(Detail III)



Hutchinson Engineering, Inc.  
11000 W. 11th Street, Suite 200  
Overland Park, KS 66204  
Phone: 913.666.8800  
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www.hutchinsoneng.com

USER NAME: mrobinson  
DRAWN: ZL  
CHECKED: MROBINSON  
DATE: 7/19/2023

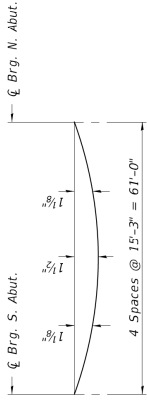
DESIGNED: ZL  
REVISIONS:  
REVISION 1: 7/19/2023  
REVISION 2: 7/19/2023  
REVISION 3: 7/19/2023

**KENDALL COUNTY**  
**C.H. 11 - F.A.S. 285 (RIDGE ROAD)**  
**OVER TRIB. TO AUX SABLE CREEK**

**TEMPORARY CONCRETE BARRIER**

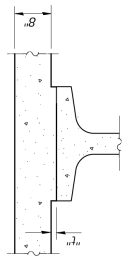
F.A.S. RATE	SECTION	COUNTY	TOTAL SHEET NO.
285	22-00167-008B	KENDALL	71
	SN 047-3189		36
			SUMMS

SCALE: N/A SHEET 3 OF 27 SHEETS



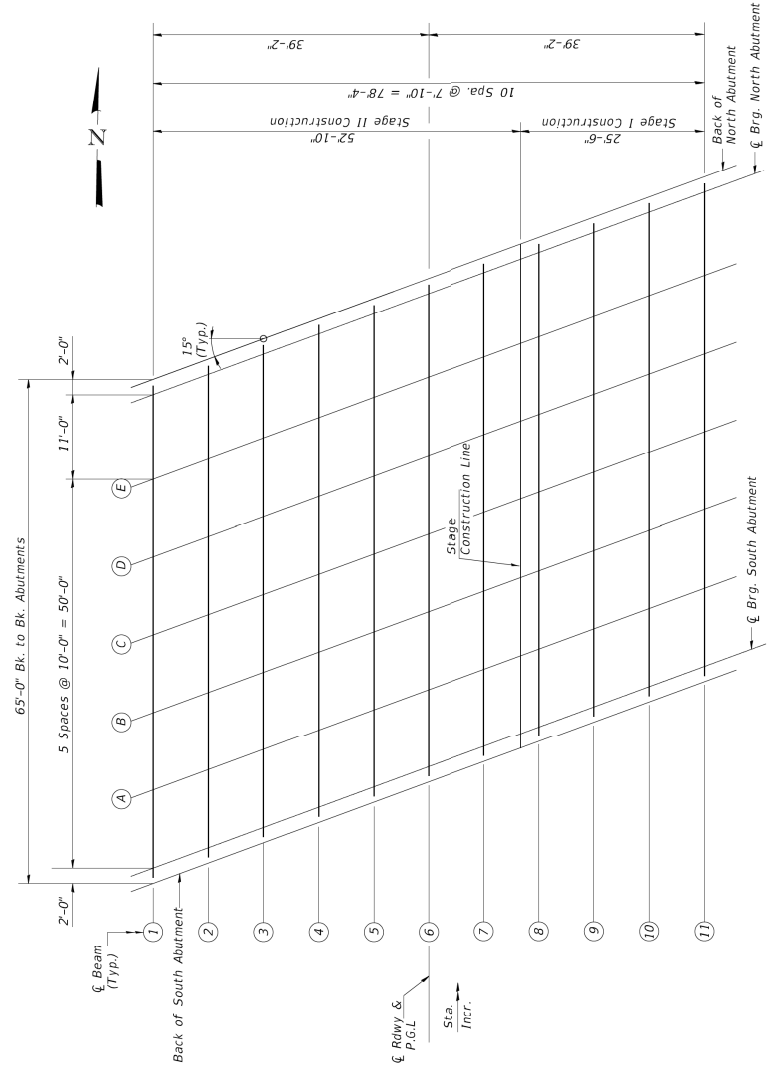
**DEAD LOAD DEFLECTION DIAGRAM**  
 (Includes weight of concrete, excluding beams)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 7 and 8 of 27.



To determine "h": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown in Plan view. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" minus slab thickness, equals the fillet heights "h" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN**

Hutchison Engineering, Inc. 1000 W. 10th St., Suite 200 Phoenix, AZ 85001 (602) 998-8888 JCB#4943	USER NAME = hngsien DRAWN = [ ] CHECKED = [ ] DATE = 7/19/2023	DESIGNED = [ ] ZL = [ ] IMMOBIL = [ ] DATE = [ ]	REVISIONS: REVISION - [ ] REVISION - [ ] REVISION - [ ] REVISION - [ ]	KENDALL COUNTY C.H. 11 - F.A.S. 285 (RIDGE ROAD) OVER TRIB. TO AUX SABLE CREEK	SCALE: N/A SHEET 6 OF 27 SHEETS	SECTION 22-00167-008-B SN 047-3189	COUNTY KENDALL	TOTAL SHEETS 37 SHEETS 71
	PROJECT NO. 22-00167-008-B JOB NO. 22-00167-008-B DATE: 7/19/2023	F.A.S. RATE 285	FUND NO. 3189	COUNTY KENDALL	SHEET NO. 6	SHEET NO. 27	SHEET NO. 71	SHEET NO. 37

**BEAM #1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19953.01	-39.17	583.25	583.25
CL Brg S. Abut.	19955.01	-39.17	583.25	583.25
A	19965.01	-39.17	583.27	583.33
B	19975.01	-39.17	583.28	583.40
C	19985.01	-39.17	583.29	583.41
D	19995.01	-39.17	583.30	583.42
E	20005.01	-39.17	583.29	583.36
CL Brg N. Abut.	20016.01	-39.17	583.29	583.29
Bk. N. Abutment	20018.01	-39.17	583.28	583.28

**BEAM #2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19955.10	-31.33	583.41	583.41
CL Brg S. Abut.	19957.10	-31.33	583.41	583.41
A	19967.10	-31.33	583.43	583.49
B	19977.10	-31.33	583.44	583.55
C	19987.10	-31.33	583.45	583.57
D	19997.10	-31.33	583.45	583.57
E	20007.10	-31.33	583.45	583.52
CL Brg N. Abut.	20018.10	-31.33	583.44	583.44
Bk. N. Abutment	20020.10	-31.33	583.44	583.44

**BEAM #3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19957.20	-23.50	583.57	583.57
CL Brg S. Abut.	19959.20	-23.50	583.57	583.57
A	19969.20	-23.50	583.59	583.65
B	19979.20	-23.50	583.60	583.71
C	19989.20	-23.50	583.61	583.74
D	19999.20	-23.50	583.61	583.72
E	20009.20	-23.50	583.61	583.68
CL Brg N. Abut.	20020.20	-23.50	583.59	583.59
Bk. N. Abutment	20022.20	-23.50	583.59	583.59

**BEAM #4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19959.30	-15.67	583.73	583.73
CL Brg S. Abut.	19961.30	-15.67	583.73	583.73
A	19971.30	-15.67	583.75	583.81
B	19981.30	-15.67	583.76	583.87
C	19991.30	-15.67	583.77	583.90
D	20001.30	-15.67	583.77	583.88
E	20011.30	-15.67	583.76	583.83
CL Brg N. Abut.	20022.30	-15.67	583.75	583.75
Bk. N. Abutment	20024.30	-15.67	583.74	583.74

**BEAM #5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19961.40	-7.83	583.88	583.88
CL Brg S. Abut.	19963.40	-7.83	583.89	583.89
A	19973.40	-7.83	583.90	583.97
B	19983.40	-7.83	583.91	584.02
C	19993.40	-7.83	583.92	584.05
D	20003.40	-7.83	583.91	584.03
E	20013.40	-7.83	583.91	583.98
CL Brg N. Abut.	20024.40	-7.83	583.90	583.90
Bk. N. Abutment	20026.40	-7.83	583.89	583.89

**BEAM #6/P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19983.50	0.00	584.01	584.01
CL Brg S. Abut.	19985.50	0.00	584.01	584.01
A	19995.50	0.00	584.02	584.09
B	19995.50	0.00	584.03	584.14
C	19995.50	0.00	584.03	584.15
D	20005.50	0.00	584.03	584.15
E	20015.50	0.00	584.02	584.09
CL Brg N. Abut.	20026.50	0.00	584.01	584.01
Bk. N. Abutment	20028.50	0.00	584.01	584.01

Hutchinson Engineering, Inc.  
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USER NAME = jhogen  
 FOOT SCALE = 100.0000 / ft.  
 JOB#4943

DESIGNED - ZL  
 DRAWN - JOW  
 CHECKED - MIMORAN  
 DATE - 7/19/2023

**KENDALL COUNTY**  
**C.H. 11 - F.A.S.-285 (RIDGE ROAD)**  
**OVER TRIB. TO AUX SABLE CREEK**

SCALE: N/A  
 SHEET 7 OF 27 SHEETS  
**TOP OF SLAB ELEVATIONS**

F.A.S. RATE: 285  
 SECTION: 22-00167-000-BR  
 COUNTY: KENDALL  
 SHEET NO.: 71 OF 38

**BEAM #7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19965.60	7.83	583.89	583.89
CL Brg S. Abut.	19967.60	7.83	583.90	583.90
A	19977.60	7.83	583.91	583.97
B	19987.60	7.83	583.92	584.03
C	20007.60	7.83	583.93	584.14
D	20027.60	7.83	583.94	584.25
E	20047.60	7.83	583.95	584.36
CL Brg N. Abut.	20028.60	7.83	583.89	583.89
Bk. N. Abutment	20030.60	7.83	583.88	583.88

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19967.16	13.67	583.78	583.78
CL Brg S. Abut.	19969.16	13.67	583.79	583.79
A	19979.16	13.67	583.80	583.86
B	19989.16	13.67	583.81	583.92
C	19999.16	13.67	583.82	583.98
D	20009.16	13.67	583.83	584.04
E	20019.16	13.67	583.84	584.10
CL Brg N. Abut.	20030.16	13.67	583.77	583.77
Bk. N. Abutment	20032.16	13.67	583.77	583.77

**BEAM #8**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19967.70	15.67	583.74	583.74
CL Brg S. Abut.	19969.70	15.67	583.75	583.75
A	19979.70	15.67	583.76	583.82
B	19989.70	15.67	583.77	583.88
C	19999.70	15.67	583.78	583.94
D	20009.70	15.67	583.79	584.00
E	20019.70	15.67	583.75	583.82
CL Brg N. Abut.	20030.70	15.67	583.73	583.73
Bk. N. Abutment	20032.70	15.67	583.73	583.73

**BEAM #9**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19969.80	23.50	583.59	583.59
CL Brg S. Abut.	19971.80	23.50	583.59	583.59
A	19981.80	23.50	583.60	583.67
B	19991.80	23.50	583.61	583.72
C	20001.80	23.50	583.62	583.77
D	20011.80	23.50	583.63	583.82
E	20021.80	23.50	583.59	583.66
CL Brg N. Abut.	20032.80	23.50	583.57	583.57
Bk. N. Abutment	20034.80	23.50	583.57	583.57

**BEAM #10**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19971.90	31.33	583.44	583.44
CL Brg S. Abut.	19973.90	31.33	583.44	583.44
A	19983.90	31.33	583.45	583.51
B	19993.90	31.33	583.45	583.56
C	19993.90	31.33	583.45	583.56
D	20013.90	31.33	583.45	583.56
E	20023.90	31.33	583.43	583.50
CL Brg N. Abut.	20034.90	31.33	583.41	583.41
Bk. N. Abutment	20036.90	31.33	583.41	583.41

**BEAM #11**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	19973.99	39.17	583.28	583.28
CL Brg S. Abut.	19975.99	39.17	583.29	583.29
A	19985.99	39.17	583.29	583.36
B	19995.99	39.17	583.30	583.41
C	19995.99	39.17	583.30	583.41
D	20025.99	39.17	583.29	583.40
E	20035.99	39.17	583.27	583.34
CL Brg N. Abut.	20036.99	39.17	583.25	583.25
Bk. N. Abutment	20038.99	39.17	583.25	583.25

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 Job#14943

USER NAME = Morgan  
 FOOT SCALE = 100.0000 / ft.  
 PLOT DATE = 03/20/23

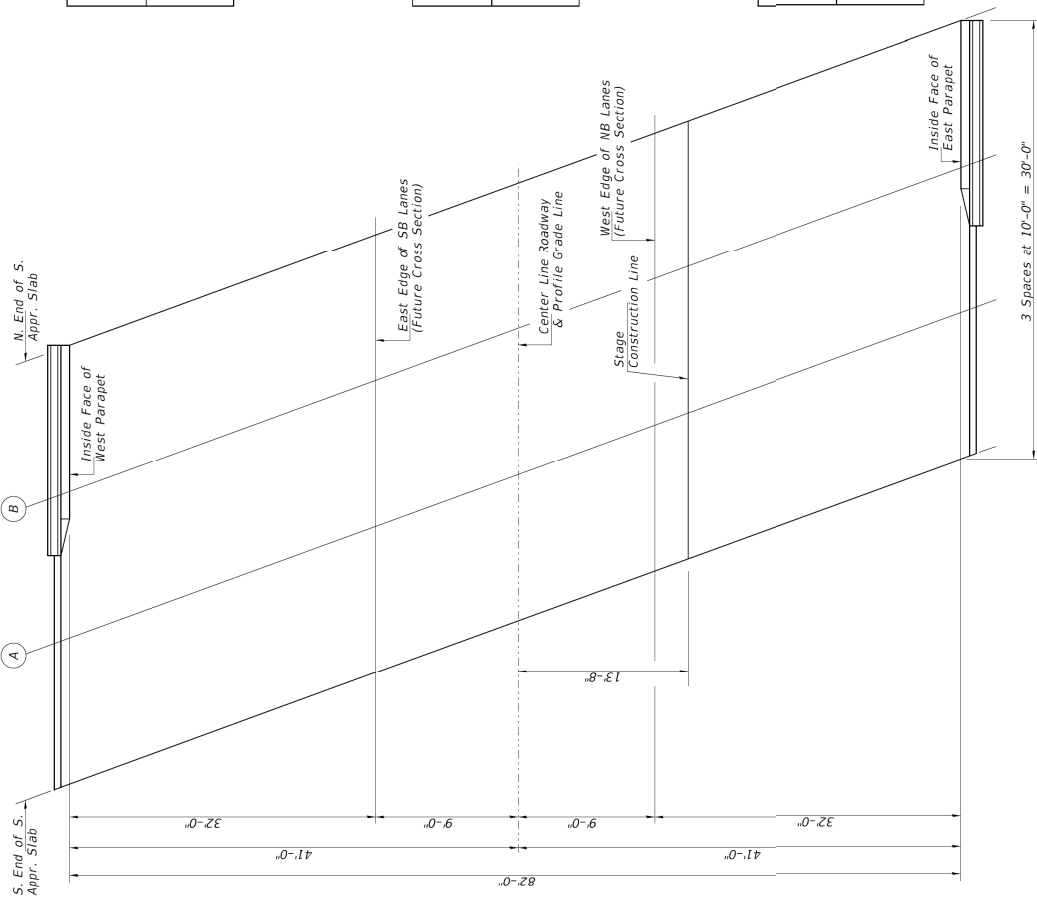
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 DRAWN - JOW  
 CHECKED - MMB/MBN  
 DATE - 7/19/2023

**KENDALL COUNTY  
 C.H. 11 - F.A.S. 285 (RIDGE ROAD)  
 OVER TRIB. TO AUX SABLE CREEK**

SCALE: N/A  
 SHEET B OF 27 SHEETS

**TOP OF SLAB ELEVATIONS**

F.A.S. RATE: 285  
 SECTION: 22-00167-000-B  
 COUNTY: KENDALL  
 SHEET NO.: 71  
 TOTAL SHEETS: 39



**INSIDE FACE OF WEST PARAPET**

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr. Pymt.	19923.55	-41.00	583.11
A	19923.55	-41.00	583.15
B	19943.55	-41.00	583.18
N. End S. Appr. Pymt.	19953.55	-41.00	583.21

**EAST EDGE OF SB LANES**

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr. Pymt.	19932.12	-9.00	583.79
A	19942.12	-9.00	583.82
B	19952.12	-9.00	583.85
N. End S. Appr. Pymt.	19962.12	-9.00	583.87

**ROADWAY AND P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr. Pymt.	19934.54	0.00	583.93
A	19944.54	0.00	583.96
B	19954.54	0.00	583.99
N. End S. Appr. Pymt.	19964.54	0.00	584.01

**WEST EDGE OF NB LANES**

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr. Pymt.	19936.95	9.00	583.80
A	19946.95	9.00	583.83
B	19956.95	9.00	583.86
N. End S. Appr. Pymt.	19966.95	9.00	583.88

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr. Pymt.	19938.20	13.67	583.71
A	19948.20	13.67	583.74
B	19958.20	13.67	583.77
N. End S. Appr. Pymt.	19968.20	13.67	583.79

**INSIDE FACE OF EAST PARAPET**

Location	Station	Offset	Theoretical Grade Elevations
S. End S. Appr. Pymt.	19945.52	41.00	583.19
A	19955.52	41.00	583.21
B	19965.52	41.00	583.23
N. End S. Appr. Pymt.	19975.52	41.00	583.25

**SOUTH APPROACH PLAN**

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 10000 W. 112th St., Suite 100  
 Overland Park, KS 66204  
 Phone: (913) 666-8800  
 Fax: (913) 666-8801  
 Email: info@hutchinsoneng.com

USER NAME = mrobin  
 DESIGNED = ZL  
 DRAWN = ZLUJOW  
 CHECKED = MMORAN  
 DATE = 7/19/2023

PROJECT: F.A.S. 285 - Ridge Road Over Trib. to Aux Sable Creek  
 JOB#4943

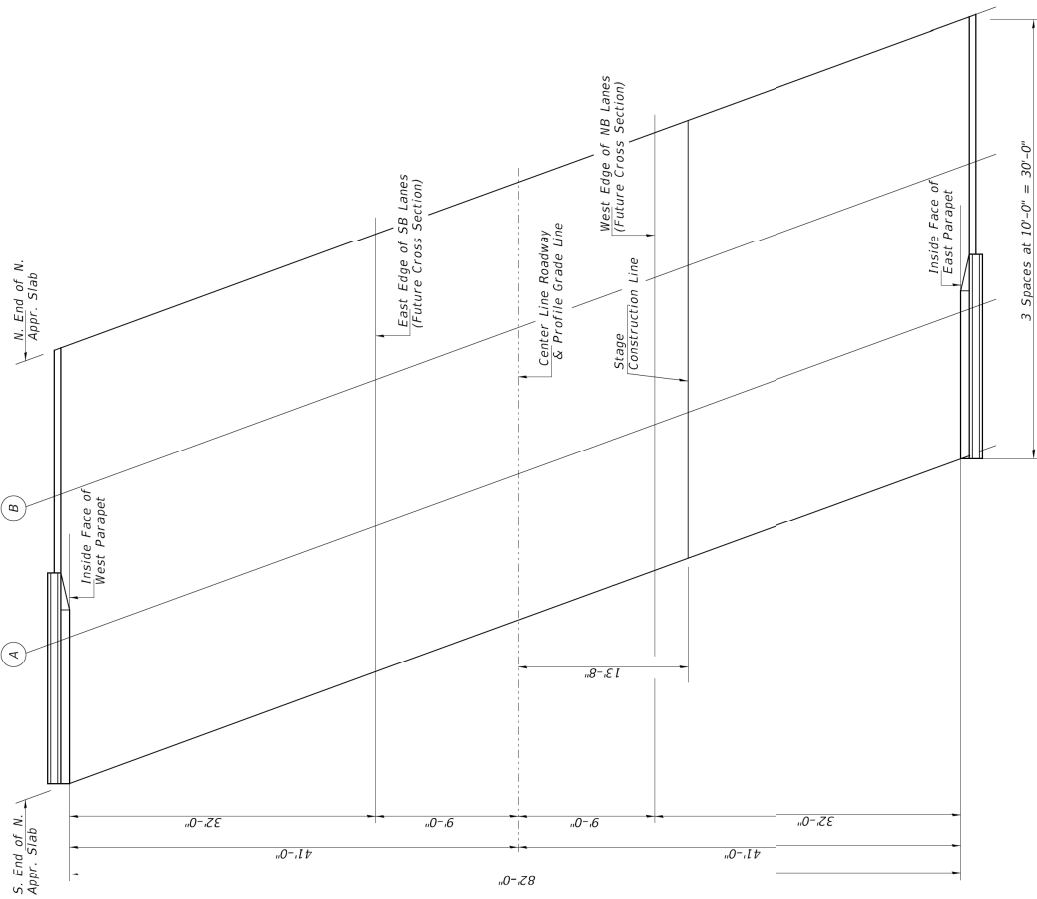
SCALE: N/A  
 SHEET 9 OF 27 SHEETS  
 SOUTH APPROACH SLAB ELEVATIONS

KENDALL COUNTY  
**C.H. 11 - F.A.S. 285 (RIDGE ROAD)  
 OVER TRIB. TO AUX SABLE CREEK**

SECTION 22-00167-000-B  
 SN 043-3189

F.A.S. SITE 285  
 COUNTY KENDALL  
 SHEET NO. 71-40

BLUMS



NORTH APPROACH PLAN

INSIDE FACE OF WEST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Appr. Pmnt. A	20016.48	-41.00	583.25
S. End N. Appr. Pmnt. B	20026.48	-41.00	583.23
N. End N. Appr. Pmnt.	20036.48	-41.00	583.21
N. End N. Appr. Pmnt.	20046.48	-41.00	583.19

EAST EDGE OF SB LANES

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Appr. Pmnt. A	20025.05	-9.00	583.88
S. End N. Appr. Pmnt. B	20035.05	-9.00	583.86
N. End N. Appr. Pmnt.	20045.05	-9.00	583.83
N. End N. Appr. Pmnt.	20055.05	-9.00	583.80

CL ROADWAY AND P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Appr. Pmnt. A	20027.46	0.00	584.01
S. End N. Appr. Pmnt. B	20037.46	0.00	583.99
N. End N. Appr. Pmnt.	20047.46	0.00	583.96
N. End N. Appr. Pmnt.	20057.46	0.00	583.93

WEST EDGE OF NB LANES

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Appr. Pmnt. A	20029.88	9.00	583.87
S. End N. Appr. Pmnt. B	20039.88	9.00	583.85
N. End N. Appr. Pmnt.	20049.88	9.00	583.82
N. End N. Appr. Pmnt.	20059.88	9.00	583.79

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Appr. Pmnt. A	20031.13	13.67	583.77
S. End N. Appr. Pmnt. B	20041.13	13.67	583.75
N. End N. Appr. Pmnt.	20051.13	13.67	583.72
N. End N. Appr. Pmnt.	20061.13	13.67	583.69

INSIDE FACE OF EAST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End N. Appr. Pmnt. A	20038.45	41.00	583.21
S. End N. Appr. Pmnt. B	20048.45	41.00	583.18
N. End N. Appr. Pmnt.	20058.45	41.00	583.15
N. End N. Appr. Pmnt.	20068.45	41.00	583.11

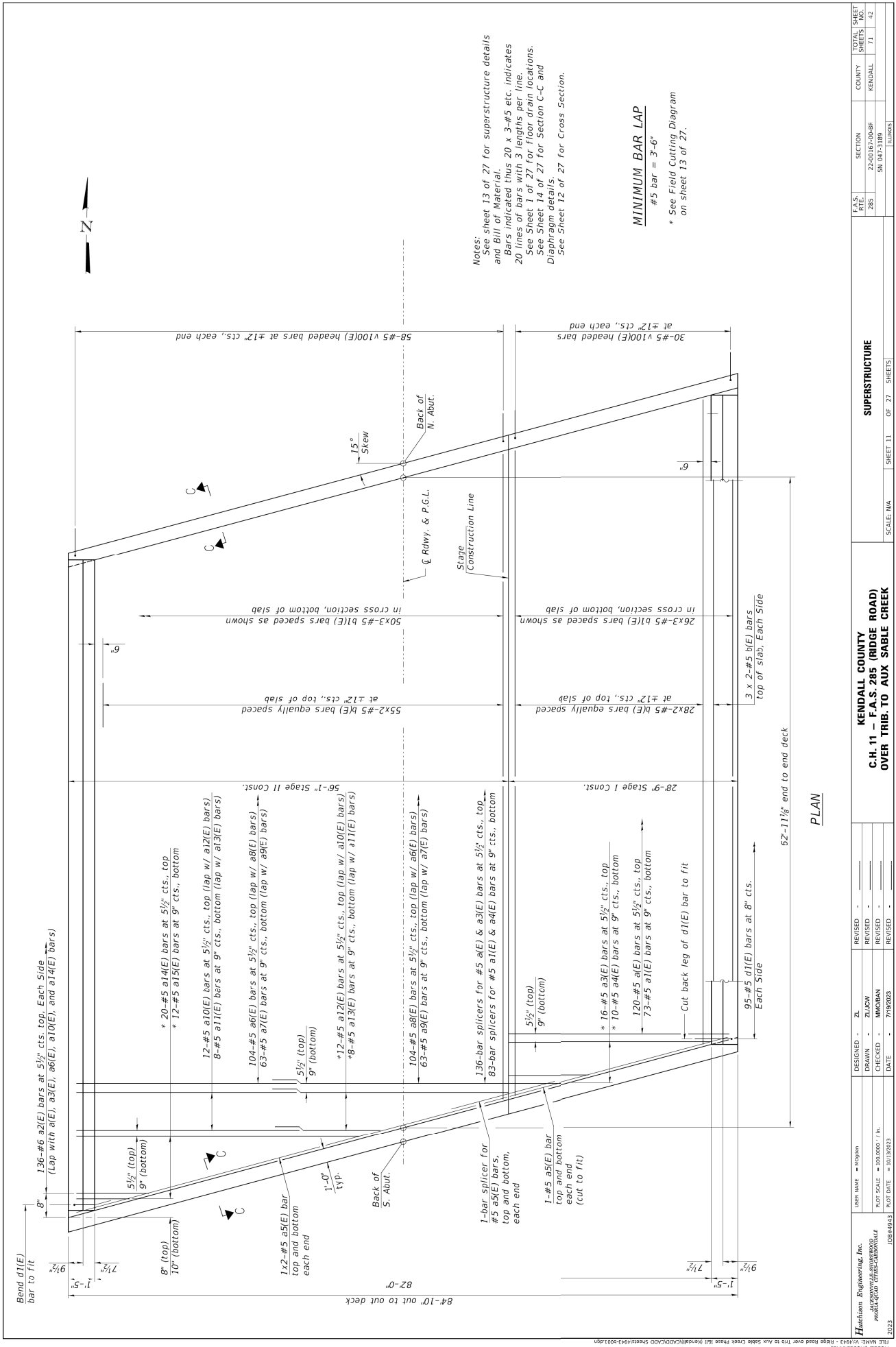
**Hutchinson Engineering, Inc.**  
 1000 W. 10th Street, Suite 100  
 Moorhead, MN 56501  
 Phone: (218) 835-3000  
 Fax: (218) 835-3001  
 Email: info@hutchinsoneng.com  
 Job#14943

USER NAME: mrobin  
 DRAWN: ZLUJOW  
 CHECKED: MMORAN  
 DATE: 7/19/2023

DESIGNED: ZL  
 REVISIONS:  
 REVISION 1: 7/19/2023  
 REVISION 2: 7/19/2023  
 REVISION 3: 7/19/2023  
 REVISION 4: 7/19/2023

PROJECT: KENDALL COUNTY  
 C.H. 11 - F.A.S. 285 (RIDGE ROAD)  
 OVER TRIB. TO AUX SABLE CREEK

SHEET NO: OF 27 SHEETS  
 SCALE: N/A  
 COUNTY: KENDALL  
 SECTION: 22-06167-008-B  
 F.A.S. SITE: 285  
 SN: 0413-3189  
 TOTAL SHEETS: 71  
 SHEETS: 41

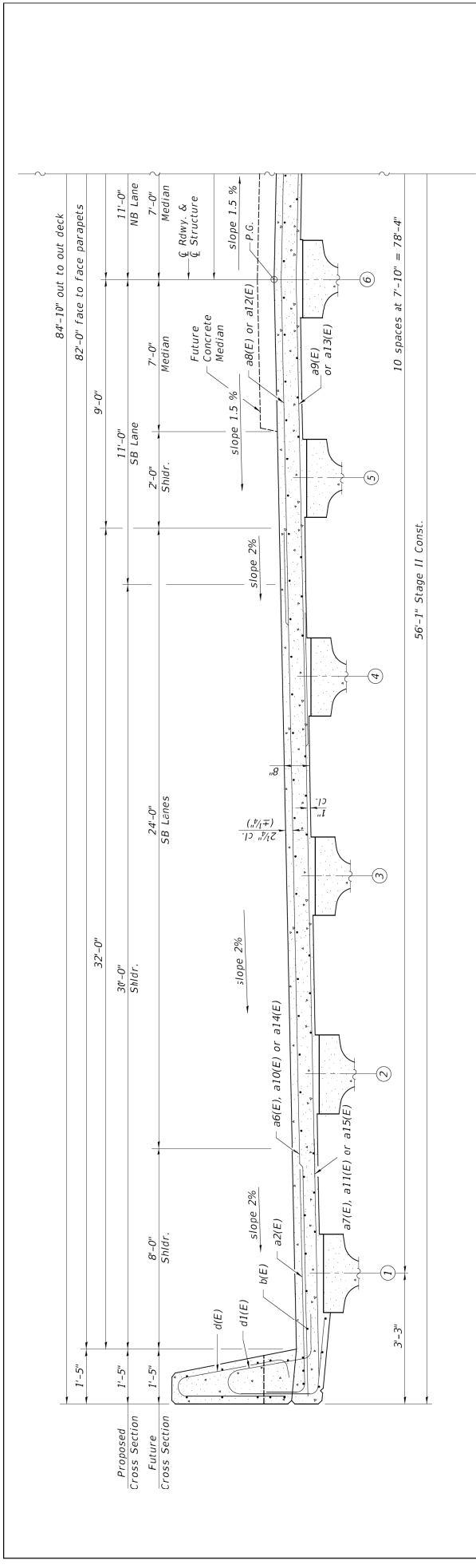


Notes:  
 See sheet 13 of 27 for superstructure details and Bill of Material.  
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 See Sheet 1 of 27 for floor drain locations.  
 See Sheet 14 of 27 for Section C-C and Diaphragm details.  
 See Sheet 12 of 27 for Cross Section.

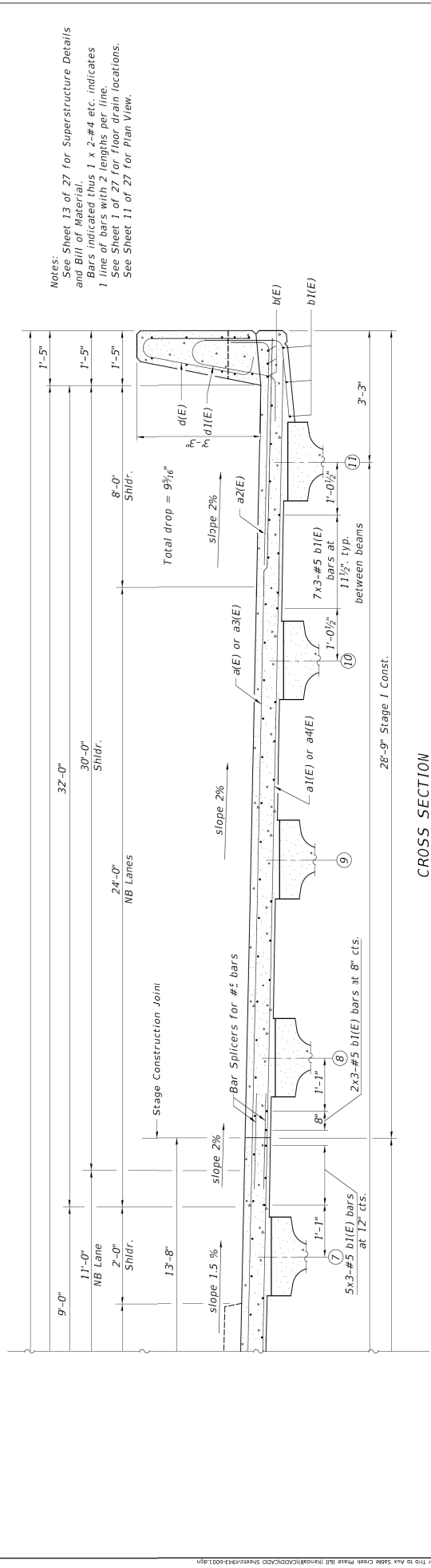
**MINIMUM BAR LAP**  
 #5 bar = 3'-6"  
 \* See Field Cutting Diagram on sheet 13 of 27.

PLAN

<b>Hutchinson Engineering, Inc.</b> 10000 S. 100th Ave., Suite 100 Greenwood, CO 80031 (303) 426-8800		USER NAME = hrobin DRAWN = ZLJOW CHECKED = MROBARI DATE = 01/20/23	DESIGNED = ZL REVISIONS = REVISION 1 REVISION 2 REVISION 3	PROJECT NO. = 22-00167-000-B SHEET NO. = 71 TOTAL SHEETS = 42
PROJECT: KENDALL COUNTY C.H. 11 - F.A.S. 285 (RIDGE ROAD) OVER TRIB. TO AUX SABLE CREEK		SCALE: N/A SHEET 11 OF 27 SHEETS	<b>SUPERSTRUCTURE</b>	



56-1' Stage II Const.

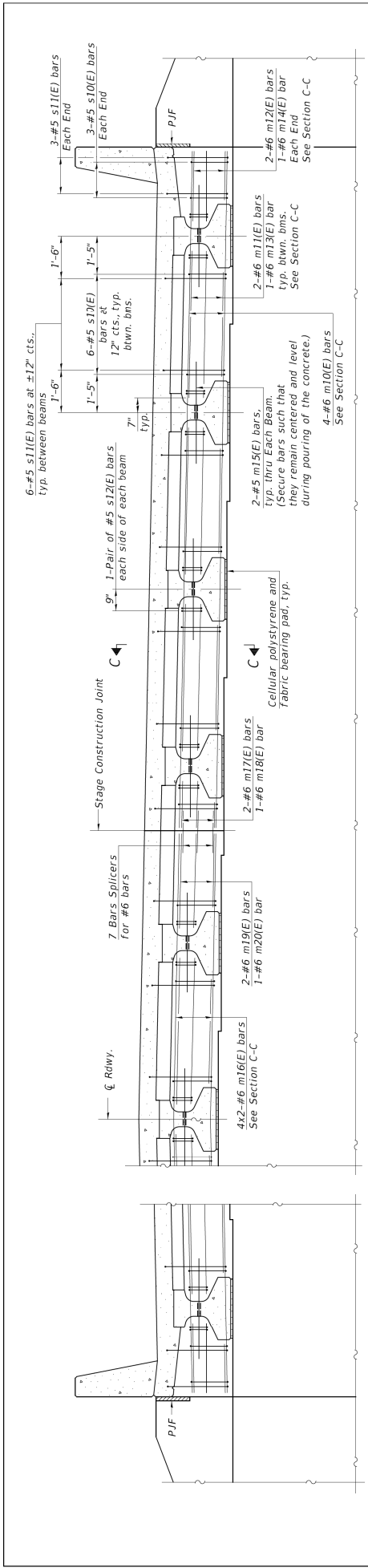


CROSS SECTION  
(Looking North)

Notes:  
See Sheet 13 of 27 for Superstructure Details and Bill of Material.  
Bars indicated by 1 x 2, #4 etc. indicates 1 bar of that type.  
1 x 2, #4 etc. indicates 2 lengths of that type.  
See Sheet 1 of 27 for floor drain locations.  
See Sheet 11 of 27 for Plan View.

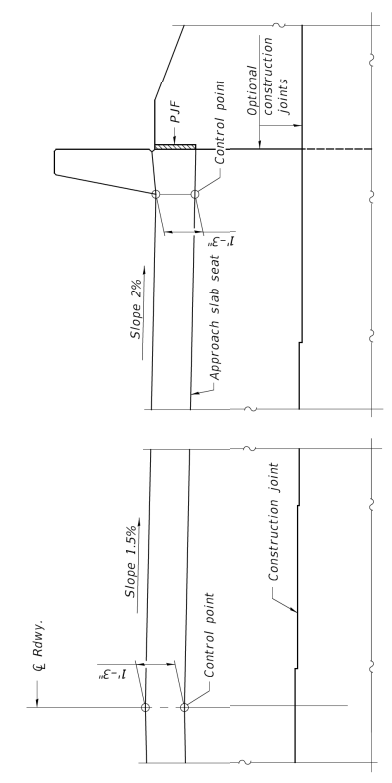
Hutchison Engineering, Inc. 1000 W. 10th St. Moorhead, MN 56501 218-835-3000 2023	USER NAME - Mogen DRAWN - ZLJOW CHECKED - MMORAN DATE - 7/19/2023	DESIGNED - ZL REVISIONS - REVISIONS - REVISIONS - REVISIONS -	SHEET 12 OF 27 SHEETS SCALE: N/A	SUPERSTRUCTURE	SECTION 22-00167-008B SN 04F-3189	COUNTY KENDALL	TOTAL SHEETS 71	SHEET NO. 43
	KENDALL COUNTY C.H. 11 - F.A.S. 285 (RIDGE ROAD) OVER TRIB. TO AUX SABLE CREEK							





**DIAPHRAGM AT ABUTMENT**

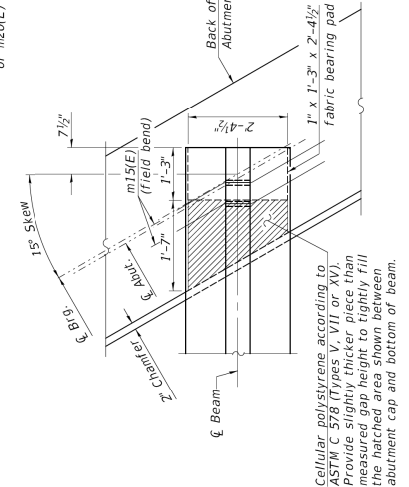
**MINIMUM BAR LAP**  
#6 bar = 5'-0"



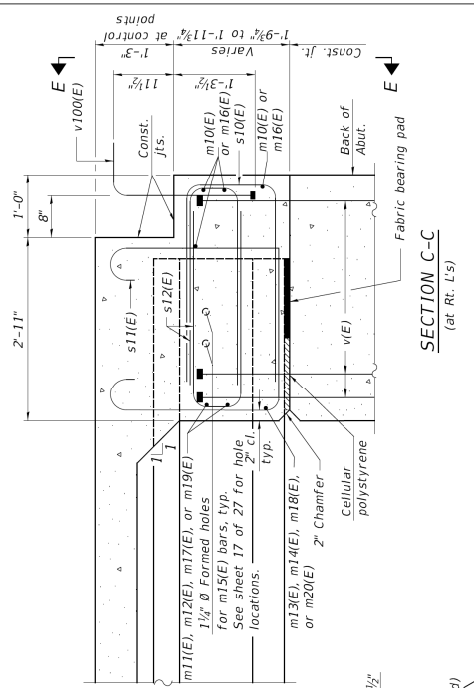
**VIEW E-E**

**CONTROL POINT ELEVATIONS**

Point/Location	Elevation
S. Abut. W. Control Pt.	581.96
S. Abut. Center Control Pt.	582.76
S. Abut. E. Control Pt.	582.00
N. Abut. W. Control Pt.	582.00
N. Abut. Center Control Pt.	582.76
N. Abut. E. Control Pt.	581.96



**PLAN AT ABUTMENT**  
(Showing bottom flange of beam)



**SECTION C-C**  
(at Rt. L's)

**Notes:**  
See sheet 13 of 27 for superstructure details and Bill of Material.  
See sheet 22 & 24 of 27 for P.J.F. details.  
The s10(E), s11(E) and s12(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.  
The approach slab seat shall have a constant slope determined from the control points shown.  
Cost of cellular polystyrene is included with Concrete Superstructure.  
See sheet 27 of 27 for Bar Splicer Details.  
See sheet 13 of 27 for details of bars s10(E), s11(E), s12(E), & v100(E).

**Hutchinson Engineering, Inc.**  
10000 W. 11th Ave., Suite 100  
Overland Park, KS 66204  
Phone: 913.439.8800  
Fax: 913.439.8801  
www.hutchinsoneng.com

USER NAME: mrobin  
FOOT SCALE: 1" = 100.0000' / ft.  
JOB#4943

DESIGNED: ZL  
DRAWN: ZL  
CHECKED: MMORAN  
DATE: 7/19/2023

REVISIONS:  
REVISION  
REVISION  
REVISION  
REVISION

**KENDALL COUNTY**  
**C.H. 11 - F.A.S. 285 (RIDGE ROAD)**  
**OVER TRIB. TO AUX SABLE CREEK**

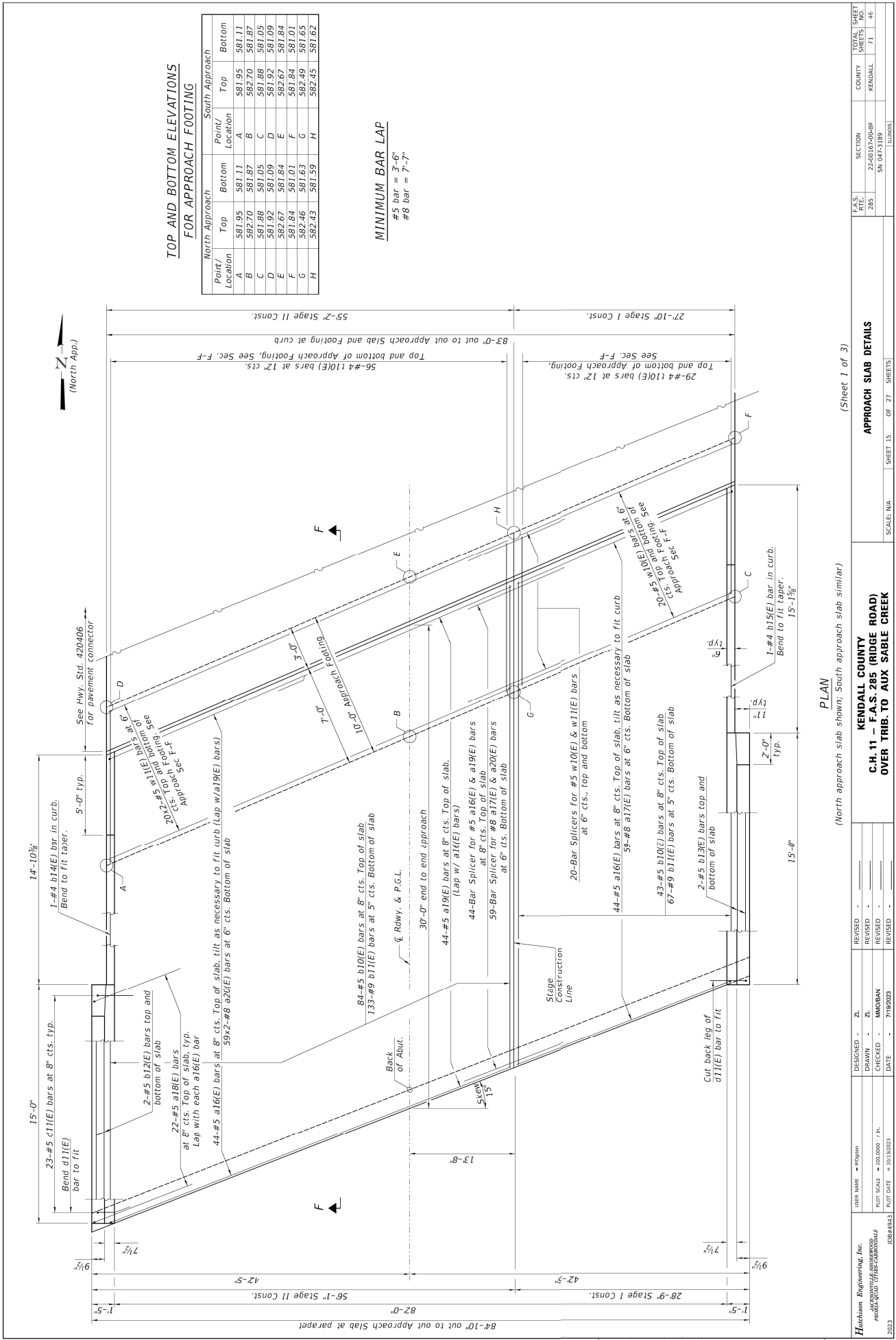
SCALE: N/A  
SHEET 14 OF 27 SHEETS

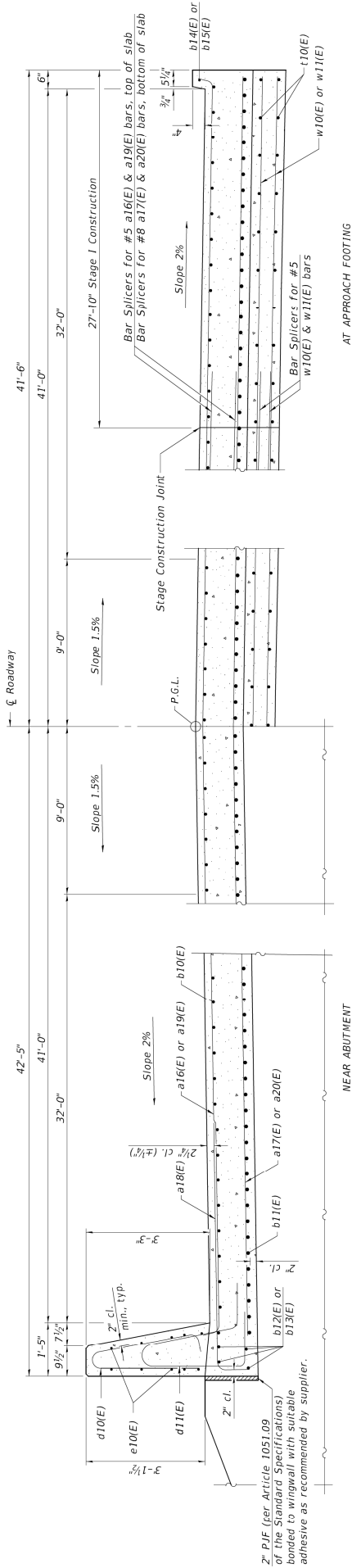
**DIAPHRAGM DETAILS**

SECTION: 22-00167-008B  
SN: 04F31899

COUNTY: KENDALL  
SHEET NO: 71  
TOTAL SHEETS: 45

DATE: 7/19/2023





**CROSS SECTION**  
(Looking North)

**AT APPROACH FOOTING**

**NEAR ABUTMENT**

2" P.F.F. (per Article 1051.09 of the Standard Specifications) bonded to wingwall with suitable adhesive as recommended by supplier.

(Sheet 2 of 3)

**APPROACH SLAB DETAILS**

**KENDALL COUNTY**  
**C.H. 11 - F.A.S. 285 (RIDGE ROAD)**  
**OVER TRIB. TO AUX SABLE CREEK**

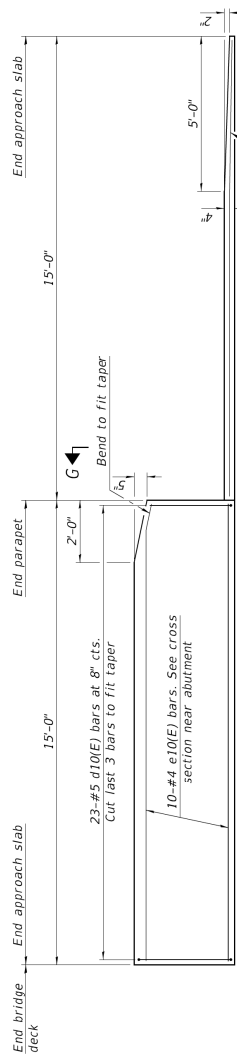
DESIGNED	-	ZL
DRAWN	-	ZL
CHECKED	-	MM/MBAN
DATE	-	7/19/2023

REVISIONS	-	-
REVISIONS	-	-
REVISIONS	-	-
REVISIONS	-	-

USER NAME	-	Mogren
PROJECT NO.	-	100-2000 / 10
PROJECT DATE	-	01/20/23

F.A.S. DATE	-	285
SECTION	-	22-00167-008B SN 047-3189
COUNTY	-	KENDALL
TOTAL SHEETS	-	71
SHEET NO.	-	27

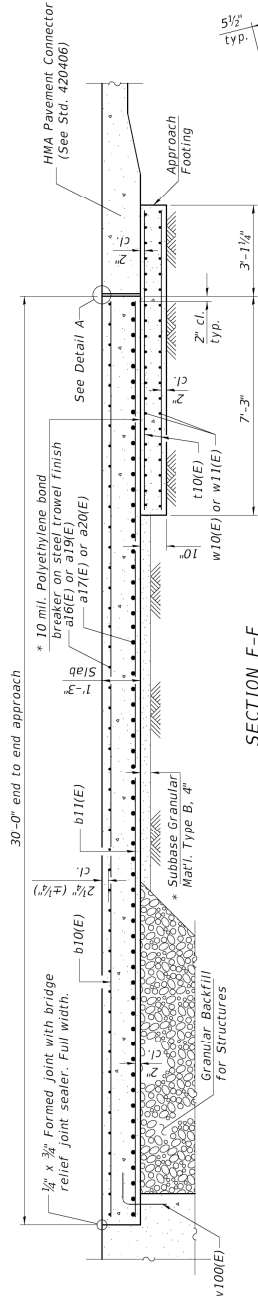
SCALE: N/A	SHEET 16	OF 27	SHEETS
BLUMS			



**Notes:**

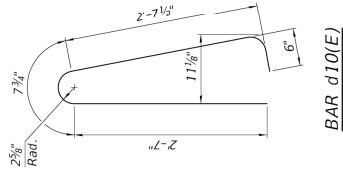
- Parapet concrete shall be paid for as Concrete Superstructure.
- Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
- Approach footing concrete shall be paid for as Concrete Structures.
- The approach footing maximum applied service bearing pressure (Omax) = 2.0 ksf.
- Cost of excavation for approach footing included with Concrete Structures.
- For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 27.

**INSIDE ELEVATION OF PARAPET AND CURB**

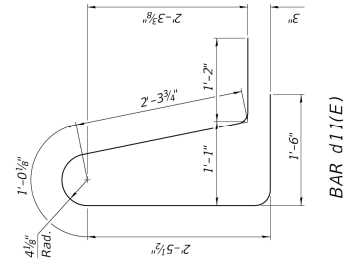


**SECTION F-F**

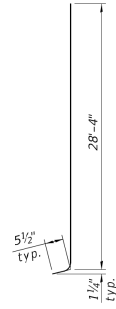
\* Cost included with Concrete Superstructure (Approach Slab)



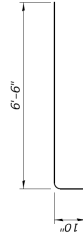
**BAR d10(E)**



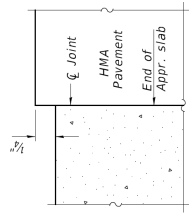
**BAR d11(E)**



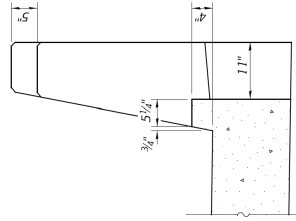
**BAR a16(E)**



**BAR a18(E)**



**DETAIL A**  
(at Rt. L's)



**VIEW G-G**

**TWO APPROACHES**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
d10(E)	176	#5	28'-10"	U	
d11(E)	118	#8	28'-5"	U	
d18(E)	88	#2	7'-4"	U	
a19(E)	88	#3	37'-10"	U	
a20(E)	246	#8	37'-2"	U	
b10(E)	254	#5	29'-8"	U	
b11(E)	400	#9	29'-8"	U	
b12(E)	8	#5	14'-10"	U	
b13(E)	8	#5	14'-4"	U	
b14(E)	2	#4	14'-6"	U	
b15(E)	2	#4	14'-8"	U	
d10(E)	92	#5	6'-5"	U	
d11(E)	92	#5	8'-6"	U	
e10(E)	40	#4	14'-8"	U	
t10(E)	340	#4	10'-0"	U	
w10(E)	80	#5	28'-5"	U	
w11(E)	160	#5	30'-2"	U	
Concrete Superstructure				Cu. Yd.	7.8
Concrete Superstructure (Approach Slab)				Cu. Yd.	241.7
Concrete Structures				Cu. Yd.	53.0
Reinforcement Bars,				Pound	98,100
Epoxy Coated					

(Sheet 3 of 3)

**KENDALL COUNTY**  
**C.H. 11 - F.A.S. 285 (RIDGE ROAD)**  
**OVER TRIB. TO AUX SABLE CREEK**

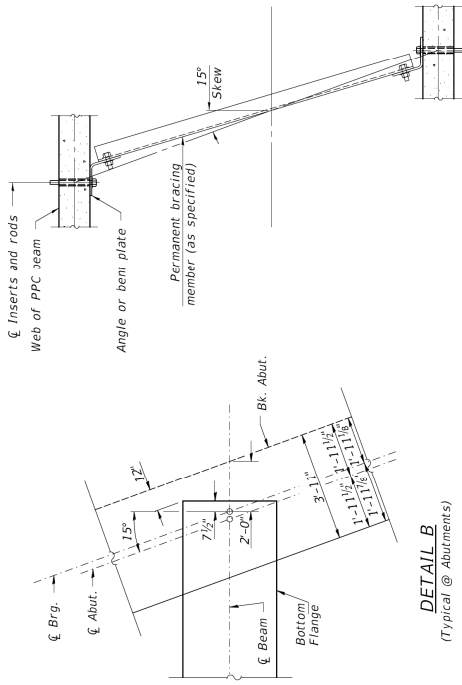
**APPROACH SLAB DETAILS**

DESIGNED - ZL  
DRAWN - ZL  
CHECKED - MMORAN  
DATE - 7/19/2023

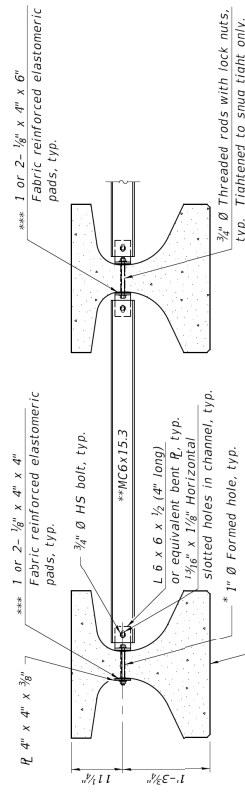
USER NAME - Mrobin  
PROJECT - 22-00167-008R  
JOB#4943

F.A.S. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
285	22-00167-008R	KENDALL	71	48
	SN 04F31899			

SCALE: NA	SHEET 17	OF 27	SHEETS	BLUMS

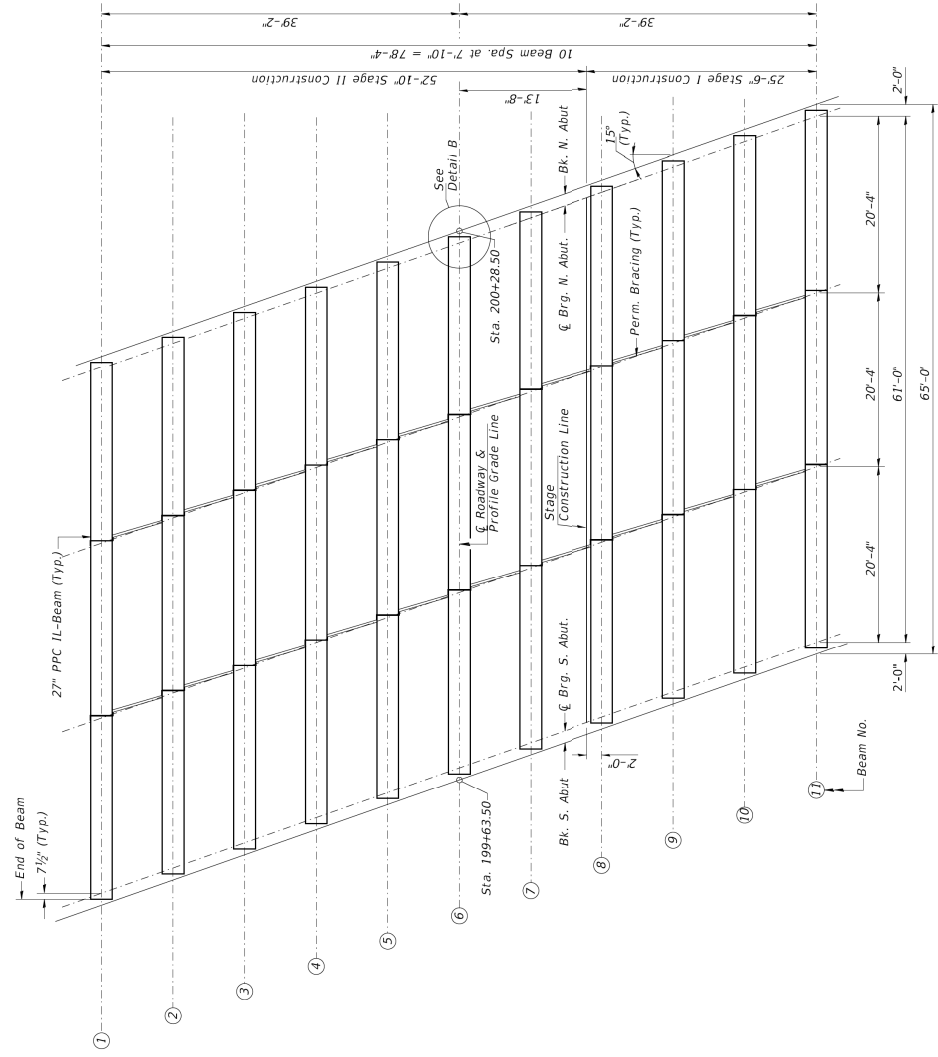


**PERMANENT BRACING PLAN**



**Notes:**  
 All material for bracing shall be hot dip galvanized according to AASHTO M11 unless otherwise noted.  
 Two hardened washers are required for each set of oversized holes.  
 All holes shall be 1/16 inch unless otherwise noted.  
 1/8 inch x 3 inch x 3 inch plate washers are required over all slotted holes.  
 All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232, ASTM F 1554, Grade 55.  
 Bracing shall be installed as beams are erected and tightened as soon as possible during erection.  
 Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

- \* Fabricator shall locate to miss strands within permissible tolerances.
- \*\* Alternate MC6x18 channels are permitted to facilitate material acquisition.
- \*\*\* Place pads as necessary to provide a flat mounting surface between the steel and concrete.



**FRAMING PLAN**

**PERMANENT BRACING DETAILS**

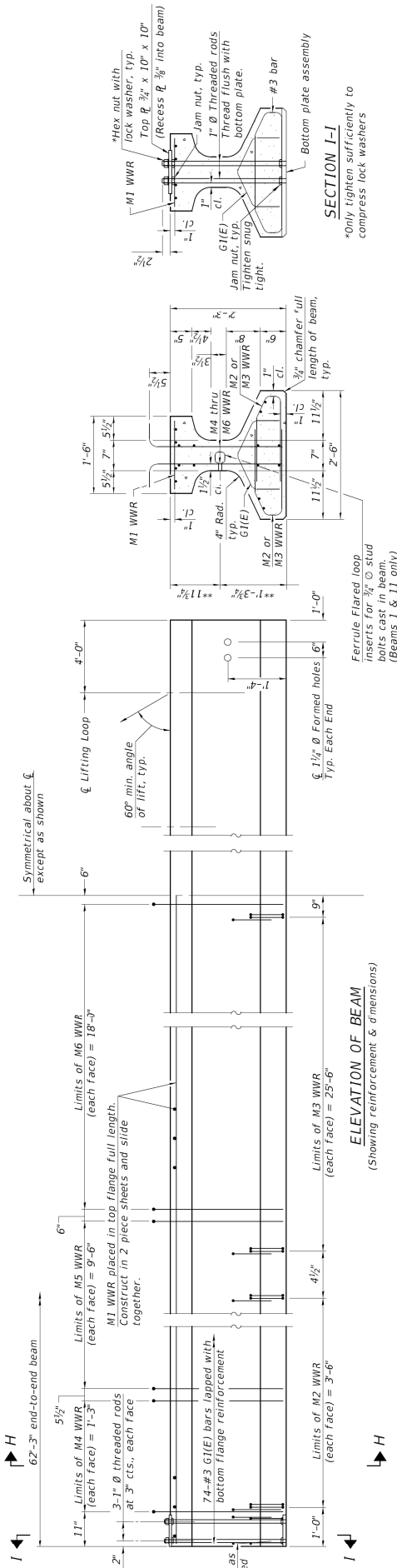
Hutchison Engineering, Inc. 10000 W. 11th Street Suite 100 Overland Park, KS 66204 (913) 666-8800 www.hutchisoneng.com	USER NAME: mrobinson DRAWN: mrobinson CHECKED: mrobinson DATE: 01/22/23	DESIGNED: ZL ZL MMORAN DATE: 01/22/23	<b>KENDALL COUNTY</b> <b>C.H. 11 - F.A.S. 285 (RIDGE ROAD)</b> <b>OVER TRIB. TO AUX SABLE CREEK</b>		SHEET 18 OF 27 SHEETS SCALE: N/A	SECTION: 22-00167-008-B SN: 047-3189	COUNTY: KENDALL SHEETS: 71	TOTAL SHEET NO.: 49
	JOB#4943							

INTERIOR BEAM MOMENT TABLE		0.47 Sp. 1
I	(in <sup>4</sup> )	33,879
I'	(in <sup>4</sup> )	1,368,848
S <sub>p</sub>	(in <sup>3</sup> )	3,050.4
S <sub>t</sub>	(in <sup>3</sup> )	6,213
S <sub>t</sub> '	(in <sup>3</sup> )	2,216.7
S <sub>t</sub> '	(in <sup>3</sup> )	27,515
DC1	(k')	1.30
MDCI	(k)	694
DC2	(k')	0.10
MDC2	(k)	44
DW	(k')	0.39
MDW	(k)	182
LLDF	(k)	0.651
M <sub>LL</sub> + IM	(k)	907

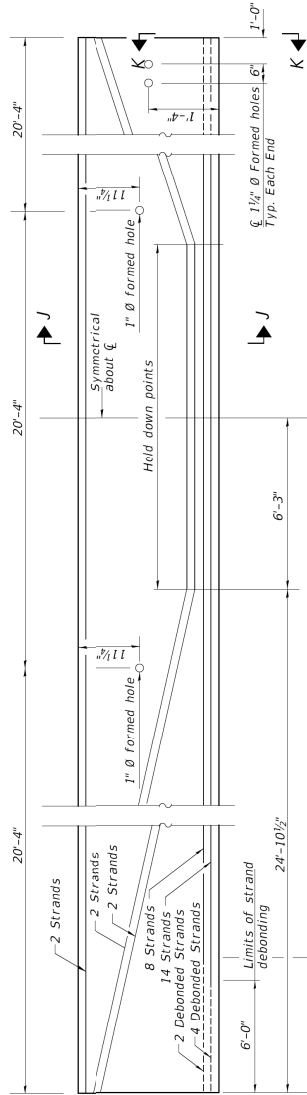
INTERIOR BEAM REACTION TABLE		Abut.
LLDF		0.803
OCF		1.053
RDCL	(k)	39.6
RDCL	(k)	2.9
RDW	(k)	11.9
R <sub>LL</sub> + IM	(k)	80.8
R <sub>Total (Str. I, Impact)</sub>	(k)	212.4
R <sub>Total (Str. I, No Impact)</sub>	(k)	184.1

- I: Non-composite moment of inertia of beam section (in<sup>4</sup>).
- I': Composite moment of inertia of beam section (in<sup>4</sup>).
- S<sub>p</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>: Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>': Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>'': Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- MDCI: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding wearing surface) dead load (kips/ft.).
- MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.4.2.2.3c of the DOT Specifications.
- M<sub>LL</sub> + IM: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
- OCF: Obuse Correction Factor computed according to Article 4.4.2.2.3c or as further simplified by IDOT provisions.
- R<sub>DC1</sub>: Un-factored reaction due to non-composite dead load (kip).
- R<sub>DC2</sub>: Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).
- R<sub>DW</sub>: Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).
- R<sub>LL</sub>: Un-factored live load reaction (kip).
- R<sub>IM</sub>: Un-factored dynamic load allowance (Impact) (kip).
- R<sub>Total (Strength / Impact)</sub>: Total factored reaction including dynamic load allowance (Impact) (kip).
- R<sub>Total (Strength / No Impact)</sub>: Total factored reaction not including dynamic load allowance (Impact) (kip).

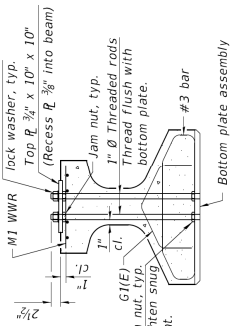
<p><b>Hutchinson Engineering, Inc.</b>          1000 W. 10th Street, Suite 200          Peoria, IL 61614          Phone: 309.696.8800          Fax: 309.696.8801          Email: info@hutchinsoneng.com          Job#14943</p>	<p>DESIGNED - ZL          DRAWN - ZL          CHECKED - MM/MBAN          DATE - 7/19/2023</p>	<p>REVISIONS          REVISION -          REVISION -          REVISION -          REVISION -</p>	<p>SCALE: N/A          SHEET 19 OF 27 SHEETS  <b>FRAMING PLAN</b></p>	<p>F.A.S. RATE: 285          SECTION: 22-00167-008-BF          SN: 047-3189          COUNTY: KENDALL          TOTAL SHEET NO.: 71          SHEETS: 50</p>
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**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

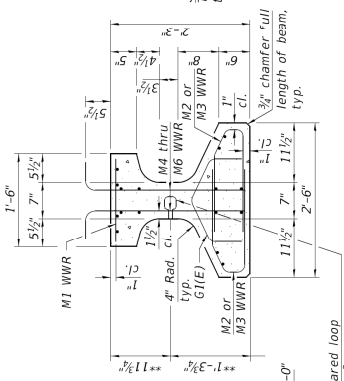


**ELEVATION OF BEAM**  
(Showing prestressing steel)



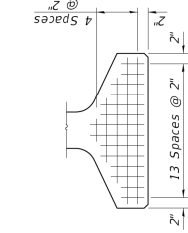
**SECTION I-I**

\*Only tighten sufficiently to compress lock washers



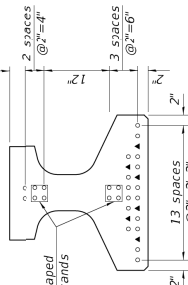
**SECTION H-H**

\*\* Adjust these dimensions to miss draped strands.



**VIEW K-K**

○ Fully bonded strand  
▲ Partially debonded strand



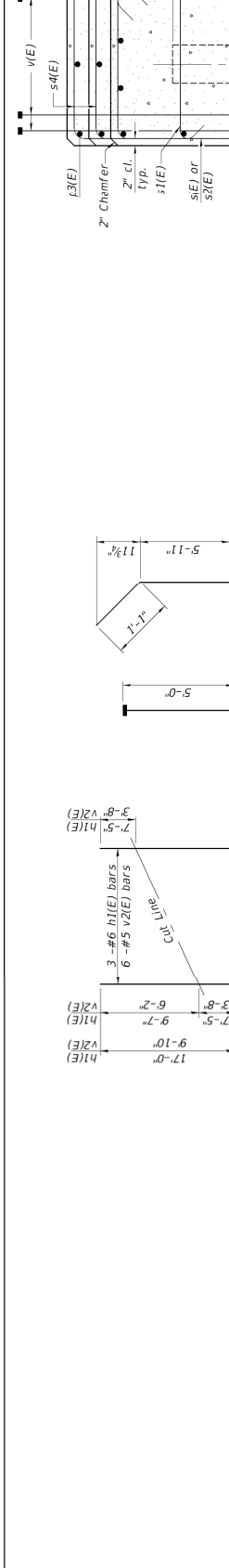
**SECTION J-J**  
(28-0.6" Ø 270 ksi strands)

Notes:  
See Sheet 21 of 27 for additional details and Bill of Material.

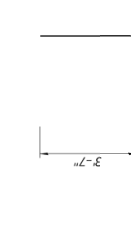
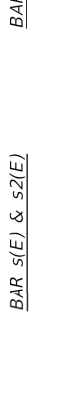
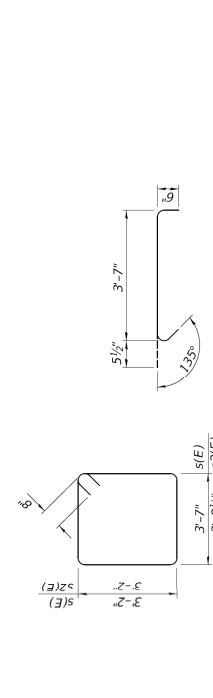
Hutchison Engineering, Inc. 10000 W. 10th Street Suite 100 Overland Park, KS 66204 (913) 666-0000 Fax: (913) 666-0001 Email: hutchison@hutchisoneng.com	USER NAME = mrobin DRAWN = ZL CHECKED = MROBIN DATE = 7/19/2023	DESIGNED = ZL REVISIONS: REVISION NO.   DATE   DESCRIPTION 1   7/19/2023	KENDALL COUNTY C.H. 11 - F.A.S. 285 (RIDGE ROAD) OVER TRIB. TO AUX SABLE CREEK	SCALE: N/A SHEET 20 OF 27 SHEETS	SECTION 22-00167-008-B SN 04F-3189	COUNTY KENDALL	TOTAL SHEETS 71	SHEET NO. 51
	JOB#484543		ILL 27 BEAM		DIVISION BRIDGES		TOTAL SHEETS 71	



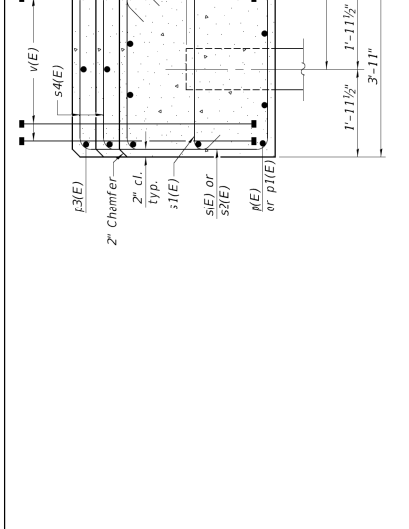




**FIELD CUTTING DIAGRAM**  
 Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



**MINIMUM BAR LAP**  
 #5 bar = 3'-6"  
 #7 bar = 6'-3"



**SEC. THRU ABUT.**  
 Dimensions at right angles to abutment.

**BILL OF MATERIAL**

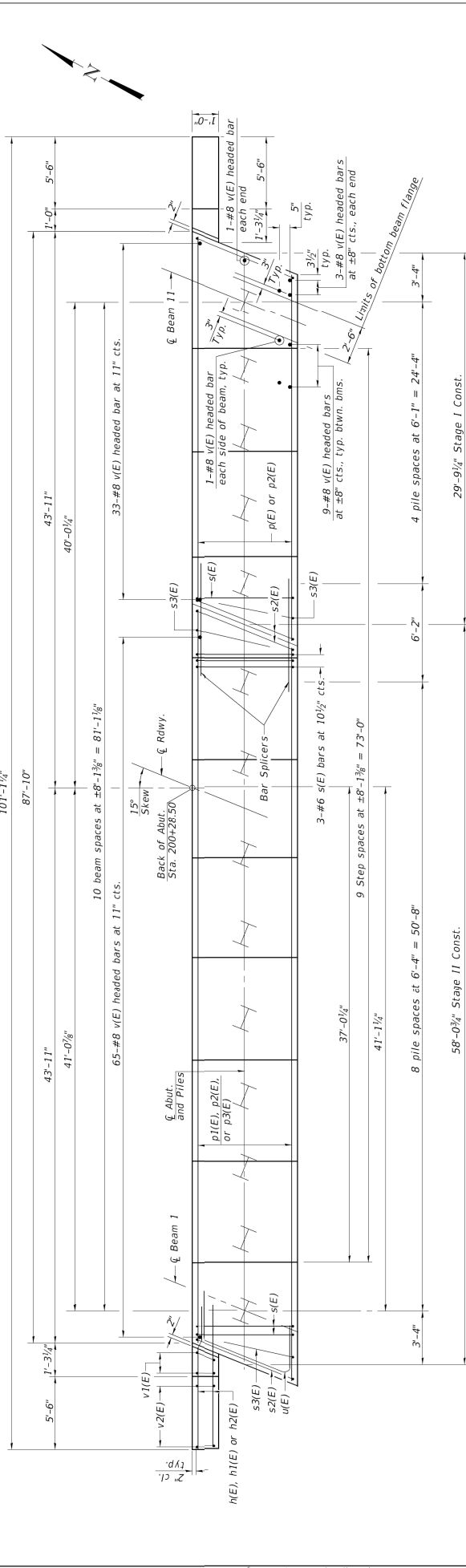
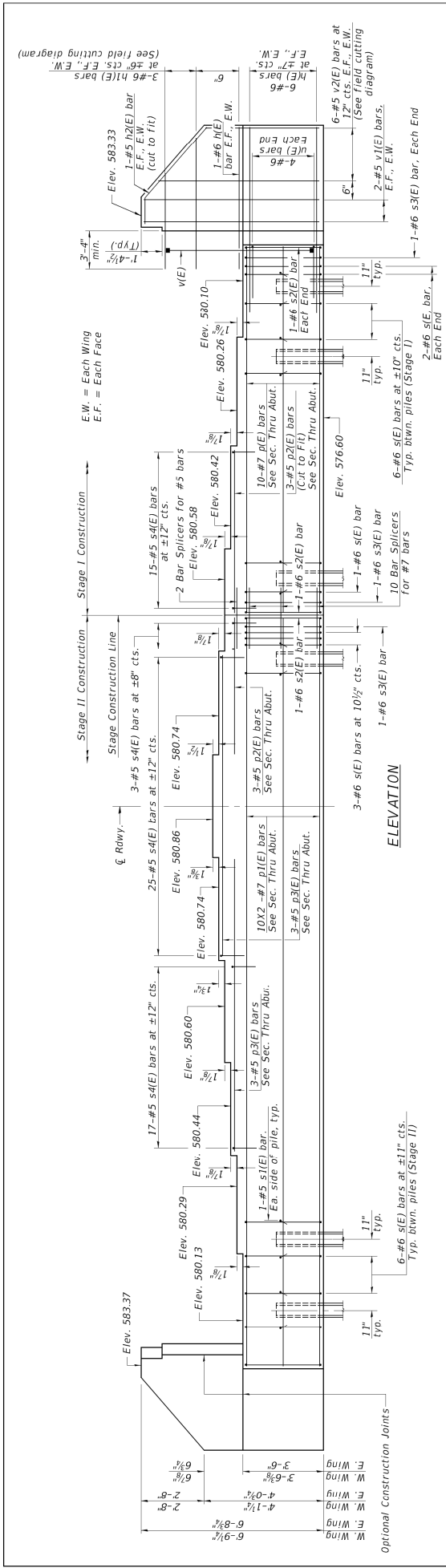
Bar	No.	Size	Length	Shape
h1(E)	28	#6	10'-0"	
h2(E)	6	#6	17'-0"	
h2(E)	4	#5	7'-0"	
p1(E)	10	#7	29'-5"	
p2(E)	20	#7	32'-0"	
p2(E)	6	#5	14'-4"	
p3(E)	6	#5	24'-0"	
s1(E)	80	#6	14'-10"	
s1(E)	28	#5	4'-2"	
s2(E)	4	#6	15'-1"	
s3(E)	4	#6	10'-4"	
s4(E)	60	#5	8'-8"	
u1(E)	8	#6	12'-3"	
v1(E)	218	#8	5'-0"	
v1(E)	8	#5	6'-4"	
v2(E)	12	#5	9'-10"	
Structure Excavation		Cu. Yd.	250	
Concrete Structures		Cu. Yd.	51.6	
Reinforcement Bars,		Pound	8,600	
Epoxy Coated				
Furnishing Steel				
Piles HP 12x53		Foot	260	
Driving Piles		Foot	260	
Test Pile Steel		Each	1	
HP 12x53				

**Notes:**  
 Pour steps monolithically with cap.  
 Headed bars shall conform to ASTM A970 with threaded attachment, Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 For details of piles see sheet 26 of 27.  
 All edges shall have standard 1/8" chamfer, unless noted otherwise.

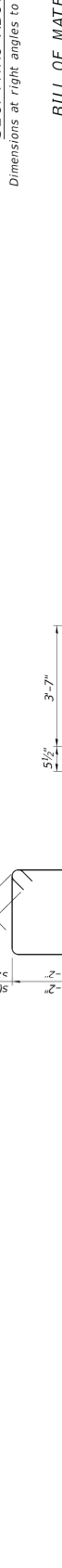
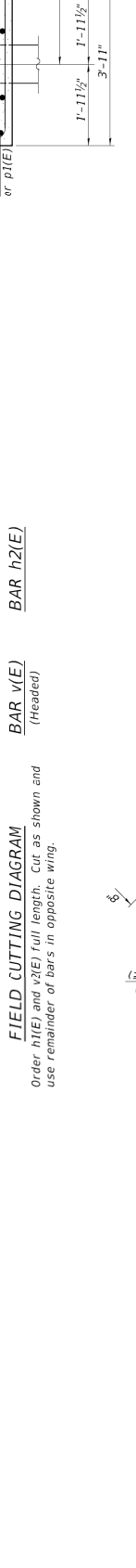
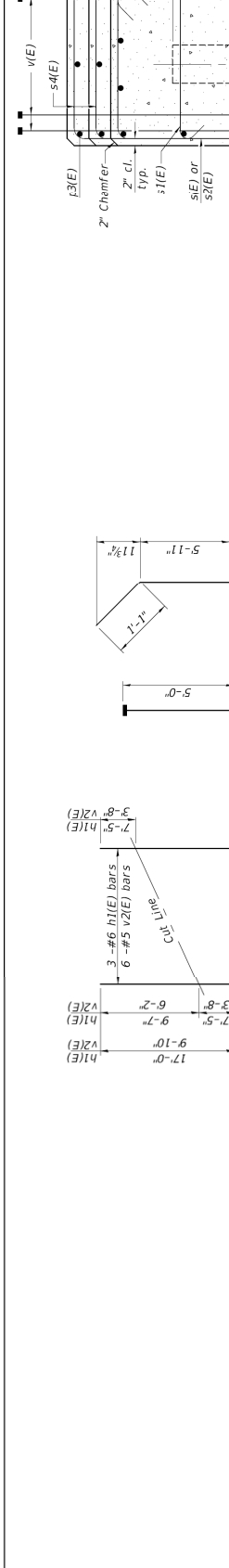
(Sheet 2 of 2)  
**KENDALL COUNTY SOUTH ABUTMENT**  
**C.H. 11 - F.A.S. 285 (RIDGE ROAD) OVER TRIB. TO AUX SABLE CREEK**

DESIGNED -	ZL
DRAWN -	ZL
CHECKED -	MMORAN
DATE -	7/19/2023

USER NAME - morgan  
 FOOT SCALE - 100.0000 / ft.  
 JOB#49453  
 2023



USER NAME: <input type="checkbox"/> Morgan DRAWN: <input type="checkbox"/> ZL CHECKED: <input type="checkbox"/> MMORAN DATE: <input type="checkbox"/> 7/19/2023		DESIGNED: <input type="checkbox"/> ZL REVISIONS: <input type="checkbox"/> ZL REVISIONS: <input type="checkbox"/> MMORAN REVISIONS: <input type="checkbox"/> 7/19/2023		PROJECT: <input type="checkbox"/> 2023-000000 / 10 PROJECT: <input type="checkbox"/> 2023-000000 / 10		SHEET NO: 27 SHEETS: 27		SCALE: N/A		SECTION: 22-00167-008-B COUNTY: KENDALL TOTAL SHEETS: 71		SHEET NO: 27 SHEETS: 27		F.S. RATE: 285 COUNTY: KENDALL TOTAL SHEETS: 71		SHEET NO: 27 SHEETS: 27		F.S. RATE: 285 COUNTY: KENDALL TOTAL SHEETS: 71	
<b>KENDALL COUNTY</b> <b>C.H. 11 - F.A.S. 285 (RIDGE ROAD)</b> <b>OVER TRIB. TO AUX SABLE CREEK</b>												<b>NORTH ABUTMENT</b>				(Sheet 1 of 2)			



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(E)	28	#6	10'-0"	
h2(E)	6	#6	17'-0"	
h2(E)	4	#5	7'-0"	
p1(E)	10	#7	29'-5"	
p2(E)	20	#7	32'-0"	
p2(E)	6	#5	14'-4"	
p3(E)	6	#5	24'-0"	
s(E)	80	#6	14'-10"	
s1(E)	28	#5	4'-2"	
s2(E)	4	#6	15'-1"	
s3(E)	4	#6	10'-4"	
s4(E)	60	#5	8'-8"	
u(E)	8	#6	12'-3"	
v(E)	218	#8	5'-0"	
v1(E)	8	#5	6'-4"	
v2(E)	12	#5	9'-10"	
Structure Excavation		Cu. Yd.	250	
Concrete Structures		Cu. Yd.	51.6	
Reinforcement Bars,		Pound	8,600	
Epoxy Coated				
Furnishing Steel				
Piles HP 12x53		Foot	280	
Driving Piles		Foot	280	

**Notes:**  
 Pour steps monolithically with cap.  
 Headed bars shall conform to ASTM A970 with threaded attachment, Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 For details of piles see sheet 26 of 27.  
 All edges shall have standard 1/4" chamfer, unless noted otherwise.

(Sheet 2 of 2)

**KENDALL COUNTY  
 C.H. 11 - F.A.S. 285 (RIDGE ROAD)  
 OVER TRIB. TO AUX SABLE CREEK**

SCALE: N/A      SHEET 25 OF 27 SHEETS

**NORTH ABUTMENT**

SECTION: 22-00167-000-BR  
 COUNTY: KENDALL  
 SHEET NO: 71  
 TOTAL SHEETS: 56

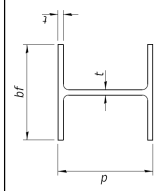
JOB#494513      DATE: 7/19/2023

DESIGNED: ZL      USER: MROSE  
 DRAWN: ZL      FOOT SCALE: 100.0000 / ft.  
 CHECKED: MROSE      DATE: 7/19/2023

REVISIONS:  
 REVISION -  
 REVISION -  
 REVISION -

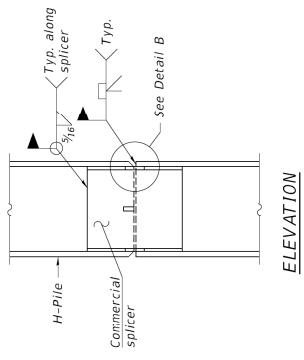
**PILE DATA**  
 Type: HP 12x53  
 Nominal Required Bearing: 418k  
 Factored Resistance Available: 230k  
 Est. Length: 20'  
 No. Production Piles: 14

Hutchinson Engineering, Inc.  
 1000 W. 11th Street, Suite 200  
 Mankato, MN 56001  
 507-435-8800

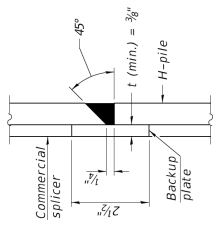


**STEEL PILE TABLE**

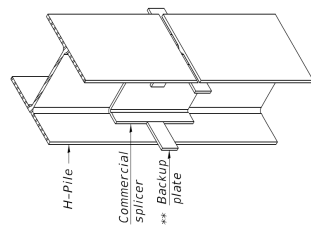
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/2"	14 3/8"	1 3/16"	30"
x102	14"	14 3/8"	1 1/16"	30"
x89	13 3/8"	14 3/8"	3/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/2"	12 1/4"	1 1/16"	24"
x74	12 1/2"	12 1/4"	3/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/4"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

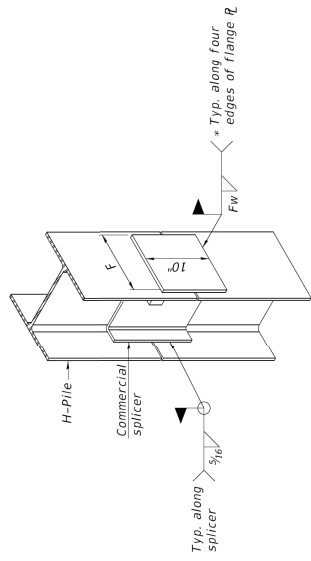


**DETAIL "B"**



**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**

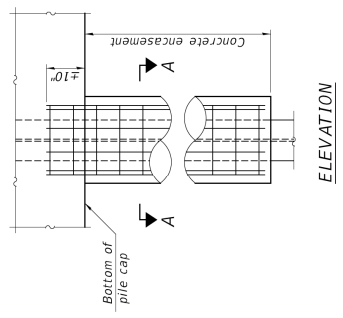


**ISOMETRIC VIEW**

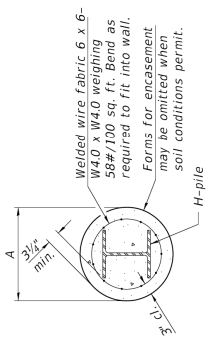
**WELDED COMMERCIAL SPLICE ALTERNATE**

\* Interrupt welds 1/4" from end of web and/or each flange.  
 \*\* Remove portions of backup plates that extend outside the flanges.

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

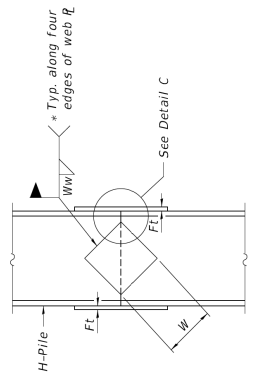


**ELEVATION**

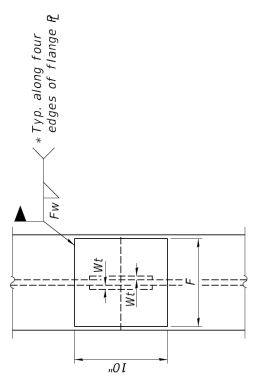


**SECTION A-A**

**INDIVIDUAL PILE CONCRETE ENCASEMENT**  
 (When Specified)

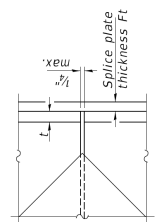


**ELEVATION**



**END VIEW**

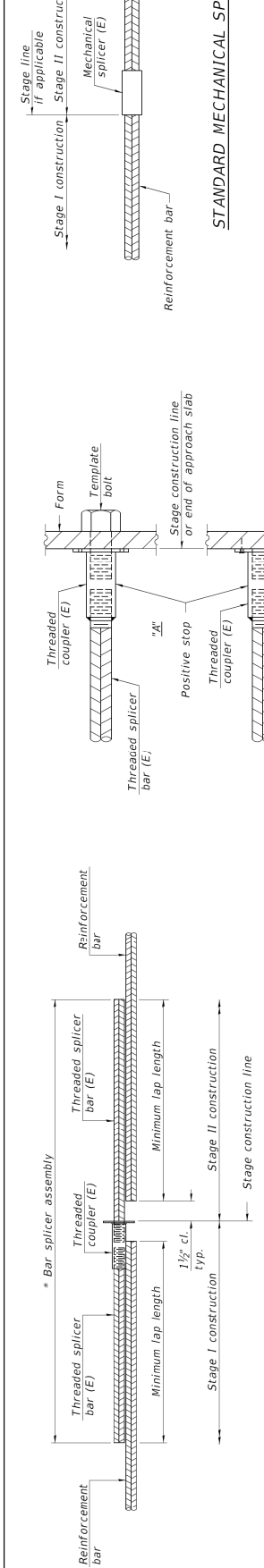
Designation	e	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	1/8"	7 3/4"	3/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	3/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	3/8"	1/2"
x73	12 1/2"	3/8"	9/16"	7 3/4"	3/8"	1/2"
HP 12x84	12"	7/8"	1 1/16"	6 1/2"	3/8"	1/2"
x74	12"	7/8"	1 1/16"	6 1/2"	3/8"	1/2"
x63	12"	5/8"	1 1/2"	6 1/2"	1/2"	3/8"
x53	12"	5/8"	1 1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	3/8"	7/16"	4 1/4"	1/2"	3/8"



**DETAIL D**

**WELDED PLATE FIELD SPLICE**

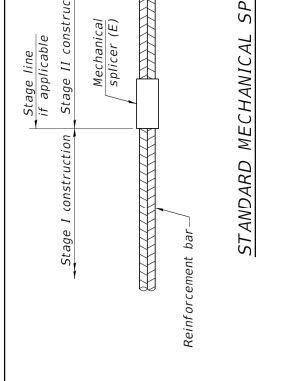
<b>Hutchinson Engineering, Inc.</b> 1100 W. 14th Street, Suite 200 Phoenix, AZ 85007 (602) 998-0000	USER NAME = mrobin FOOT SCALE = 100.0000 / ft. PLOT DATE = 03/20/23	DESIGNED - ZL DRAWN - ZL CHECKED - MROBIN DATE - 7/19/2023	REVISIONS REVISION REVISION REVISION	<b>KENDALL COUNTY</b> <b>C.H. 11 - F.A.S. 285 (RIDGE ROAD)</b> <b>OVER TRIB. TO AUX SABLE CREEK</b>	SCALE: N/A SHEET 26 OF 27 SHEETS	SECTION 22-00167-008R SN 04F-3189	COUNTY KENDALL	TOTAL SHEETS 57
	JOB#494513	F.A.S. RATE 285	SHEETS 27	HP PILE DETAILS	SHEET NO. 26	BLUMERS	SHEETS 71	SHEETS 57



**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 Only bar splicer assemblies as presented on the approved SPL list may be used.

Threaded splicer bar length = min. lap length + 1 1/2' + thread length  
 \* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Deck	#5	223	3'-0"
Daphragm	#6	14	5'-0"
N. Abut. Part.	#5	44	3'-6"
N. Abut. Part.	#8	59	7'-7"
S. Abut. Part.	#5	40	3'-6"
S. Abut. Part.	#8	59	7'-7"
N. Abutment	#5	2	3'-6"
N. Abutment	#7	10	6'-3"
S. Abutment	#5	2	3'-6"
S. Abutment	#7	10	6'-3"



Location	Bar size	No. assemblies required

**INSTALLATION AND SETTING METHODS**

"A": Set bar splicer assembly by means of a template bolt.  
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E): Indicates epoxy coating.

Notes:  
 Splicer bars shall be formed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

**Hutchinson Engineering, Inc.**  
 PROJECT: 22-00167-008-BR  
 JOB#4943

USER NAME: mrobin  
 DRAWN: ZL  
 CHECKED: MMORAN  
 DATE: 7/19/2023

DESIGNED: ZL  
 REVISIONS:  
 REVISION: ZL  
 REVISION: MMORAN  
 REVISION: 7/19/2023

SCALE: NA  
 SHEET 27 OF 27 SHEETS

**KENDALL COUNTY  
 C.H. 11 - F.A.S. 285 (RIDGE ROAD)  
 OVER TRIB. TO AUX SABLE CREEK**

**STAGE CONSTRUCTION  
 BAR SPLICER DETAILS**

F.A.S. RATE: 285  
 SECTION: 22-00167-008-BR  
 COUNTY: KENDALL  
 SHEET NO.: 71  
 TOTAL SHEETS: 58



November 24, 2025

via email: [bwedemeier@hutchisoneng.com](mailto:bwedemeier@hutchisoneng.com)

Mr. Brett Wedemeier P.E.  
Design Project Engineer  
Hutchison Engineering, Inc.  
605 Rollingwood Drive  
Shorewood, Illinois 60404

Re: Preliminary Site Investigation  
Ridge Road Improvements Project  
Minooka, Joliet, and Unincorporated  
Kendall County, Illinois  
File No. 81.0220168.22

Dear Mr. Wedemeier,

GZA Illinois, Inc. (GZA), formerly known as Huff & Huff, Inc., is pleased to submit this *Preliminary Site Investigation* (PSI) for the proposed Ridge Road Improvements Project located in Minooka, Joliet, and Unincorporated Kendall County in Kendall County, Illinois. The planned improvements are located along Ridge Road from Holt Road to approximately 275 feet north of the Ridge Road and Black Road intersection, and along portions of Black Road, Meriwether Boulevard, Jones Road, Bell Road, and Wildey Road (Project Corridor). Based on the jurisdiction of US Highway 52 (IDOT), the area associated with the roadway is excluded from this PSI.

The scope and depth of this study are consistent with those proposed and accepted by Hutchison Engineering. The field observations and results reported herein are considered sufficient in detail and scope to form an informed and professional opinion as to the obvious potential environmental hazards along the Project Corridor.

Soil borings were advanced at fifteen (15) locations. Based on field observations, soil samples were collected from eleven (11) soil boring along the Project Corridor to assess the soils for spoils management during construction. The laboratory analytical analyses conducted included volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); total Target Analyte List (TAL) metals; and SPLP/TCLP 8 RCRA metals and Be, Co, Cu, Fe, Mn, Ni, and Zn. Samples from each of the fifteen (15) borings were analyzed for pH using laboratory analysis to assess clean construction or demolition debris (CCDD) suitability of Project Corridor soils.

The GZA Preliminary Environmental Site Assessment (PESA), dated February 2023, identified four (4) potentially impacted properties (PIPs) near the Project Corridor. Appropriate laboratory analyses have been conducted on samples collected to assess achievement of the maximum allowable concentrations (MACs) for CCDD disposal.

The soil classification areas described below are based on the analytical results of the PSI. The soil sample from one depth interval is considered to represent the vertical extent of each of the planned excavation areas. The horizontal extent of each of the areas is based on analytical results and field observations in adjacent borings.



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CONSTRUCTION  
MANAGEMENT

GZA Illinois, Inc.  
1301 West 22nd Street  
Suite 510  
Oak Brook, IL 60523  
T: 630-684-9100  
F: 630-928-0709

[WWW.GZA.COM](http://WWW.GZA.COM)



Spoils generated from the Project Corridor are certified for disposal at a CCDD or USFO facility, within the following areas as presented in the table below, with soil classifications identified per IDOT Article 669.05.

**Soil Classification and Disposal Description Summary**

Soil Boring ID	Sample Classification	Parameter(s) Exceeding MAC(s)	Soil Boring Stationing, Offset	Soil Disposal Classification (Max Excavation Depth) <sup>1</sup>
CCDD-N-SB-1	Unrestricted	None	STA Ridge Road: 71+90, 35 RT	Surface to Bottom of Excavation: CCDD (Unrestricted <sup>2</sup> )
CCDD-S-SB-2	669.05(a)(2)	Manganese	STA Ridge Road: 93+00, 35 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
CCDD-N-SB-3	669.05(a)(2)	CCDD-N-SB-2 Manganese	STA Ridge Road: 119+00, 35 RT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
CCDD-S-SB-4	669.05(a)(2)	Site 10-SB-1 Manganese	STA Ridge Road: 152+05, 35 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
CCDD-N-SB-5	669.05(a)(2)	Site 8-SB-1 Manganese	STA Ridge Road: 172+50, 35 RT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
CCDD-S-SB-6	669.05(a)(2)	Manganese	STA Ridge Road: 253+90, 30 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
CCDD-N-SB-7	669.05(a)(2)	CCDD-S-SB-6 Manganese	STA Ridge Road: 279+80, 35 RT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
CCDD-S-SB-8	Unrestricted	None	STA Ridge Road: 305+40, 35 LT	Surface to Bottom of Excavation: CCDD (Unrestricted <sup>2</sup> )
Site 5-SB-1	669.05(a)(2)	Manganese	STA Ridge Road: 220+50, 35 RT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
Site 5-SB-2	669.05(a)(2)	Manganese	STA Ridge Road: 222+60, 35 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
<b>Site 6-SB-1</b>	<b>669.05(a)(1)</b>	<b>Manganese</b>	STA Ridge Road: 197+00, 35 RT	<b>Surface to Bottom of Excavation: Landfill as NSW or Site Reuse</b>
Site 6-SB-2	669.05(a)(2)	Manganese	STA Ridge Road: 198+30, 35 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
Site 8-SB-1	669.05(a)(2)	Manganese	STA Ridge Road: 178+00, 35 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse
Site 8-SB-2	Unrestricted	None	STA Ridge Road: 180+60, 35 LT	Surface to Bottom of Excavation: CCDD (Unrestricted <sup>2</sup> )
Site 10-SB-1	669.05(a)(2)	Manganese	STA Ridge Road: 126+50, 35 LT	Surface to Bottom of Excavation: CCDD (Within MSA Counties) or Site Reuse

<sup>1</sup> Based on maximum excavation depth planned per Contract Plans. To avoid summarizing the full boring depth based on most-restrictive soil classification per sample depths analyzed, multiple options are summarized based on planned excavation depth throughout Project Corridor.

<sup>2</sup> "Unrestricted" refers to material that is approved for CCDD disposal at any facility location (e.g., Within Chicago Corporate Limits, Within a Populated Area in a MSA County, Within a Populated Area in Non-MSA County, and Outside a Populated Area).

**Bold/Shaded** Refers to areas which are within a **CCDD Exclusion Area**.



Based on analytical results for various samples, the following areas are within a **CCDD Exclusion Area**:

- Site 6-SB-1 (0-5'): from ground surface to bottom of excavation

According to Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, Section 669.05 (Removal and Disposal of Regulated Substances – Contaminated Soil and/or Groundwater Management and Disposal), the following areas shall be managed as follows:

#### **669.05 Regulated Substances Management and Disposal**

**(a)Soil**            *“Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate detected*  
**Types:**            *levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in soil*  
*established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605, the soil shall be managed as follows:”*

**Spoils generated from Site 6-SB-1 are classified as 669.05(a)(1):**

- *“When analytical results indicate inorganic chemical constituents exceed the most stringent MAC, but still considered within area background levels by the Engineer, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable. If the soils cannot be utilized within the right-of-way, they shall be managed and disposed of at a landfill as a non-special waste.”*

**Spoils generated from CCDD-S-SB-2, CCDD-N-SB-3, CCDD-S-SB-4, CCDD-N-SB-5, CCDD-S-SB-6, CCDD-N-SB-7, Site 5-SB-1, Site 5-SB-2, Site 6-SB-2, Site 8-SB-1, and Site 10-SB- are classified as 669.05(a)(2):**

- *“When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County identified in 35 Ill. Admin. Code 742 Appendix A. Table G, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.”*

Spoils generated from the remainder of the Project Corridor are certified for disposal at a CCDD facility or USFO facility, within the following areas:

- Within Chicago corporate limits
- A populated area in a Metropolitan Statistical Area (MSA) excluding Chicago
- A populated area in a Non-Metropolitan Statistical Area (MSA) excluding Chicago
- Outside a populated area

Should conditions within the Project Corridor change, such as unusual staining, odors, or if loads become rejected, additional analytical assessment may be required for final disposition of spoils from this Project Corridor. Elevated PID readings may also result in rejected loads.





If you have any questions or comments, please do not hesitate to contact us at 630-684-9100.

Very truly yours,

GZA Illinois, Inc.

  
Nicholas Longhi  
Engineer I

  
Shane Cuplin, P.G.  
Associate Principal / Consultant Reviewer

  
Jeremy J. Reynolds, P.G.  
Associate Principal

Attachments: Ridge Road Improvements Project PSI Report



# Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

## Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

### I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: Ridge Road Improvements Project Office Phone Number, if available: \_\_\_\_\_

Physical Site Location (address, including number and street):

Ridge Rd, Holt Rd to ~275 ft N of Ridge Rd/Black Road, portions of Black Rd/Meriwether Blvd/Jones Rd, Bell Rd, Wildey Rd

City: Joliet State: IL Zip Code: 60173

County: Kendall Township: Joliet

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.49007 Longitude: - 88.27279  
(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

GPS  Map Interpolation  Photo Interpolation  Survey  Other

Google Earth lat/long approximation. Lat/lon above refer to the approximate center of the Project Corridor.

IEPA Site Number(s), if assigned: BOL: \_\_\_\_\_ BOW: \_\_\_\_\_ BOA: \_\_\_\_\_

Approximate Start Date (mm/dd/yyyy): \_\_\_\_\_ Approximate End Date (mm/dd/yyyy): \_\_\_\_\_

Estimated Volume of debris (cu. Yd.): \_\_\_\_\_

### II. Owner/Operator Information for Source Site

Site Owner

Name: Kendall County Highway Department

Street Address: 6780 IL-47

PO Box: \_\_\_\_\_

City: Yorkville State: IL

Zip Code: 60560 Phone: 630-553-7616

Contact: \_\_\_\_\_

Email, if available: \_\_\_\_\_

Site Operator

Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

PO Box: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_

Contact: \_\_\_\_\_

Email, if available: \_\_\_\_\_

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Uncontaminated Soil Certification

**III. Basis for Certification and Attachments**

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

A database review was completed by H&H in 2023 PESA for the Project Corridor. Four (4) potentially impacted properties (PIPs) were identified in connection with the Project Corridor as part of PESA activities. Refer to the attachments for additional information.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201 (g), 1100.205(a), 1100.610]:

15 soil borings were advanced for one or more of: VOCs, SVOCs, total TAL Metals, TCLP/SPLP Metals, and pH. Analytical results achieve MAC values [unrestricted and IDOT classification 669.05(a)2)], except for location "Site 6-SB-1" [669.05(a)(1)]. Refer to attached narrative for details and laboratory report File ID: 25-0911.


**IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist**


I, Jeremy J. Reynolds, P.G. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

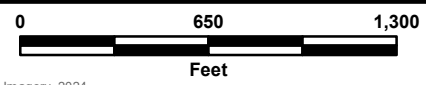
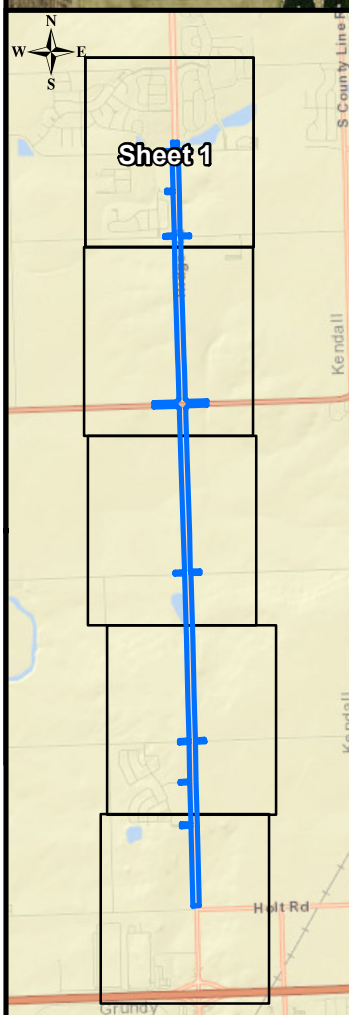
***Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))***

Company Name: GZA Illinois Inc.  
Street Address: 1301 West 22nd St, Suite 510  
City: Oak Brook State: IL Zip Code: 60523  
Phone: (630) 684-9100

Jeremy J. Reynolds, P.G.  
Printed Name:

  
Licensed Professional Engineer or  
Licensed Professional Geologist Signature:

Nov 19, 2025  
Date:  
  
P.E or L.P.G. Seal:

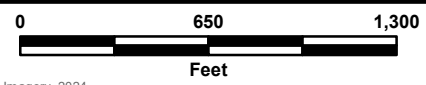
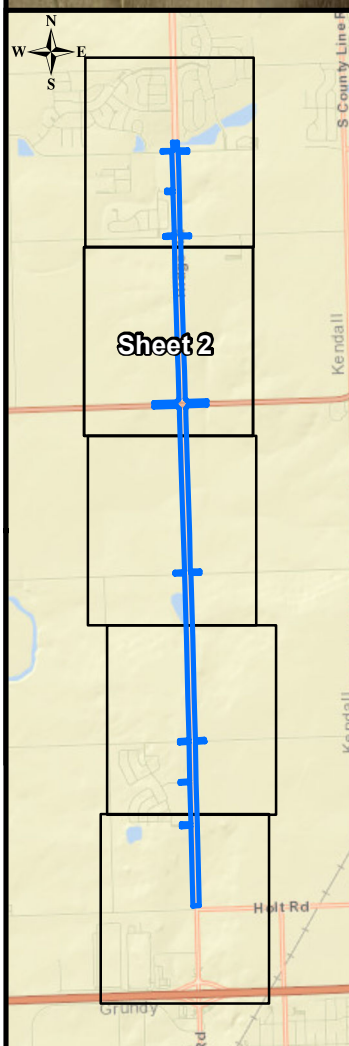
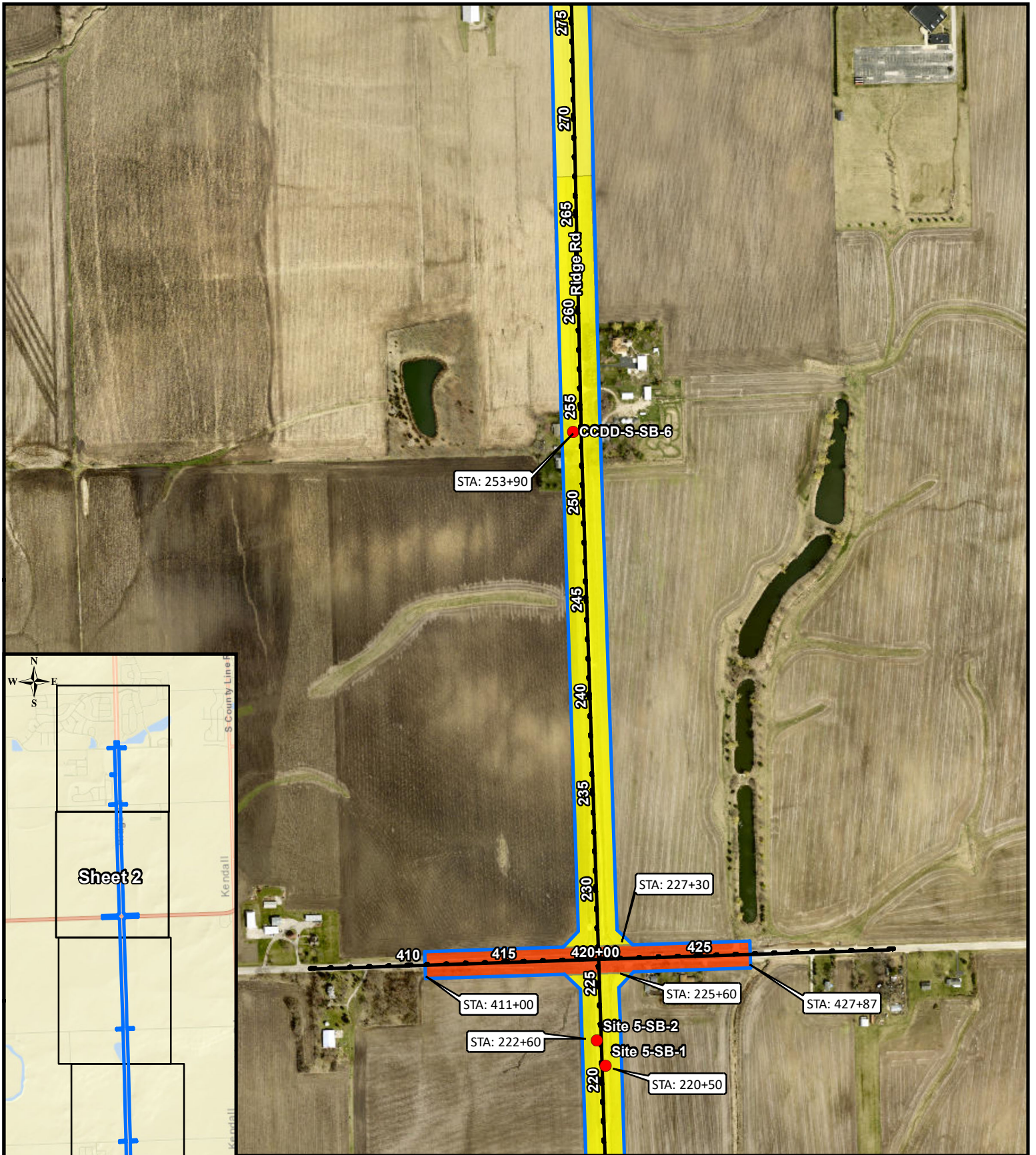


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

Legend	
<span style="color: blue;">—</span> Project Limits	<span style="color: red;">■</span> IDOT ROW - Exclusion
<span style="color: red;">●</span> Soil Boring Locations	<span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Unrestricted, Full Depth
<span style="background-color: orange; width: 15px; height: 10px; display: inline-block;"></span> 669.05(a)(1), Full Depth	
<span style="background-color: yellow; width: 15px; height: 10px; display: inline-block;"></span> 669.05(a)(2), Full Depth	

**Huff & Huff, Inc.**

Figure 4-1  
669.05 Soil Classification Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 1 of 5

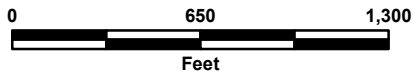
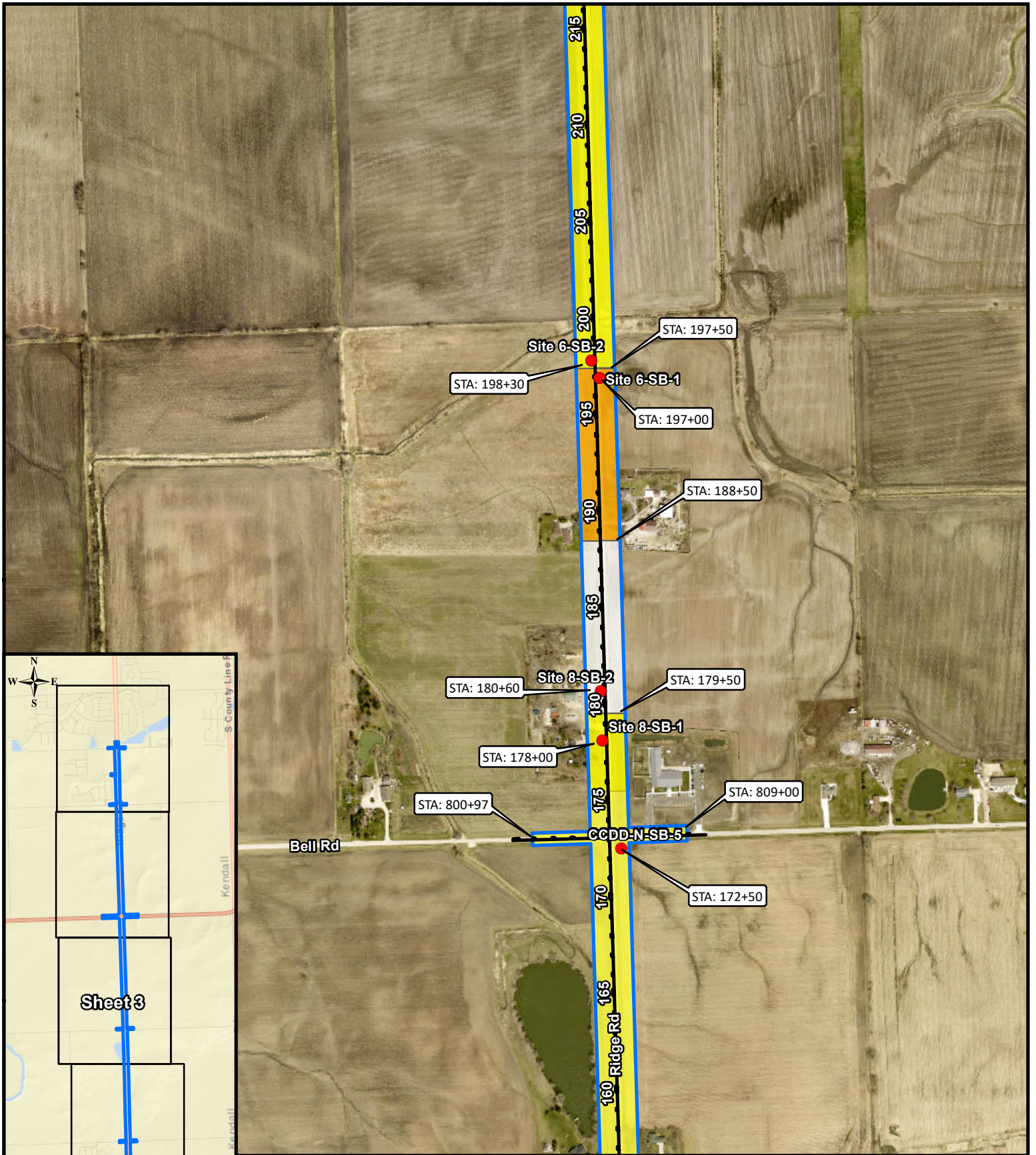


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

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<span style="color: red;">●</span> Soil Boring Locations	<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Unrestricted, Full Depth
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Figure 4-1  
669.05 Soil Classification Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 2 of 5



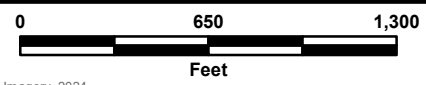
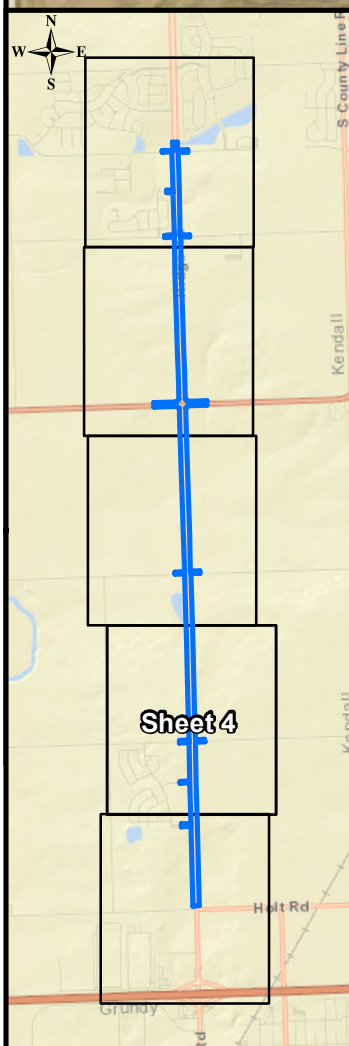
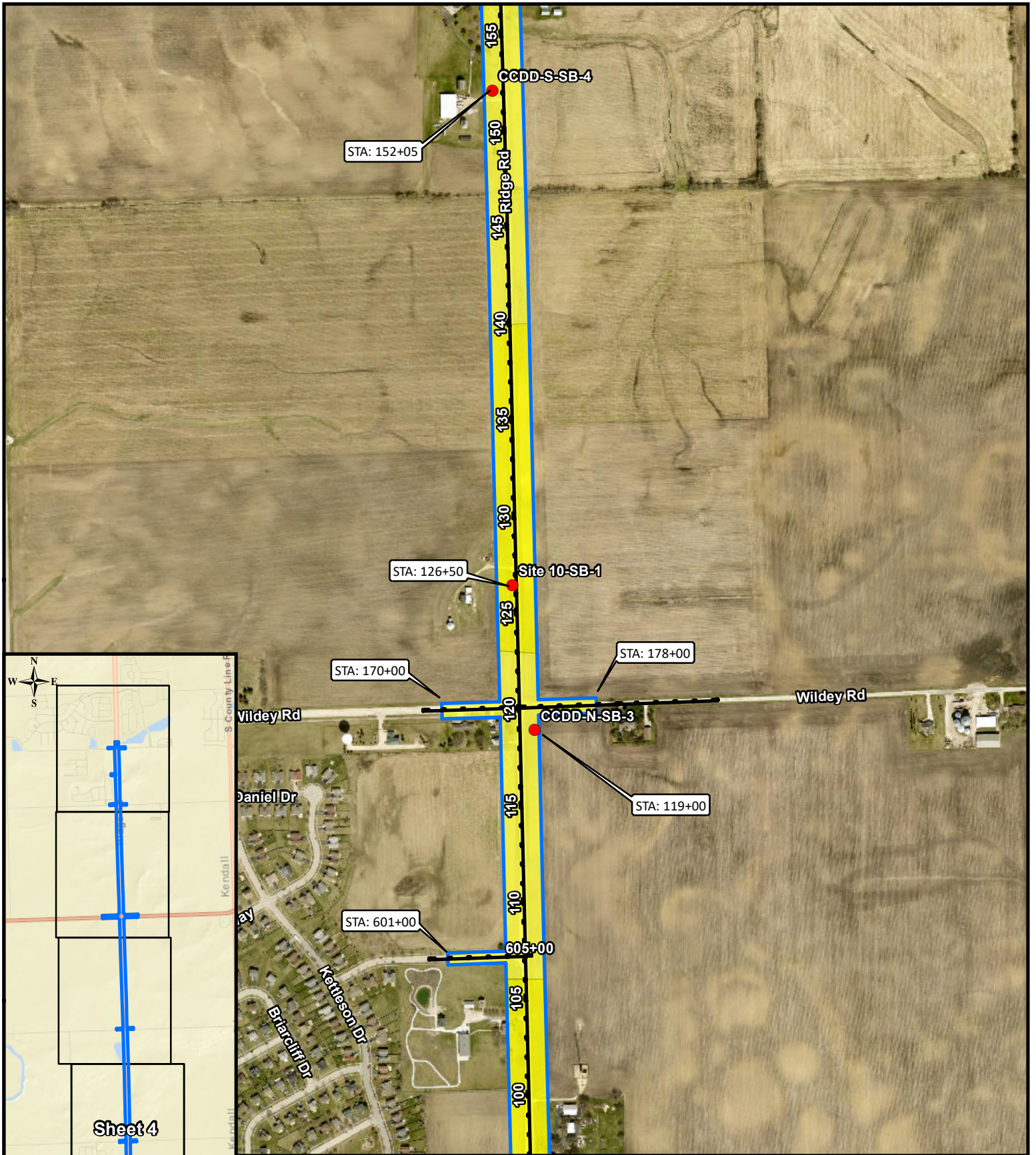
Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

**Legend**

- Project Limits
- Soil Boring Locations
- 669.05(a)(1), Full Depth
- 669.05(a)(2), Full Depth
- IDOT ROW - Exclusion
- Unrestricted, Full Depth

**Huff & Huff, Inc.**

Figure 4-1  
 669.05 Soil Classification Map  
 Ridge Road Improvements Project  
 Minooka, Joliet, and  
 Unincorporated Kendall County, Illinois  
 Sheet 3 of 5

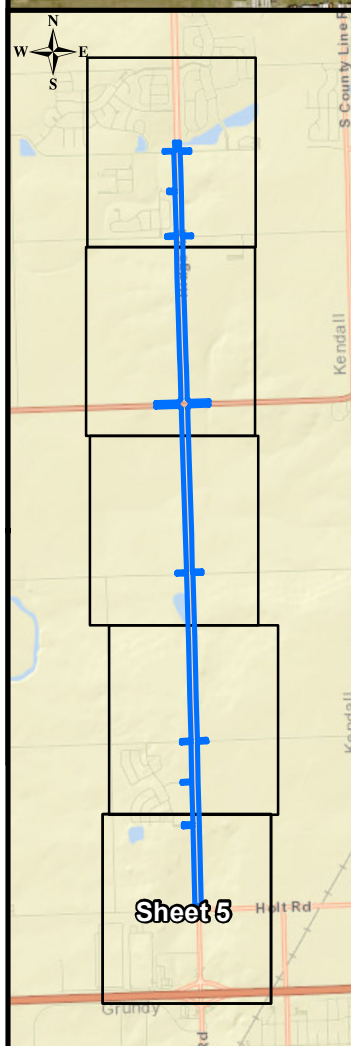
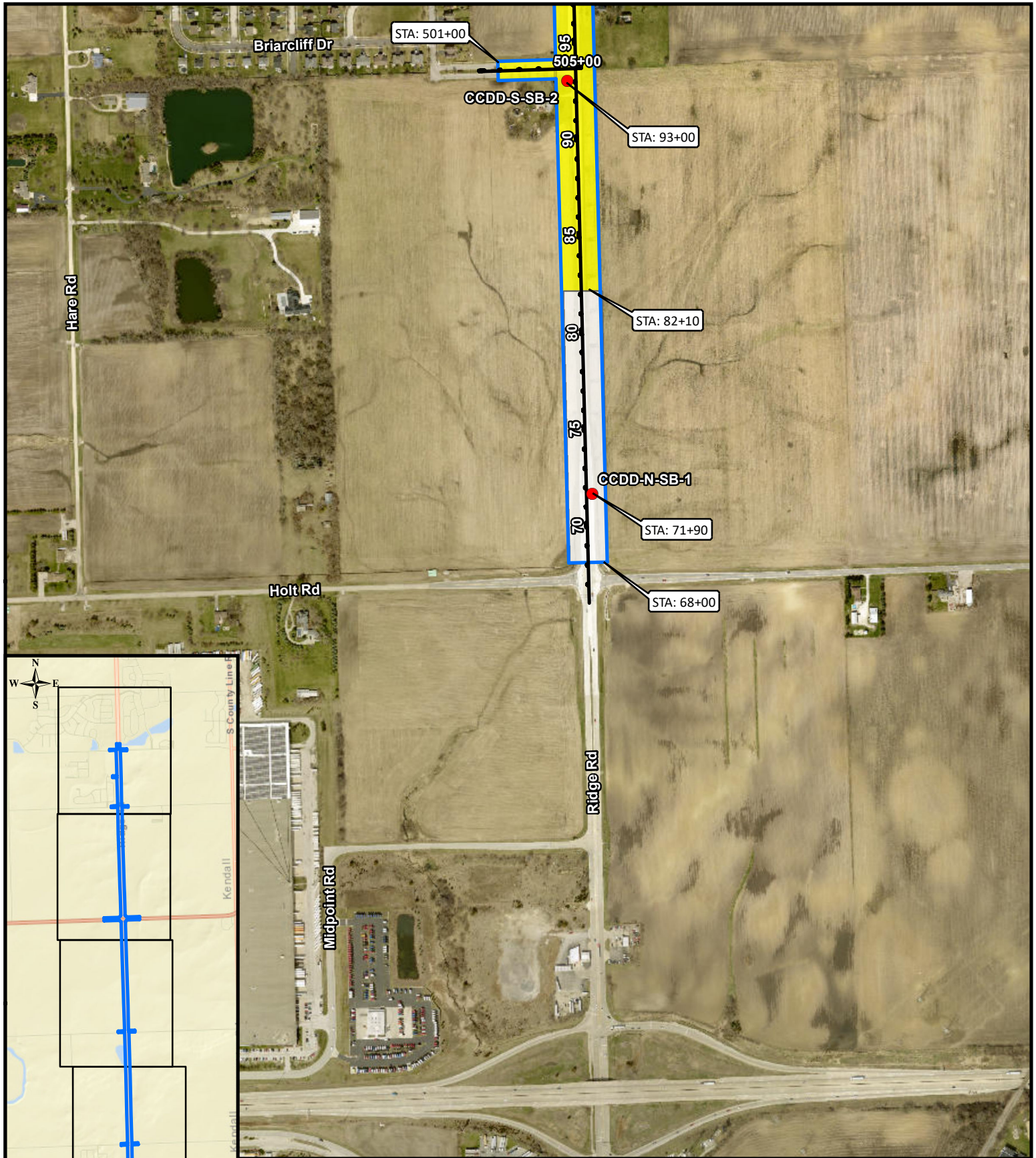


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

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**Huff & Huff, Inc.**

Figure 4-1  
669.05 Soil Classification Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 4 of 5



Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

**Legend**

- Project Limits
- Soil Boring Locations
- 669.05(a)(1), Full Depth
- 669.05(a)(2), Full Depth
- IDOT ROW - Exclusion
- Unrestricted, Full Depth

**Huff & Huff, Inc.**

Figure 4-1  
669.05 Soil Classification Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 5 of 5

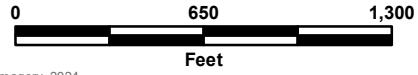
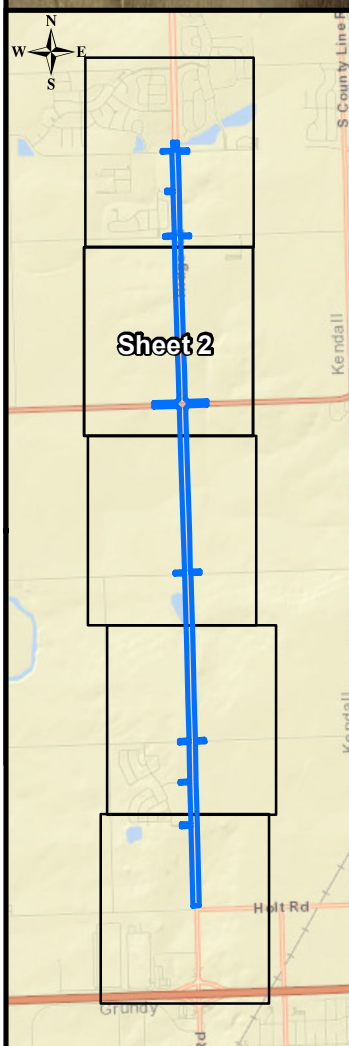
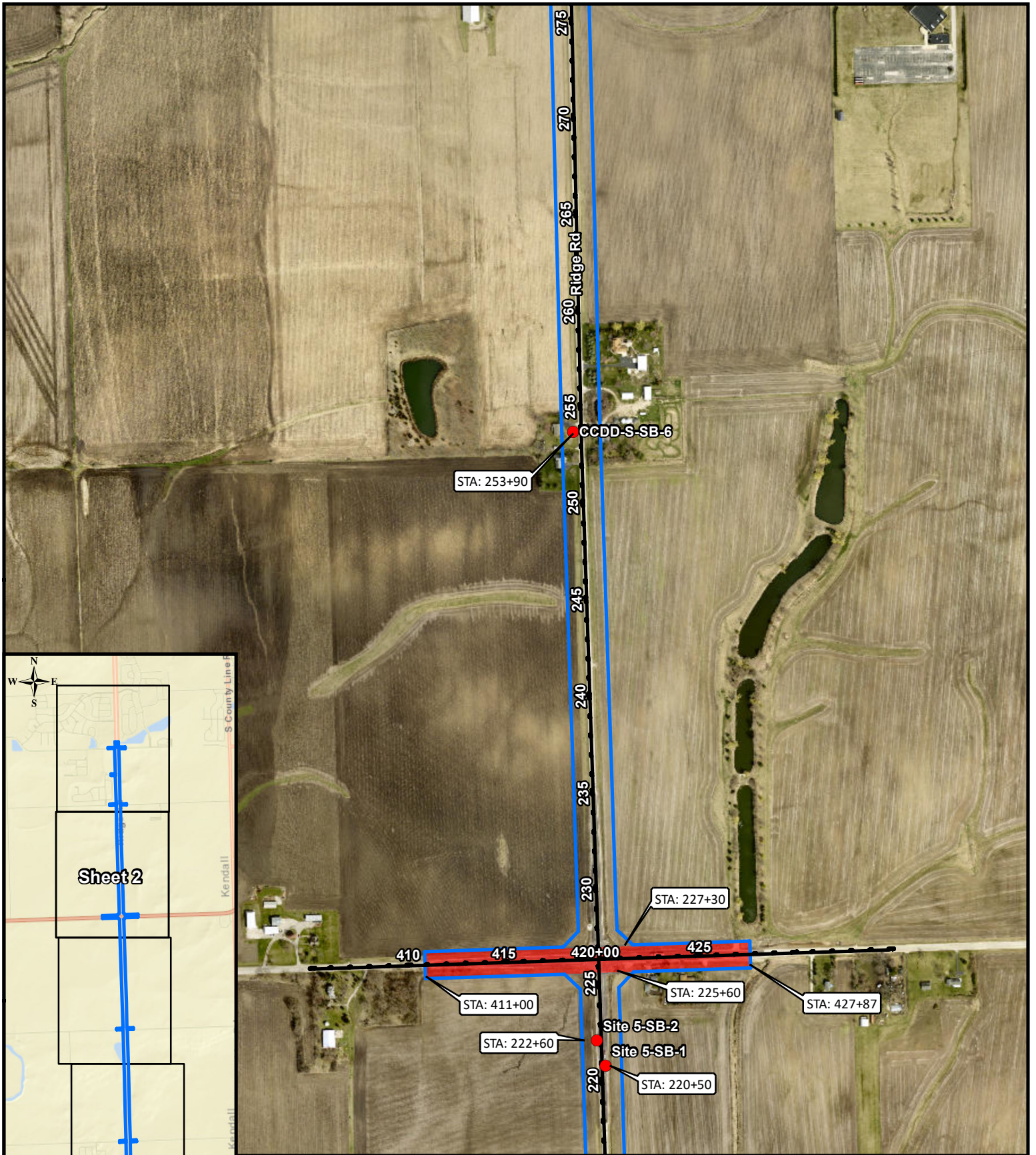


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

- Legend**
- Project Limits
  - Soil Boring Locations
  - 669.05(a)(1), Full Depth
  - IDOT ROW - Exclusion

**Huff & Huff, Inc.**

Figure 4-2  
 Exclusion Zone Map  
 Ridge Road Improvements Project  
 Minooka, Joliet, and  
 Unincorporated Kendall County, Illinois  
 Sheet 1 of 5

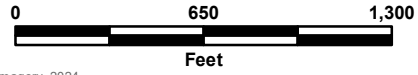
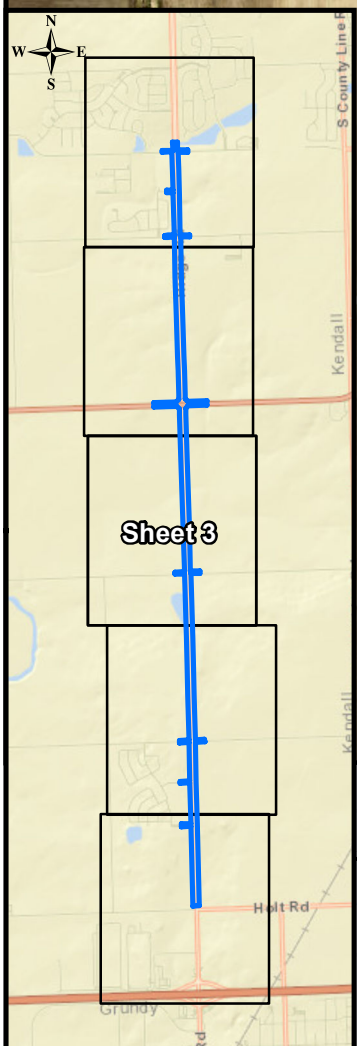
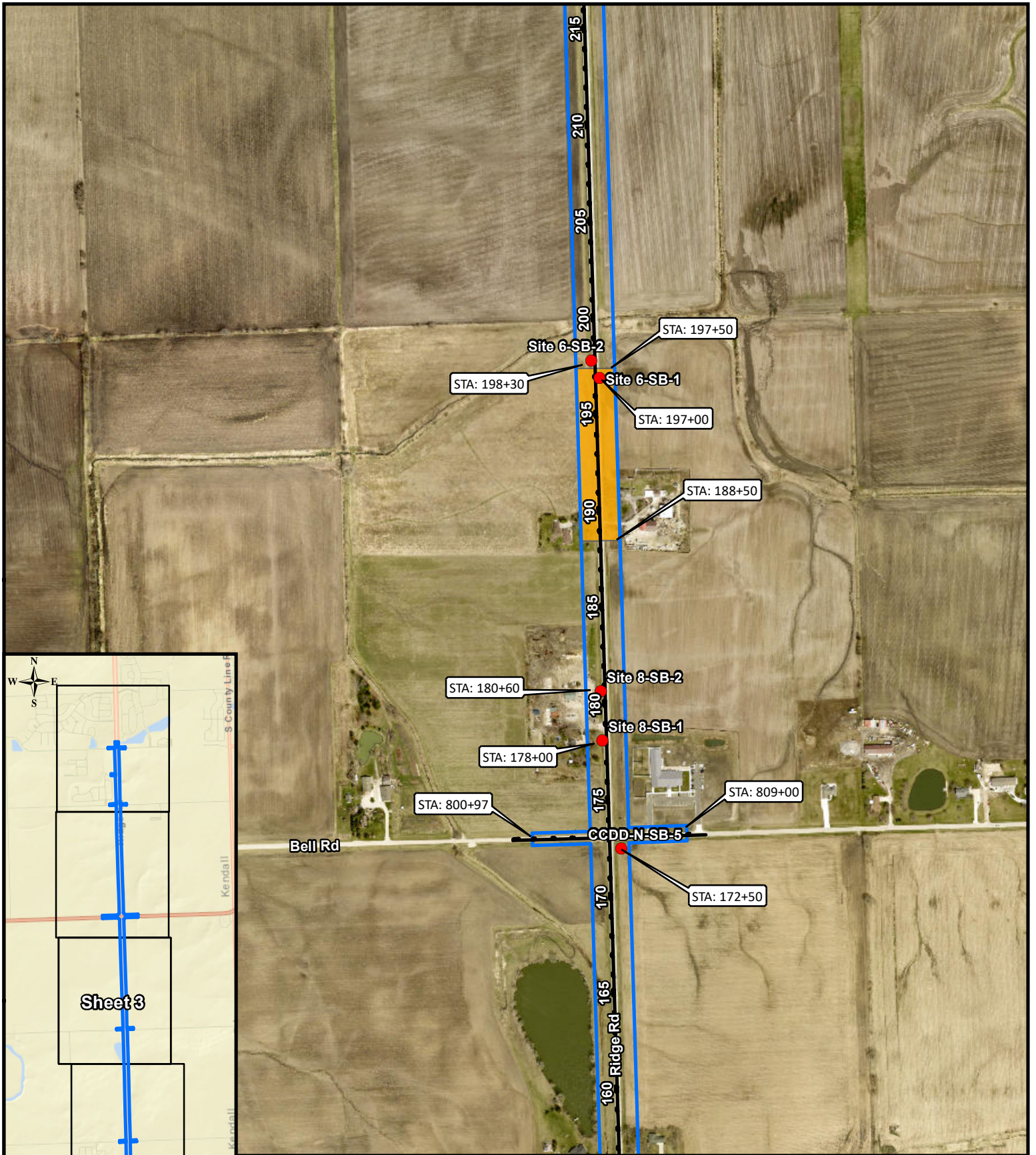


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

- Legend**
- Project Limits
  - Soil Boring Locations
  - 669.05(a)(1), Full Depth
  - IDOT ROW - Exclusion

**Huff & Huff, Inc.**

Figure 4-2  
Exclusion Zone Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 2 of 5

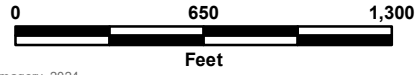
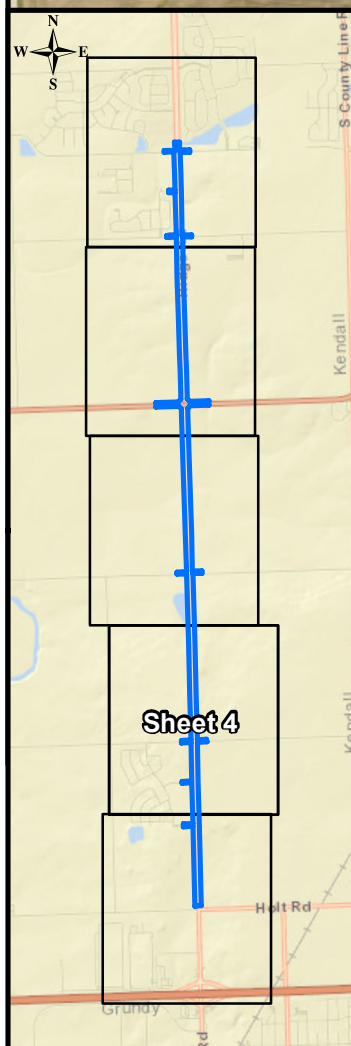
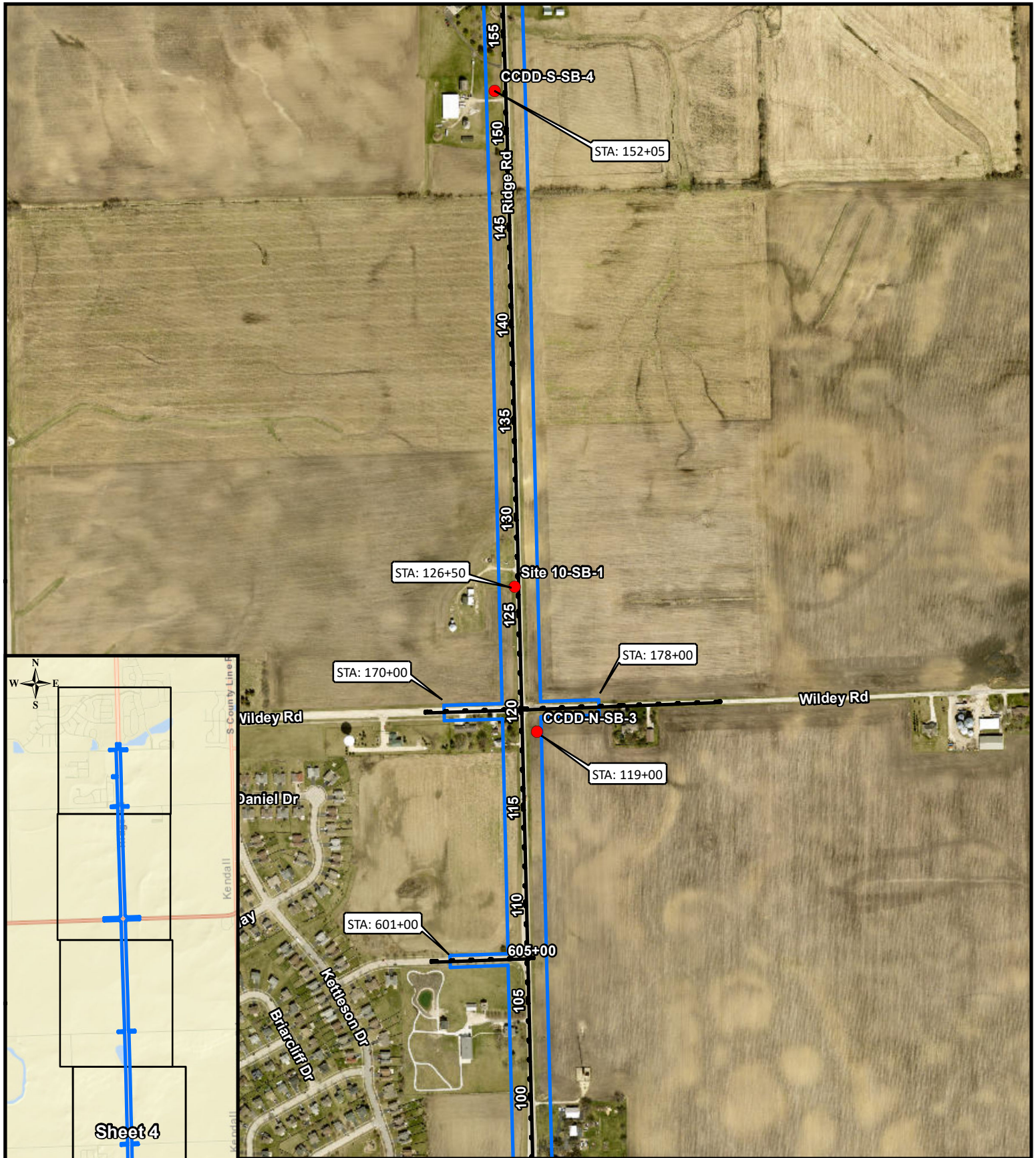


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

- Legend**
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  - IDOT ROW - Exclusion

**Huff & Huff, Inc.**

Figure 4-2  
Exclusion Zone Map  
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Sheet 3 of 5

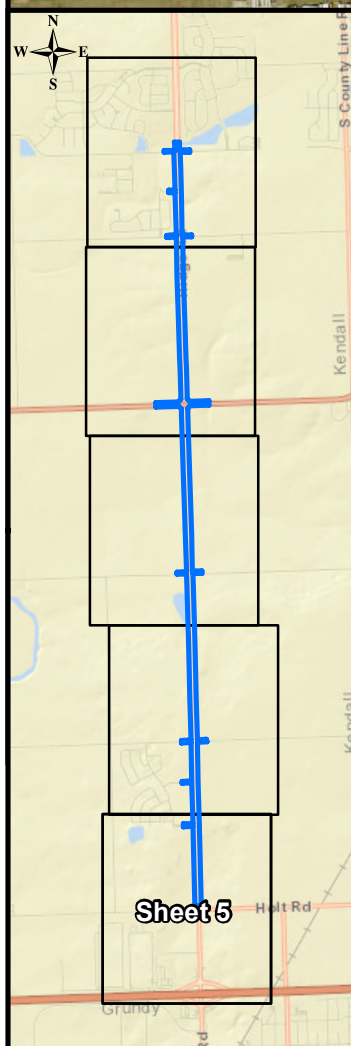


Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

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**Huff & Huff, Inc.**

Figure 4-2  
Exclusion Zone Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 4 of 5



Aerial Source: ESRI Online World High-Resolution Aerial Imagery, 2024.

**Legend**

- Project Limits
- Soil Boring Locations
- 669.05(a)(1), Full Depth
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**Huff & Huff, Inc.**

Figure 4-2  
Exclusion Zone Map  
Ridge Road Improvements Project  
Minooka, Joliet, and  
Unincorporated Kendall County, Illinois  
Sheet 5 of 5



LEGEND	
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<span style="display:inline-block; width:15px; border-bottom:1px dashed black;"></span>	Approximate PESA Boundary

<b>207-054 GZA-3</b> <b>W.O. Number: 01AM</b>	
Data Source: 2023 BING MAPS AERIAL IMAGERY	
Contract Number: NOT LISTED/BDE Sequence #: 24866	
PESA: 4374	Route: FAP 607 (US Rte 52)
IDOT Job Number: NOT PROVIDED	
City/County: MINOOKA / KENDALL COUNTY	
Designed By: DMG	
Drawn By: DMG	
Checked By: JJR	
Approved By: JJR	
Date: 11-24-2025	

NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**US ROUTE 52 at CH 11/RIDGE ROAD**  
**MINOOKA, KENDALL COUNTY, ILLINOIS**

**RMP 2156**  
**REGULATED SUBSTANCE MANAGEMENT AREA**  
**IDOT DISTRICT 3**

PREPARED BY: <b>GZA GeoEnvironmental, Inc.</b> Engineers and Scientists www.gza.com	PREPARED FOR: ILLINOIS DEPARTMENT OF TRANSPORTATION		
PROJ MGR: JJR	REVIEWED BY: JJR	CHECKED BY: JJR	FIGURE
DESIGNED BY: DMG	DRAWN BY: DMG	SCALE: 1:200	<b>1-1</b>
DATE: 11-24-2025	PROJECT NO: 81.0220784.01	REVISION NO: --	



**Storm Water Pollution Prevention Plan**

Route C.H. 11	Marked Route Ridge Road	Section Number 22-00168-00-RP
Project Number 32ZU(960)	County Kendall	Contract Number 87899

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Permittee Signature & Date

*Jim C. Allen*      2-6-26

**SWPPP Notes**

Preparing BDE 2342 (Storm Water Pollution Prevent Plan)

Guidance on preparing each section of BDE 2342 (Storm Water Pollution Prevention Plan) is found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual, please consult this chapter during SWPPP preparation. Please note that the Illinois Environmental Protection Agency (IEPA) has 30 days to review the Notice of Intent (NOI) prior to project approval and any deficiencies can result in construction delays.

The Notice of Intent contains the following documents:

- BDE 2342 (Storm Water Pollution Prevention Plan)
- BDE 2342 A (Contractor Certification Statement)
- Erosion and Sediment Control Plan (See Section 63-4.09 of the BDE Manual)

Non-applicable information

If any section of the SWPPP is not applicable put "N/A" in box rather than leaving blank.

**National Pollutant Discharge Elimination System (NPDES) Compliance**

**Description of Work:** This work shall consist of those efforts necessary for compliance with the requirements of the Clean Water Act, Section 402 (NPDES), and the Illinois Environment Protection Act. This provision also provides the background information needed to comply with ILR10 and ILR40 permits for this project.

## NPDES COMPLIANCE REQUIREMENTS

### Part I: Site Description

1. Describe the project location; include latitude and longitude, section, town, and range.

This project is located in Kendall County, Illinois, in Sections 1, 2, 11, 12, 13, 14, 23, 24, 25, and 26 of Township 35 North, Range 8 East of Seward Township. The County Highway 11 (Ridge Rd.) improvement begins approximately 0.08 mile north of Holt Road and continues northerly along Ridge Rd. approximately 4.56 miles to just north of Black Road.

Begin Improvement: Latitude: 41.470791, Longitude: -88.271860

End Improvement: Latitude: 41.536801, Longitude: -88.274235

2. Describe the nature of the construction activity or demolition work.

The work consists of roadway reconstruction of CH 11 (Ridge Rd) to a four lane suburban roadway with 12' wide travel lanes, 18' wide raised median abutted by B-6.24 concrete curb and gutter, and 8' wide shoulders. Other major work items include pavement removal, earthwork, aggregate subgrade, combination curb and gutter, driveway entrance reconstruction, pavement marking, signing, pipe culverts, storm sewers, box culvert replacement, temporary and permanent traffic signal installations, shared use path installation, and seeding.

3. Describe the intended sequence of major activities which disturb soils for major portions of the site (e.g. clearing, grubbing, excavation, grading, on-site or off-site stockpiling of soils, on-site or off-site storage of materials).

1. Topsoil excavation and stockpiling
2. Earth excavation and subgrade preparation
3. Place proposed subgrade
4. Place proposed pavement structure
5. Place proposed shoulder
6. Grading and shaping ditches

4. The total area of the construction site is estimated to be 79.3 acres.

5. The total area of the site estimated to be disturbed by excavation, grading or other activities is 77.2 acres.

6. Determine an estimate of the runoff coefficient of the site after construction activities are completed.

before = 0.47, after = 0.68

7. Provide the existing information describing the potential erosivity of the soil at discharge locations at the project site.

The potential erosive areas at discharge locations for this project are the proposed ditch flow lines before any seeding has been completed and the downstream outlets for the pipe culverts.

8. Erosion and Sediment Control Plan (Graphic Plan) is included in the contract.  Yes  No

9. List all soils found within project boundaries; include map until name, slope information, and erosivity.

Graymont silt loam (541B) - moderately well drained, 2 to 5 percent slopes  
Chenoa silty clay loam (614A) - somewhat poorly drained, 0 to 2 percent slopes  
Milford silty clay loam (69A) - poorly drained, 0 to 2 percent slopes  
Swygert silty clay loam (91A) - somewhat poorly drained, 0 to 2 percent slopes  
Bryce silty clay (235A) - poorly drained, 0 to 2 percent slopes  
Graymont silt loam (541C2) - moderately well drained, 5 to 10 percent slopes, eroded  
Martinton silt loam (189A) - somewhat poorly drained, 0 to 2 percent slopes  
Elpaso silty clay loam (356A) - poorly drained, 0 to 2 percent slopes  
Varna silt loam (223C2) - moderately well drained, 4 to 6 percent slopes  
Martinton silt loam (189B) - somewhat poorly drained, 2 to 4 percent slopes  
Swygert silty clay loam (91B) - somewhat poorly drained, 2 to 4 percent slopes  
Graymont silt loam (541B2) - moderately well drained, 2 to 5 percent slopes, eroded

10. List of all MS4 permittees in the area of this project

Village of Minooka, City of Joliet

Note: For sites discharging to an MS4, a separate map identifying the location of the construction site and the location where the MS4 discharges to surface water must be included.

## Part II: Waters of the US

1. List the nearest named receiving water(s) and ultimate receiving waters.

Immediate receiving water is Aux Sable Creek and eventually drains into the Illinois River.

2. Are wetlands present in the project area?  Yes  No

If yes, describe the areal extent of the wetland acreage at the site.

Approximately Sta 156+00 to Sta 158+00 LT (0.107 acre impact) and Sta 159+00 to Sta 166+50 LT (0.168 acre impact)

3. Natural buffers:

For any storm water discharges from construction activities within 50 feet of a Waters of the United States, except for activities for water-dependent structures authorized by a Section 404 permit, the following shall apply:

(i) A 50-foot undisturbed natural buffer between the construction activity and the Waters of the United States has been provided

Yes  No; and/or

(ii) Additional erosion and sediment controls within that area has been provided

Yes  No; and Describe: No areas outside the project limits shall be disturbed without prior approval.

## Part III. Water Quality

### 1. Water Quality Standards

As determined by the Illinois Pollution Control Board, Illinois waters have defined numeric limits of pollutants under the umbrella term "Water Quality Standards." In the following table are commonly used chemicals/practices used on a construction site. These chemicals if spilled into a waterway, could potentially contribute to a violation of a Water Quality Standard. If other chemicals that could contribute a violation of a Water Quality Standard, add as needed.

Fertilizer (check as appropriate)

Nitrogen

Phosphorus, and/or

Potassium

Herbicide

Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)

Waste water for concrete washout station

Coal tar Pitch Emulsion

Other (Specify) Antifreeze/coolants

Other (Specify) Paints

Table 1: Common chemicals/potential pollutants used during construction

If no boxes are checked in Table 1 above, check the following box:

There are no chemicals on site that will exceed a Water Quality Standards if spilled.

If any boxes are checked in Table 1 above, check the following box:

There are chemicals on site that if spilled could potentially cause an exceedance of a Water Quality Standard. The Department shall implement Pollution Prevention/Good Housekeeping Practices as described in the Department's ILR40 Discharge for Small

Municipal Separate Storm Sewer Systems (MS4) reiterated below and Part VIII. Unexpected Regulated Substances/Chemical Spill Procedures:

Pollution Prevention:

The Department will design, and the contractor shall, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants from construction activities. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (a) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
- (b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, chemical storage tanks, deicing material storage facilities and temporary stockpiles, detergents, sanitary waste, and other materials present on the site exposed to precipitation and to storm water.
- (c) Minimize the discharge of pollutants from spills, leaks and vehicle and equipment maintenance and repair activities and implement chemical spill and leak prevention and response procedures;
- (d) Minimize the exposure of fuel, oil, hydraulic fluids, other petroleum products, and other chemicals by storing in covered areas or containment areas. Any chemical container with a storage of 55 gallons or more must be stored a minimum of 50 feet from receiving waters, constructed or natural site drainage features, and storm drain inlets. If infeasible due to site constraints, store containers as far away as the site permits and document in your SWPPP the specific reasons why the 50-foot setback is infeasible and how the containers will be stored.
- (e) The contractor is to provide regular inspection of their construction activities and Best Management Practices (BMPs). Based on inspection findings, the contractor shall determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity, proper function, and treatment effectiveness of structural storm water BMPs. Necessary maintenance shall be completed as soon as conditions allow to prevent or reduce the discharge of pollutants to storm water or as ordered by the Engineer. The Engineer shall conduct inspections required in Section XI Inspections, and report to the contractor deficiencies noted. These Department conducted inspections do not relieve the contractor from their responsibility to inspect their operations and perform timely maintenance; and
- (f) In addition, all IDOT projects are screened for Regulated Substances as described in Section 27-3 of the BDE Manual and implemented via Section 669: Removal and Disposal of Regulated substances in the Standard Specifications for Road and Bridge Construction.

Approved alterations to the Department's provided SWPPP, including those necessary to protect Contractor Borrow, Use and Waste areas, shall be designed, installed, implemented and maintained by the Contractor in accordance with IDOT Standard Specifications Section 280.

**2. 303(d) Impaired Waterways**

Does the project area have any 303(d) impaired waterways with the following impairments?

- suspended solids
- turbidity, and or
- siltation

Yes  No

If yes, list the name(s) of the listed water body and the impairment(s)

303(d) waterbody	Impairments(s)
N/A	

In addition, It is paramount that the project does not increase the level of the impairment(s) described above. Discuss which BMPs will be implemented to reduce the risk of impairment increase

N/A

**3. Total Maximum Daily Load (TMDL)**

Does the project include any receiving waters with a TMDL for sediment, total suspended solids, turbidity or siltation?  Yes  No

If yes, List TMDL waterbodies below and describe associated TMDL

TMDL waterbody	TMDL

TMDL waterbody	TMDL
N/A	

Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL

N/A

If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation

N/A

**Part IV. Temporary Erosion and Sediment Controls**

Stabilization efforts must be initiated within 1 working day of cessation of construction activity and completed within 14 days. Areas must be stabilized if they will not be disturbed for at least 14 calendar days. Exceptions to this time frame include:

- (i) Where the initiation of stabilization measures is precluded by snow cover, stabilization measures must be initiated as soon as practicable,
- (ii) On areas where construction activities have temporarily ceased and will resume after 14 days, a temporary stabilization method can be used (temporary stabilization techniques must be described), and
- (iii) Stabilization is not required for exit points at linear utility construction site that are used only episodically and for very short durations over the life of the project, provided other exit point controls are implemented to minimize sediment track-out.

Additionally, a record must be kept with the SWPPP throughout construction of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated.

At a minimum, controls must be coordinated, installed and maintained to:

1. Minimize the amount of soil exposed during construction activity.
2. Minimize the disturbance of steep slopes.
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible.
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

**Note:** For practices below, consult relevant design criteria in Chapter 41 of the BDE Manual and maintenance criteria in Erosion and Sediment Control Field Guide for Construction.

1. Erosion Control:

The following are erosion control practices which may be used on a project (place a check by each practice that will be utilized on the project, add additional practices as needed):

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Mulch                   | <input checked="" type="checkbox"/> Preservation of existing vegetation    |
| <input checked="" type="checkbox"/> Erosion Control Blanket | <input checked="" type="checkbox"/> Temporary Turf Cover Mixture (Class 7) |
| <input type="checkbox"/> Turf Reinforcement Mat             | <input checked="" type="checkbox"/> Permanent seeding (Class 1-6)          |
| <input type="checkbox"/> Sodding                            | <input type="checkbox"/> Other (Specify) _____                             |
| <input type="checkbox"/> Geotextile fabric                  | <input type="checkbox"/> Other (Specify) _____                             |
|   | <input type="checkbox"/> Other (Specify) _____                             |

2. Sediment Control:

The following sediment control devices will be implemented on this project:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Ditch Checks              | <input checked="" type="checkbox"/> Perimeter Erosion Barrier |
| <input checked="" type="checkbox"/> Inlet and Pipe protection | <input type="checkbox"/> Rolled Excelsior                     |
| <input type="checkbox"/> Hay or Straw bales                   | <input type="checkbox"/> Silt Filter Fence                    |

- Above grade inlet filters (fitted)
- Above grade inlet filters (non-fitted)
- Inlet filters

- Urethane foam/geotextiles
- Other (Specify) \_\_\_\_\_
- Other (Specify) \_\_\_\_\_
- Other (Specify) \_\_\_\_\_

3. Structural Practices:

Provide below is a description of structural practices that will be implemented:

- |  |  |                  |
|--|--|------------------|
| <input type="checkbox"/> Aggregate Ditch                 | <input type="checkbox"/> Stabilized Construction Exits           |                  |
| <input type="checkbox"/> Articulated Block Revetment Mat | <input type="checkbox"/> Stabilized Trench Flow                  |                  |
| <input type="checkbox"/> Barrier (Permanent)             | <input type="checkbox"/> Sediment Basin                          |                  |
| <input type="checkbox"/> Concrete Revetment Mats         | <input type="checkbox"/> Retaining Walls                         |                  |
| <input type="checkbox"/> Dewatering Filtering            | <input checked="" type="checkbox"/> Riprap                       |                  |
| <input type="checkbox"/> Gabions                         | <input checked="" type="checkbox"/> Storm Drain Inlet Protection |                  |
| <input type="checkbox"/> In-Stream or Wetland Work       | <input type="checkbox"/> Slope Walls                             |                  |
| <input type="checkbox"/> Level Spreaders                 | <input type="checkbox"/> Sediment Trap                           |                  |
| <input type="checkbox"/> Paved Ditch                     | <input checked="" type="checkbox"/> Other (Specify)              | Dust Suppression |
| <input type="checkbox"/> Permanent Check Dams            | <input type="checkbox"/> Other (Specify)                         | _____            |
| <input type="checkbox"/> Precast Block Revetment Mat     | <input type="checkbox"/> Other (Specify)                         | _____            |
| <input type="checkbox"/> Rock Outlet Protection          | <input type="checkbox"/> Other (Specify)                         | _____            |

4. Polymer Flocculants

Design guidance for polymer flocculants is available in Chapter 41 of the BDE Manual. In addition, Polymer Flocculants may only be used by district Special Provision.

If polymer flocculants are used for this project, the following must be adhered to and described below:

- Identify the use of all polymer flocculants at the site.
- Dosage of treatment chemicals shall be identified along with any information from any Material Safety Data Sheet.
- Describe the location of all storage areas for chemicals.
- Include any information from the manufacturer's specifications.
- Treatment chemicals must be stored in areas where they will not be exposed to precipitation.
- The SWPPP must describe procedures for use of treatment chemicals and staff responsible for use/application of treatment chemicals must be trained on the established procedures.

N/A

**Part V. Other Conditions**

1. Dewatering

Will dewatering be required for this project?     Yes     No

If yes, the following applies:

- Dewatering discharges shall be routed through a sediment control (e.g., sediment trap or basin, pumped water filter bag) designed to minimize discharges with visual turbidity;
- The discharge shall not include visible floating solids or foam;
- The discharge must not cause the formation of a visible sheen on the water surface, or visible oily deposits on the bottom or shoreline of the receiving water. An oil-water separator or suitable filtration device shall be used to treat oil, grease, or other similar products if dewatering water is found to or expected to contain these materials;
- To the extent feasible, use well-vegetated (e.g., grassy or wooded), upland areas of the site to infiltrate dewatering water before discharge;
- You are prohibited from using receiving waters as part of the treatment area;
- To minimize dewatering-related erosion and related sediment discharges, use stable, erosion-resistant surfaces (e.g., well-vegetated grassy areas, clean filler stone, geotextile underlayment) to discharge from dewatering controls. Do not place dewatering controls, such as pumped water filter bags, on steep slopes (15% or greater in grade);
- Backwash water (water used to backwash/clean any filters used as part of storm water treatment) must be properly treated or hauled off-site for disposal;
- Dewatering treatment devices shall be properly maintained; and
- See Part XI (Inspections) for inspection requirement.

### **Part VI. Permanent (i.e., Post-Construction) Storm Water Management Controls**

Provided below is a description of measures that may be installed during the construction process to control volume and therefore the amount pollutants in storm water runoff that can occur after construction operations have been completed.

Practices may include but are not limited to the following:

- Aggregate ditch checks;
- bioswales,
- detention pond(s),
- infiltration trench;
- retention pond(s),
- open vegetated swales and natural depressions,
- treatment train (sequential system which combine several practices).
- Velocity dissipation devices (See Structural Practices above)

Describe these practices below

N/A

### **Part VII. Additional Practices Incorporated From Local Ordinance(s)**

In some instances, an additional practice from a local ordinance may be included in the project. If so, describe below (Note: the Department is not subject to local ordinances)

N/A

## **Part VIII. Unexpected Regulated Substances/Chemical Spill Procedures**

When Unexpected Regulated Substances or chemical spills occur, Article 107.19 of the Standard Specifications for Road and Bridge Construction shall apply. In addition, it is the contractor's responsibility to notify the Engineer in the event of a chemical spill into a ditch or waterway, the Engineer will then notify appropriate IEPA and IEMA personnel for the appropriate cleanup procedures.

## **Part IX. Contractor Required Submittals**

Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342A.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

- Approximate duration of the project, including each stage of the project
- Rainy season, dry season, and winter shutdown dates
- Temporary stabilization measures to be employed by contract phases
- Mobilization time-frame
- Mass clearing and grubbing/roadside clearing dates
- Deployment of Erosion Control Practices
- Deployment of Sediment Control Practices (including stabilized construction entrances and exits to be used and how they will be maintained)
- Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
- Paving, saw-cutting, and any other pavement related operations
- Major planned stockpiling operation
- Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc.
- Permanent stabilization activities for each area of the project

2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:

- Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
- Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
- Material Delivery, Storage and Use- Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project. Specifically, any chemical stored in a 55 gallon drum provided by the contractor.
- Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
- Waste Disposal - Discuss methods of waste disposal that will be used for this project.
- Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill.
- Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
- Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
- Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure

containment and spill prevention.

- Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.

Additional measures indicated in the plan

N/A

## **Part X. Maintenance**

It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications. However, when requested by the Contractor, the Resident Engineer will provide general maintenance guides (e.g., IDOT Erosion and Sediment Control Field Guide) to the Contractor for the practices associated with this project. Any damage or undermining shall be repaired immediately.

**For Inlet Protection:** Where there is evidence of sediment accumulation adjacent to the inlet protection measure, the deposited sediment must be removed by the following business day.

Below, describe procedures to maintain in good and effective operating conditions

During construction, the contractor shall clean up and grade the work area to eliminate concentration runoff, cover open pipes in trenches at the close of each working day. Maintain or replace (if specified by the Engineer) erosion and sediment control items. Temporary erosion control systems shall be left in place with proper maintenance until permanent erosion control is in place and working properly and all proposed turf areas are seeded and established with proper stand. Prior to any landscaping/restoration work, the contractor shall remove and dispose of silt retained by the temporary erosion barrier. Temporary seeding shall be placed in accordance to the IDOT Standard Specifications.

All maintenance of erosion control systems will be the responsibility of the contractor. All locations where vehicles enter and exit the construction site and all other areas subject to erosion should also be inspected periodically. Inspection of these areas shall be made at least once every seven days and within 24 hours of the end of a storm that is 0.5 inches or greater rainfall, or an equivalent snowfall.

Once permanent erosion control systems and items as proposed in the plans are functional and established, temporary items shall be removed, cleaned up and disturbed turf reseeded.

## **Part XI. Inspections**

Qualified personnel shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm or by the end of the following business or workday that is 0.50 inches or greater or equivalent snowmelt (except as allowed for Frozen Conditions).

In addition, all areas where storm water typically flows within the site should be inspected periodically to check for evidence of pollutants entering the drainage system, as well as all locations where stabilization measures have been implemented to ensure they are operating correctly.

Inspections shall be documented on the form BC 2259 (Storm Water Pollution Prevention Plan Erosion Control Inspection Report).

The Erosion and Sediment Control Field Guide for Construction Inspection shall be consulted as needed.

### Dewatering

For site(s) discharging dewatering water, an inspection during the discharge shall be done once per day on which the discharge occurs and record the following in a report within 24 hours of completing the Inspection:

- The inspection date;
- Names and titles of personnel performing the inspection;

- Approximate times that the dewatering discharge began and ended on the day of inspection;
- Estimates of the rate (in gallons per day) of discharge on the day of inspection;
- Whether or not any of the following indications of pollutant discharge were observed at the point of discharge: a sediment plume, suspended solids, unusual color, presence of odor, decreased clarity, or presence of foam; and/or a visible sheen on the water surface or visible oily deposits on the bottom or shoreline of the receiving water.

#### Frozen Conditions

Inspections may be reduced to once per month when all construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities resume, either temporarily or continuously, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

#### Flooding or unsafe conditions

Areas that are inaccessible during required inspections due to flooding or other unsafe conditions must be inspected within 72 hours of becoming accessible.

### **Part XII. Incidence of Noncompliance (ION)**

The Department shall notify the appropriate Agency Field Operations Section office by email as described on the IEPA ION form, within 24 hours of any incidence of noncompliance for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit.

The Department shall complete and submit within 5 days an "Incidence of Noncompliance" (ION) report for any violation of the storm water pollution prevention plan observed during any Inspection conducted, or for violations of any condition of this permit. Submission shall be on forms provided by the IEPA and include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. Corrective actions must be undertaken immediately to address the identified non-compliance issue(s).

Illinois EPA  
2520 W. Iles Ave./P.O. Box 19276  
Springfield, IL 62794-9276

Please note that if these are delivered via FedEx or UPS, these carriers cannot deliver to our P.O. Box and this number must be excluded from the mailing address.

### **Part XIII. Corrective Actions**

Corrective actions must be taken when:

- A storm water control needs repair or replacement;
- A storm water control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly;
- Discharges are causing an exceedance of applicable water quality standards; or
- A prohibited discharge has occurred.

Corrective Actions must be completed as soon as possible and documented within 7 days in an Inspection Report or report of noncompliance. If it is infeasible to complete the installation or repair within 7 calendar days, it must be documented in the records why it is infeasible to complete the installation or repair within the 7 day time-frame and document the schedule for installing the storm water control(s) and making it operational as soon as feasible after the 7-day time-frame.. In the event that maintenance is required for the same storm water control at the same location three or more times, the control must be repaired in a manner that prevents continued failure to the extent feasible, and it must be documented the condition and how it was repaired in the records. Alternatively, it must be documented why the specific re-occurrence of this same issue must continue to be addressed as a routine maintenance fix.

## **Part XIV. Retention of Records**

The Department must retain copies of the SWPPP and all reports and notices required by this permit, records of all data used to complete the NOI to be covered by this permit, and the Agency Notice of Permit Coverage letter for at least three years from the date that the permit coverage expires or is terminated. the permittee must retain a copy of the SWPPP and any revisions to the SWPPP required by this permit at the construction site from the date of project initiation to the date of final stabilization. Any manuals or other documents referenced in the SWPPP must also be retained at the construction site.

## **Part XV. Failure to Comply**

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the contractor (See Article 105.03 Conformity with Contract)

## **Part XVI. Keeping the SWPPP (“plan”) Current**

IDOT shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to Waters of the United States and which has not otherwise been addressed in the plan or if the plan proves to be ineffective in eliminating or significantly minimizing sediment and/or pollutants identified under paragraph Part II. Water Quality or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with construction site activity.

In addition, the plan shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the plan. Amendments to the plan may be reviewed by the IEPA the same manner as the SWPPP and Erosion and Sediment Control Plan (ESCP) submitted as part of the Notice of Intent (NOI). The SWPPP and site map must be modified within 7 days for any changes to construction plans, storm water controls or other activities at the site that are no longer accurately reflected in the SWPPP.

In addition, the NOI shall be modified using the CDX system for any substantial modifications to the project such as:

- address changes
- new contractors
- area coverage
- additional discharges to Waters of the United States, or
- other substantial modifications (e.g. addition of dewatering activities).

The notice of intent shall be modified within 30 days of the modification to the project.

## **Part XVII: Notifications**

In addition to the NOI submitted to IEPA, all MS4 permittees identified in Part I. Site Description shall receive a copy of the NOI.

## **Part XVIII. Notice of Termination**

Where a site has completed final stabilization and all storm water discharges from construction activities that are authorized by this permit are eliminated, the permittee must submit a completed Notice of Termination (NOT) that is signed in accordance with ILR10 permit.

Method of Measurement: NPDES Compliance shall not be measured for payment separately. Measurement for payment for Temporary Erosion and Sediment Control shall be in accordance with Section 280 or as otherwise provided in the contract. Permanent BMPs necessary to comply with this provision shall be measured for payment in accordance with their respective provisions in the contract.

Basis of Payment: NPDES Compliance shall not be paid for separately. Payment for Temporary Erosion and Sediment Control shall be in accordance with Section 280 or as otherwise provided in the contract. Permanent BMPs necessary to comply with this provision shall be paid for in accordance with their respective payment provisions in the contract.



# Contractor Certification Statement

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Part IX. Contractor Required Submittals of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route C.H. 11	Marked Route Ridge Road	Section Number 22-00168-00-RP
Project Number 32ZU(960)	County Kendall	Contract Number 87899

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Additionally, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

Signature		Date	
Print Name		Title	
Name of Firm		Phone	
Street Address	City	State	Zip Code

Items which this Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP

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

SPECIAL PROVISION  
FOR  
INSURANCE

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

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

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

Kendall County

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

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets  
SPECIAL PROVISION  
FOR  
CONSTRUCTION AND MAINTENANCE SIGNS

Effective: January 1, 2004  
Revised: June 1, 2007

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

701.14. Signs. Add the following paragraph to Article 701.14:

All warning signs shall have minimum dimensions of 1200 mm x 1200 mm (48" x 48") and have a black legend on a fluorescent orange reflectorized background, meeting, as a minimum, Type AP reflectivity requirements of Table 1091-2 in Article 1091.02.

State of Illinois  
 DEPARTMENT OF TRANSPORTATION  
 Bureau of Local Roads & Streets  
 SPECIAL PROVISION  
 FOR  
 LOCAL QUALITY ASSURANCE/ QUALITY MANAGEMENT QC/QA  
 Effective: January 1, 2022

Replace the first five paragraphs of Article 1030.06 of the Standard Specifications with the following:

**“1030.06 Quality Management Program.** The Quality Management Program (QMP) will be Quality Control / Quality Assurance (QC/QA) according to the following.”

Delete Article 1030.06(d)(1) of the Standard Specifications.

Revise Article 1030.09(g)(3) of the Standard Specifications to read:

“(3) If core testing is the density verification method, the Contractor shall provide personnel and equipment to collect density verification cores for the Engineer. Core locations will be determined by the Engineer following the document “Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations” at density verification intervals defined in Article 1030.09(b). After the Engineer identifies a density verification location and prior to opening to traffic, the Contractor shall cut a 4 in. (100 mm) diameter core. With the approval of the Engineer, the cores may be cut at a later time.”

Revise Article 1030.09(h)(2) of the Standard Specifications to read:

“(2) After final rolling and prior to paving subsequent lifts, the Engineer will identify the random density verification test locations. Cores or nuclear density gauge testing will be used for density verification. The method used for density verification will be as selected below.

Density Verification Method	
<input checked="" type="checkbox"/>	Cores
<input type="checkbox"/>	Nuclear Density Gauge (Correlated when paving ≥ 3,000 tons per mixture)

Density verification test locations will be determined according to the document “Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations”. The density testing interval for paving wider than or equal to 3 ft (1 m) will be 0.5 miles (800 m) for lift thicknesses of 3 in. (75 mm) or less and 0.2 miles (320 m) for lift thicknesses greater than 3 in. (75 mm). The density testing interval for paving less than 3 ft (1 m) wide will be 1 mile (1,600 m). If a day’s paving will be less than the prescribed density testing interval, the length of the day’s paving will be the interval for that day. The density testing interval for mixtures used for patching will be 50 patches with a minimum of one test per mixture per project.

If core testing is the density verification method, the Engineer will witness the Contractor coring, and secure and take possession of all density samples at the

density verification locations. The Engineer will test the cores collected by the Contractor for density according to Illinois Modified AASHTO T 166 or AASHTO T 275.

If nuclear density gauge testing is the density verification method, the Engineer will conduct nuclear density gauge tests. The Engineer will follow the density testing procedure detailed in the document "Illinois Modified ASTM D 2950, Standard Test Method for Density of Bituminous Concrete In-Place by Nuclear Method".

A density verification test will be the result of a single core or the average of the nuclear density tests at one location. The results of each density test must be within acceptable limits. The Engineer will promptly notify the Contractor of observed deficiencies."

Revise the seventh paragraph and all subsequent paragraphs in Section D. of the document "Hot-Mix Asphalt QC/QA Initial Daily Plant and Random Samples" to read:

"Mixtures shall be sampled from the truck at the plant by the Contractor following the same procedure used to collect QC mixture samples (Section A). This process will be witnessed by the Engineer who will take custody of the verification sample. Each sample bag with a verification mixture sample will be secured by the Engineer using a locking ID tag. Sample boxes containing the verification mixture sample will be sealed/taped by the Engineer using a security ID label."

# ILLINOIS URBAN MANUAL PRACTICE STANDARD

## **Cofferdam**

(no.)

Code 803



Source: Kane-DuPage Soil and Water Conservation District

### **Definition**

A cofferdam is a temporary structure within a waterway or body of water designed to provide a dry work area for temporary construction activities and contain disturbed soil and/or suspended sediment.

### **Purpose**

The purpose of this practice is to allow work to be performed in a waterway or body of water while minimizing turbidity and sedimentation in adjacent and/or downstream areas.

### **Condition Where Practice Applies**

This practice is to be used as a temporary measure whenever work will be conducted in a waterway (stream, river, or other linear feature that conveys water) or body of water (lake, pond, or another impoundment). Water is either intercepted upstream and discharged downstream or diverted around the work site.

Cofferdams may also be utilized in areas to allow work to be performed in otherwise unsuitable conditions.

Typical activities requiring the use of cofferdams include: shoreline stabilization of a water body; installation or replacement of a culvert, bridge, pier, or abutment; open-cutting for the installation of utilities; and stream restoration projects.

For the purposes of this standard, the term full cofferdam will refer to a cofferdam that blocks the entire base flow of water in a linear waterway and partial cofferdam will refer to a cofferdam that only blocks a portion of the base flow.

For situations in waterways where a full cofferdam is needed, please refer to Practice Standard [TEMPORARY DIVERSION 976](#) for temporary diversion practices.

For a full cofferdam in a perennial stream, Standard Drawing [TEMPORARY STREAM DIVERSION – DIVERSION CHANNEL IUM-676DC](#) may be used for temporary diversion practices.

For a full cofferdam in an intermittent stream, Standard Drawings [TEMPORARY STREAM DIVERSION – DIVERSION CHANNEL IUM-676DC](#), [TEMPORARY STREAM DIVERSION – PIPE DIVERSION IUM-676PD](#) or [TEMPORARY STREAM DIVERSION – BYPASS PUMP IUM-676BP](#) may be used for temporary diversion practices.

This practice standard should not take the place of an engineered sheet pile cofferdam. Cofferdams designed utilizing this standard may necessitate review by an Illinois licensed engineer, depending on the size and scale of the cofferdam.

## **Criteria**

### **General**

Cofferdams must be constructed of non-erodible materials such as stone, metal, geosynthetics, or other products as approved by the responsible reviewing authority. The cofferdam materials shall be free of potential pollutants such as soil, silt, sand, clay, grease, or oil. Any substance used to assemble or maintain cofferdams shall be nontoxic and non-hazardous. Any material used to minimize seepage underneath diversion structures, such as grout, shall be non-toxic, non-hazardous, and as close to neutral pH (7) as possible.

The exterior of vehicles and equipment that will be within the coffered area shall be maintained free of grease, oil, fuel, and residues. Stationary equipment such as motors, pumps, etc. located within the work area or adjacent to a water body shall be positioned over drip pans or other confinement area. All equipment shall be stored outside of the floodplain when not in use to avoid inundation during a high-water event.

The term “low-flow conditions” used within this standard refers to flow at or below the ordinary high-water mark (OHWM). The OHWM refers to a clear line developed by typical fluctuations in water levels. To avoid or minimize impacts, construction in a linear water feature shall be scheduled during seasonal or temporary periods of low- or no-flow conditions. Scheduling shall also consider seasonal releases of water from dams, water demands due to crop irrigation, and timed to minimize impacts on fish and other aquatic life. Cofferdams shall not be used across a stream bed at times when fish passage/spawning is of concern, unless properly mitigated.

Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. Disturbed areas shall be stabilized with the appropriate vegetation or other stabilization measures upon the completion of work or during periods of inactivity.

Excavated material or spoils resulting from the activity shall be removed from the coffered area as soon as possible and shall not remain overnight.

Waterways with a cobble bottom should be restored following the completion of work.

When installing a cofferdam in a linear water feature, every effort shall be made to block only a portion of the waterway by using a partial cofferdam. The reason for using a partial cofferdam is to maintain stream flow and allow the movement of aquatic life during construction. Blocking the entire flow shall only be done when absolutely necessary.

### Sequencing

Prior to the commencement of instream activities, all appropriate soil erosion and sediment control measures shall be properly installed.

No construction equipment shall enter standing or flowing water. If equipment must access the work area through water, a non-erodible causeway must be constructed.

Cofferdams used in linear water features shall provide for emergency overflow at the center of the cofferdam to prevent erosion along the banks. The overflow system shall include an energy dissipating surface and must not contribute to, or cause, erosion of the stream.

Following cofferdam installation, the work area shall be completely dewatered in order to work under dry conditions. Pumping of water may be required throughout the construction activities in order to maintain dry conditions. Practice Standards [DEWATERING 813](#) and [SUMP PIT 950](#) may be utilized in order to achieve dry conditions.

Water pumped from the work area shall be filtered to ensure that the discharge results in no visible increase in suspended solids or turbidity in the water that is surrounding the work area. The quality of discharge water shall meet all applicable local, state, or federal regulations, whichever is most restrictive. Methods for cleaning water discharged from the work area include: Practice Standards [PORTABLE SEDIMENT TANK 895](#), [TEMPORARY SEDIMENT TRAP 960](#), or [POLYACRYLAMIDE \(PAM\) FOR TURBIDITY REDUCTION AND SEDIMENT CONTROL 894](#), or other approved methods, such as sediment dewatering bags.

All water pumped from, or diverted around, the work area shall be discharged on an energy dissipating surface and must not contribute to, or cause, erosion of the stream.

All temporary materials must be removed after the completion of construction activities. Prior to cofferdam removal, the work area must be stabilized with appropriate vegetative and/or structural practices in accordance with plan details and specifications and be stable enough to accept flows, as determined by the responsible reviewing authority.

The downstream cofferdam shall be removed first followed immediately by the removal of the upstream cofferdam.

### Design

The diversion or bypass flow shall be sized to safely convey the 2-year peak flow, at a minimum. The cofferdam shall be designed to overtop for any events greater than the 2-year peak elevation, unless higher peak flows are being bypassed. It is the responsibility of property owners and those performing work to safely convey flows to prevent damage to off-site properties.

If waterway information is not available, the ordinary high water (OHW) mark can be used as an indicator.

The construction of any cofferdam, within a linear water feature, regardless of duration, shall not cause a significant water level difference upstream or downstream of the project site. Stream velocity below the cofferdam shall be maintained at a rate similar to existing, pre-installation flow conditions above the cofferdam.

### Cofferdam – Bladder

Inflatable bladders should only be used in situations where there is a relatively flat base material. Large variations in the base elevation will result in an improper seal, which will allow water seepage. Bladder cofferdams are appropriate for both full and partial cofferdam situations.

Inflatable bladder cofferdams shall be constructed in accordance with manufacturer specifications. The specific sizing, installation requirements, maintenance, allowable flow velocities and other pertinent information shall follow manufacturer specifications. All cofferdams must be dual-chambered to avoid rolling.

### Cofferdam – A-Frame

A-frame cofferdams should only be used in situations where there is a relatively flat base material. Large variations in the base elevation will result in an improper seal, which will allow water seepage. A-frame cofferdams are appropriate for both full and

partial cofferdam situations.

A-frame cofferdams shall be constructed in accordance with manufacturer specifications. The specific sizing, installation requirements, maintenance, allowable flow velocities and other pertinent information shall follow manufacturer specifications.

#### Cofferdam – Stone and Impermeable Barrier

Stone and impermeable barrier cofferdams should only be used in intermittent streams of lower flow velocity. These cofferdams may be used in partial cofferdam situations in higher velocity linear water features and water bodies.

This cofferdam method could be a possible option in areas where underground electrical and gas lines may be present. It may also be a good option for areas with an uneven, stone, or bedrock base material.

To install a stone impermeable barrier cofferdam, first place the impermeable barrier on the bottom of the water feature. The barrier should extend out past the edge of the future cofferdam a sufficient length so that it can be pulled back over the rip rap after it has been installed. This will create a seamless barrier on the water side with the opening seam on the work area side. After the barrier is pulled over the rip rap, it will likely be necessary to hold the impermeable barrier in place with rip rap or sandbags.

Riprap should be sized appropriately to ensure that the cofferdam is able to withstand design flows.

#### Cofferdam – Steel Sheet

Steel sheet cofferdams are different from sheet pile cofferdams. Sheet pile cofferdams are considered to be engineered structures, where steel sheet cofferdams may not be. Steel sheet cofferdams are not recommended for partial cofferdams used in larger

waterways or bodies of water.

Steel sheet cofferdams are appropriate for both full and partial cofferdam situations. Steel sheet cofferdams should not be used in areas where underground electrical and gas lines may be present. Overhead wires located above the potential cofferdam location may also limit the use of this method. In areas with stone or bedrock base materials, the use of steel sheet for cofferdams may be difficult or impractical.

Steel sheet shall be driven into the base material a sufficient distance to avoid undercutting. Steel sheets shall be able to create a fully enclosed work area.

#### *Impermeable Barrier Material*

The impermeable barrier used in this standard should consist of one of the following materials:

1. Rubber liner with a thickness of at least 45 mil. This material elongates up to 100% and has good UV resistance. A solvent weld is necessary to affix material into larger sections.
2. Polypropylene liner with a thickness of at least 40 mil. This material elongates up to 80%. A heat gun is necessary to weld pieces together. Fabric puncturing may be a concern for this material.
3. Polyvinyl chloride (PVC) liner with a thickness of at least 40 mil. High elongation properties but not UV stable. A solvent weld is necessary to affix material into larger sections.

#### **Considerations**

This standard describes four typical cofferdam types, but others are possible. Alternative cofferdams should be designed based on the general criteria of this standard and adapted to meet the requirements of similar cofferdam types. As an example, rather than stone for the stone and impermeable barrier cofferdam,

alternative fillers may be used, such as sand bags or gravel bags. In addition, the up- and downstream cofferdam types can be different.

Cofferdams are temporary and should not be left for long periods of time. Additional considerations should be incorporated for long-term cofferdam usage such as issues with ice flow or aquatic life movement. Long-term cofferdams may have to be built to withstand a less frequent (higher magnitude) storm event.

Any work within a stream may be subject to the rules and regulations of the U.S. Army Corps of Engineers. A permit may also be required from the Illinois Department of Natural Resources and Illinois Environmental Protection Agency.

Additional requirements may apply in areas where state or federally threatened or endangered species are present or other species of local interest.

Prior to the installation or removal of a cofferdam, a SILT CURTAIN 917 may be installed to contain turbid water and allow suspended solids resulting from the installation of the cofferdam to settle out. Silt curtains should never be placed across stream flow as they may reduce flow and catch debris. The curtains should be placed parallel to flow or the shoreline to contain sedimentation that may occur during the installation of the cofferdam.

The use of sandbags as a seal for areas of seepage from the cofferdam is permissible. Sandbags must only be placed within the cofferdam when utilized for this purpose.

Cofferdams can be used in a variety of situations and as such, require a variety of different practices based on the individual site conditions and work to be performed. All other appropriate cofferdam methods not listed in this standard should be designed

by an engineer and constructed to meet the requirements of the local, state, or federal regulations, whichever is more stringent.

When using a partial cofferdam, the potential for scour of the open portion of channel should be considered.

### **Plans and Specifications**

Plans and specifications for cofferdams shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The following items shall be included in the plans:

1. The location of the cofferdam
2. Cofferdam type
3. Normal water elevation
4. Installation, inspection, and maintenance schedules with the responsible party identified
5. The 2-year peak flow and elevation values

Standard Drawings [A-FRAME COFFERDAM IUM-503AF](#), [A-FRAME PARTIAL COFFERDAM IUM-503AP](#), [BLADDER COFFERDAM IUM-503BF](#), [BLADDER PARTIAL COFFERDAM IUM-503BP](#), [ROCK COFFERDAM IUM-503RF](#), [ROCK PARTIAL COFFERDAM IUM-503RP](#), or [STEEL SHEET PILE COFFERDAM IUM-503SS](#) may be used as the plan sheet.

### **Operation and Maintenance**

Because the potential for washout is high, the cofferdam shall be monitored daily and must not be left unattended for longer than 24 hours. Weather reports should be observed. If a storm event is expected, the site shall be stabilized in preparation as appropriate. All repairs shall be made immediately to prevent further damage to the installation.

Regularly inspect cofferdams for leaks or other deficiencies. Sandbags used within the cofferdam, if applicable, must be removed by hand to prevent breakage.

All disturbed soil within the coffered area shall be returned to original condition with all possible efforts made to retain the existing soil profile prior to the removal of the dams.

The side slopes shall be reseeded and stabilized with an appropriate erosion control blanket and the substrate shall be restored to preconstruction conditions. Stabilization of all remaining disturbed areas shall be initiated immediately following the removal of the cofferdams. In no instance shall areas adjacent to water features be left disturbed overnight.

### **References**

Tennessee Department of Environment and Conservation, Division of Water and Pollution Control. Stream Diversion Channel – SDC. Tennessee Erosion and Sediment Control Handbook, Second Edition, March 2002.

Delaware Department of Natural Resources and Environmental Control – Division of Soil & Water Conservation, Delaware Erosion and Sediment Control Handbook, June 2005.

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Code 803 – Cofferdam.doc

# ILLINOIS URBAN MANUAL PRACTICE STANDARD

## Dewatering

(no.)

Code 813



Source: Illinois Urban Manual Technical Committee

### **Definition**

The controlled removal of water from construction sites.

### **Purpose**

The purposes of this practice are as follows:

1. To minimize construction impacts in areas with surface water or a high water table.
2. To prevent sediment transport.
3. To provide work site safety.
4. To prevent pollution of groundwater or surface water from suspended soil particles carried in construction site dewatering operations.
5. To preserve down-gradient natural resources and property.

### **Conditions Where Practice Applies**

Construction sites, including any onsite and offsite excavated areas, where the presence of water creates unsafe conditions, potential damage, or restricts construction operations.

Construction sites where water is present in any form, including stormwater runoff, stormwater ponding, intermittent runoff, streams, standing water, groundwater, or other bodies of water

Where water pumping operations occur. Where the water table is intercepted.

Where work is performed in-stream.

Where collected stormwater runoff is removed from construction sites.

Not for the removal of water that is polluted by chemicals, fuel, etc. This standard only addresses a suspended solid in the form of uncontaminated sediment.

### **Criteria**

Dewatering shall consist of the removal of surface water and/or ground water by diverting and/or removing water from construction sites to perform the required construction in accordance with the plans and specifications.

Discharging sediment to upland vegetated areas shall not be used as a stand-alone sediment control practice during dewatering operations.

Construction projects may be subject to local, county, state and federal rules and regulations.

Accumulated sediment from dewatering operations shall be disposed of in accordance with all applicable laws and regulations.

**Diverting Surface Water** – Cofferdams, channels, sumps, flumes and temporary diversions shall be built and maintained, according to contract plans, specifications, and respective IUM Practice Standards.

For the installation of cofferdams and sumps, follow the requirements as outlined in Practice Standards [COFFERDAM 803](#) and [SUMP PIT 950](#).

Excess surface runoff shall be diverted from the construction area as outlined in Practice Standards [TEMPORARY DIVERSION 955](#), [TEMPORARY SWALE 980](#), [DIVERSION 815](#) and [DIVERSION DIKE 820](#).

A permanent stream or other concentrated flow shall be diverted away from the construction area as outlined in Practice Standard [TEMPORARY STREAM DIVERSION 976](#).

*Removing Water* – Drains, sumps, pumps, casings, well points and all other practices required to dewater the site shall be furnished, installed and maintained according to contract plans, specifications, and respective IUM Practice Standards.

When dewatering by well points and deep wells is utilized, the wells shall be placed at intervals along the construction area as necessary to depress the groundwater table during construction. Monitoring wells shall be installed where measurement of the pumping effectiveness is required. Well point and deep well dewatering shall be terminated and sealed immediately upon completion of the dewatering operation.

*Sediment Control* – All dewatering activities shall be performed in a manner that does not negatively impact the water quality of the water table, cause erosion, or transport sediment to wetlands, water bodies, water conveyance features, etc. on or off site.

In poorly drained soil areas where well dewatering is not practical, pumping directly from construction trenches is permitted provided appropriate sediment control practices are incorporated with the pumping activity.

All outlets and drainage pathways for dewatering discharges shall be stable and protected from erosion.

*Sediment Removal Practices* – Sediment removal shall be provided using the following practices, or combination of practices, depending on the soil type, suitability of dewatering method, volume of sediment to be removed, location, and amount of dewatering.

Practice Standard, [TEMPORARY SEDIMENT TRAP 960](#), shall be used to detain water and remove sediment from pumping and diversion operations where space is available.

Practice Standard, [PORTABLE SEDIMENT TANK 895](#), shall be used to retain sediment during dewatering operations where there is limited space.

Practice Standard, [POLYACRYLAMIDE \(PAM\) FOR TURBIDITY REDUCTION AND SEDIMENT CONTROL 894](#).

*Pumps with Sediment Filtration Bags* – Where there is low, intermittent pumping activity, pumps with sediment filtration bags attached to pump discharges shall be used. Sediment filtration bags shall be placed on a stabilized surface area. Sediment filtration bags shall not be placed, whole or partially, within aquatic areas (wetlands, streams, etc.), or water conveyance features (ditches, swales, etc.). Sediment filtration bags shall be raised above the supporting ground on a surface, or material, that allows water to flow out of the bottom of the bag at the respective design discharge rate for the sediment filter bag selected. The pump discharge rate shall not exceed the design discharge rate for the sediment filter bag.

Materials, structures, etc. that are used to ensure that water flows out of the bottom of a sediment filter bag must be non-erodible and be placed atop a stabilized surface area.

The material for the sediment filtration bag shall meet the requirements of Material Specification [GEOTEXTILE 592](#), [Table 2, Class 1](#) with a minimum tensile strength of 200 lbs., or [Table 1, Class 4](#) value. The sediment filter bag shall be sized per manufacturer recommendations and based on the size of the pump however, the minimum bag size shall be 10 feet x 15 feet with a usable surface drainage area of 300 square feet (10 x 15 x 2) sides, top & bottom. The largest diameter size pump hose to be used with a sediment filtration bag is 4-inch. Multiple hoses/pipes shall not be attached to a single filtration bag inlet sleeve.

*Removal of Dewatering Facilities* – The temporary dewatering areas shall be removed after they have served their purpose. The dewatering areas shall be graded where necessary, and stabilized with appropriate erosion control practices. Shall not create any obstruction of normal water flow, or any other interference with the operation of, or access to the permanent works.

### **Considerations**

Federal, State, County and local water quality requirements also need to be considered when choosing a dewatering method and may include requirements for sampling and evaluating discharges for clarity.

Base the location, method of dewatering, and configuration on site conditions. The following items should be considered when selecting the proper dewatering method:

1. Amount of water to remove
2. The amount of sediment to be removed
3. Maintenance and operation required as a result of the construction operations

4. Length of time to complete the work
5. The space available in the work area
6. Ability to supervise pump operation

Evaluate function, need, velocity control, outlet stability, and site aesthetics. The location and capacity of temporary diversion and protective works should be based on the characteristics of the site, accessibility, and the potential for off-site, or on-site damage during the construction phase.

### Secondary Containment

Secondary sediment containment practices may be required to ensure that sediment from a dewatering activity does not adversely impact a particular body of water, wetland, or water conveyance feature (ditch, swale, etc.). Secondary containment may be required if the method of sediment removal concentrates the sediment in one location or practice. Secondary containment measures shall be placed between the area of control and the receiving area and/or aquatic resource.

Winter conditions and freezing temperatures can impact the effectiveness and functionality of sediment filter bags and anionic polymers for sediment removal during dewatering. If dewatering activities are likely to occur over winter, dewatering practices for sediment control should be included in the development of the Stormwater Pollution Prevention Plan that can be effective in freezing temperatures.

An analysis of the effects of dewatering a site should also be considered. For example, permanent dewatering of a site may cause subsidence of surface areas and settlement of foundations and pavements. Additionally, temporary dewatering may create dry areas during construction but the effect of allowing water tables to rise after construction may result in excess pressure on subsurface structures, potentially causing damage and/or excessive sump pump cycling.

## **Plans and Specifications**

Plans and specifications for installing and building dewatering facilities shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include:

1. Approximate location and proposed type of dewatering method shown on plans
2. Drawings, specifications, etc. for all items of work as needed for dewatering
3. The dewatering plan as part of the Storm Water Pollution Prevention Plan (SWPPP) and/or the erosion and sediment control plan, detailing the location of dewatering activities, presence of aquatic areas, equipment, fuel storage, and discharge point
4. Any total maximum daily load (TMDL) requirements for the receiving waters or turbidity standards shall be stated on the plan set
5. A brief narrative outlining a construction sequence for the dewatering operation
6. Drawing details for proper installation of the various dewatering facilities as needed

All plans shall include installation, inspection, and maintenance schedules with the responsible party identified.

Methods of dewatering shall be constructed to meet the requirements of Construction Specification [REMOVAL OF WATER 11](#).

## **Operation and Maintenance**

The frequency of inspections shall depend on the dewatering method, amount of discharge, potential damage, and quality of the receiving bodies of water. The frequency of inspections, responsible party and specific tasks shall be identified.

1. Inspections shall be conducted to ensure proper operation and compliance with all permits and water quality standards.
2. Accumulated sediment shall be removed from the flow area and temporary diversions shall be repaired, as required.
3. Outlet areas shall be checked and repairs shall be made in a timely manner, as needed.
4. Pump outlets shall be inspected for erosion, and sumps shall be inspected for accumulated sediment.
5. Sediment filtration bags shall be removed and replaced when half full of sediment, or when the design flow rate of the filter bag is no longer being maintained.
6. If the receiving area is showing any signs of turbid water, erosion, or sediment accumulation, discharges shall be stopped immediately once safety and property damage concerns have been addressed.

### **References**

IDOT Erosion and Sediment Control Field Guide for Construction Inspection, July 1, 2010.

Maine Department of Environmental Protection, Bureau of Land and Water Quality. Maine Erosion and Sediment Control BMPs. G-3 Construction Dewatering. Augusta, ME. March 2003.

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Code 813 – Dewatering.doc

ILLINOIS URBAN MANUAL  
PRACTICE STANDARD

**Temporary Stream Diversion**

(feet)

Code 976



Source: Auckland Regional Council – Stream Facts

**Definition**

A temporary channel or pipe used to convey stream flow around a construction site.

**Purpose**

The purpose of this practice is to maintain stream flows and water quality while providing a dry work area.

**Conditions Where Practice Applies**

This practice applies to construction sites where:

1. Work within a stream, or part of a stream is required; and
2. Flows are low enough and/or the watershed is small enough to be handled in a diversion channel, pipe, or by a pump.

**Criteria**

The construction of any temporary stream diversion shall not cause a significant water level difference upstream or downstream of the project site (not to exceed 0.1 feet, or less if local ordinances are more restrictive). The velocity of the stream flow offsite shall be maintained.

Erosion and sediment control devices shall be in place prior to starting construction to prevent sediment from entering the diversion or the main stream and shall include temporary stabilization of the inlet and outlet of the temporary stream diversion. The inlet and outlet of the temporary stream diversion shall be stabilized using proper erosion control techniques, such as riprap over geotextile.

Discharges from dewatering of construction areas where streams are being diverted shall not alter the water quality or cause erosion or sedimentation in the stream or the temporary stream diversion. See Practice Standard [DEWATERING 813](#).

#### Types of Temporary Stream Diversions

The temporary stream diversion shall be accomplished with a channel, pipe, or pumped diversion. The type of diversion shall be selected based on the site-specific conditions, the amount of time the practice will be in use, and the anticipated flow rates.

Capacity – The design capacity of the temporary stream diversion shall take into account the length of time the practice will be in use. Where flood hazard exists, the capacity shall be increased according to the potential damage. See Table 1 for required channel design capacity. The temporary pipe shall be sized to safely convey the 2-year storm, at a minimum. The pump size shall be based on the anticipated flow. The pump operation shall be monitored and augmented, as needed.

Timing – The construction shall be planned to minimize the time needed for the temporary stream diversion. The temporary stream diversion shall be properly stabilized prior to accepting flows. The temporary stream diversion shall be removed as soon as practicable and only after the worksite on the existing stream has been stabilized.

Cross-Section – The temporary stream diversion channel shall be trapezoidal. The side slopes shall be no steeper than 2:1 horizontal to vertical. The depth and grade of the diversion channel is variable and shall be dependent upon site conditions.

Channel Lining – The temporary stream diversion channel shall be lined to prevent erosion of the channel and sedimentation in the stream. The process of excavation and stabilization shall be continuous.

The channel lining shall be selected based on the expected velocity in the temporary stream diversion channel for the design storm. See Table 1. The lining shall meet the requirements of the applicable practice standard or material specification – see Practice Standards [EROSION BLANKET 830](#) and [EROSION BLANKET: TURF REINFORCEMENT MAT \(TRM\) 831](#) and/or Material Specifications [GEOTEXTILE 592](#), [ROCK FOR RIPRAP 523](#) and [EROSION CONTROL BLANKET – TURF REINFORCEMENT MAT \(TRM\) 805](#).

Pipe Material – The temporary pipe shall be constructed of durable material able to withstand the anticipated site conditions. Check local ordinances for acceptable materials.

Pumped Diversion – When a pumped diversion is used, the water shall be pumped from upstream of the construction area to the existing downstream channel. The intake of the water pipe must be screened with openings  $< \frac{3}{32}$  inch to prevent entrainment of fish in the coffered area; and fish trapped within the coffered area shall be salvaged and returned to the downstream channel. The pump outlet location shall be properly stabilized to prevent erosion.

Removal of Water – The water within the construction area shall be removed in accordance with Practice Standard [DEWATERING 813](#). Dewatering from the construction area shall not be discharged directly to the stream.

Removal – Once the work is complete and the existing stream channel has been stabilized, the dams shall be removed starting at the downstream end. Then the temporary stream diversion shall be removed. The temporary channel, if used, shall be properly filled and stabilized using appropriate erosion control practices.

### **Considerations**

Any work within a stream is subject to local, county, state and federal rules and regulations. Failure to procure, and comply with, the appropriate permit(s) may result in significant fines.

Crossings of the temporary stream diversion may be required and, if needed, should be included with the design of the temporary stream diversion. See Practice Standard [TEMPORARY STREAM CROSSING 975](#).

When deciding on the location of temporary stockpiles, floodplain limits, wetlands, proximity to other bodies of water and the length of time the stockpile will exist need to be considered. Additionally, all stockpiles should be located outside the drip-line of trees and away from sensitive ecosystems. For additional information, see Practice Standards [TREE PROTECTION 990](#), [TREE PROTECTION – AUGERING 991](#), and [TREE AND FOREST ECOSYSTEM PRESERVATION 984](#).

Extreme care should be taken to minimize the impact on the existing ecosystem. The design and implementation of the temporary stream diversion should consider the environmental impacts. Clearing of the streambed and banks should be kept to a minimum.

In order to reduce the impact on fish populations and other aquatic organisms including vegetation, consider installing riffle structures, bank habitats and other practices that mimic and protect the existing stream environment. Also, the lining selected for the temporary stream diversion should take into account the existing conditions and wildlife. When appropriate, fish exclusion or fish capture/handling measures should be used.

The temporary stream diversion can also be used to divert flow from a drainage ditch or other drainage channel. The appropriate type of temporary stream diversion should be selected based on the specific site conditions and anticipated flow amounts.

### **Plans and Specifications**

Plans and specifications for installing a temporary stream diversion shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include the following items, as appropriate:

1. Channel location and alignment
2. Grade, depth and width
3. Channel lining material
4. Conduit type and diameter
5. Pump size and location
6. Outlet stabilization
7. Dam material/design
8. Sediment and erosion control practices and locations
9. Location of excavated material stockpiles
10. Installation, removal and stabilization construction sequences

All plans shall include the installation, inspection, and maintenance schedules with the responsible party identified.

The temporary stream diversion shall be constructed to meet the requirements of Construction Specification [TEMPORARY STREAM DIVERSION 760](#). Standard Drawing **IL-xxx** may be used as the plan sheet.

### **Operation and Maintenance**

The temporary stream diversion and diversion dams shall be checked at the end of each day, at a minimum. Any necessary repairs shall be made immediately. Remove all significant sediment accumulations to maintain the designed carrying capacity. Pumping operations shall be observed in accordance with Practice Standard [DEWATERING 813](#). Contingency measures shall be available for significant storms or unexpected events.

### **REFERENCES**

- Croft, David. 2004. Fords, Embankments and Underpasses – Guide for Designers and Managers. Neath, UK.
- Georgia Soil and Water Conservation Commission (GASWCC). Manual for Erosion and Sediment Control in Georgia – Stream Diversion Channel. Athens, GA. 2000.
- Portland Bureau of Environmental Services. Concept Designs and Technical Guidance – Surface Flow Diversion Guidelines. April 2007.
- Tennessee Department of Environment and Conservation, Division of Water Pollution Control. Stream Diversion Channel – SDC. Tennessee Erosion and Sediment Control Handbook, Second Edition, March 2002.

Table 1  
Temporary Stream Diversion Channel Linings

Lining Material	Acceptable Velocity Range	Upstream Tributary Area	Design Capacity Storm
Erosion Blanket <sup>1</sup>	Up to 1.5 ft/sec	Up to 1 mi <sup>2</sup>	2-year, 24-hour
Turf Reinforcement Mat, Non-Vegetated <sup>2</sup>	Up to 8 ft/sec	Up to 1 mi <sup>2</sup>	2 year, 24-hour
Geotextile <sup>3</sup>	Up to 11 ft/sec	Up to 1 mi <sup>2</sup>	2-year, 24-hour
Rip-Rap and Geotextile <sup>4</sup>			
Avg. 4" (3" – 6")	Up to 4 ft/sec	Up to 5 mi <sup>2</sup>	10-year, 24-hour
Avg. 8" (4" – 12")	Up to 6 ft/sec		
Avg. 14" (5" – 18")	Up to 13 ft/sec		

<sup>1</sup>Erosion blanket shall only be used with intermittent, low flows – per manufacturer’s recommendations. Vegetation shall be established when using erosion blanket as a channel lining. Erosion blanket shall be installed in accordance with Practice Standard [EROSION BLANKET 830](#).

<sup>2</sup>Turf reinforcement mat (TRM) shall be installed per manufacturer’s recommendations. TRM with temporary seeding may be used when sufficient time is available for the temporary stream diversion channel to vegetate. The acceptable velocity for vegetated TRM shall be per the manufacturer’s recommendations, but not greater than 16 ft/sec. TRM shall be installed in accordance with Practice Standard [EROSION BLANKET – TURF REINFORCEMENT MAT \(TRM\) 831](#).

<sup>3</sup>Selection of Geotextile fabric shall be based on Material Specification [GEOTEXTILE 592](#), Table 2, Class I. All geotextiles shall be installed in accordance with Construction Specification [GEOTEXTILE 95](#) and/or per the manufacturer’s recommendations.

<sup>4</sup>Rip-Rap thickness shall be 1.5 – 2.0 times d<sub>50</sub>. Selection of Rip-Rap should be based on guidelines from Construction Specification [ROCK RIPRAP 61](#) and Material Specification [ROCK FOR RIPRAP 523](#).

## **IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION**

Effective: August 1, 2012    Revised: February 2, 2017

In addition to the Contractor's equal employment opportunity (EEO) affirmative action efforts undertaken as required by this Contract, the Contractor is encouraged to participate in the incentive program described below to provide additional on-the-job training to certified graduates of the IDOT pre-apprenticeship training program, as outlined in this Special Provision.

IDOT funds, and various Illinois community colleges operate, pre-apprenticeship training programs throughout the State to provide training and skill-improvement opportunities to promote the increased employment of minority groups, disadvantaged persons and women in all aspects of the highway construction industry. The intent of this IDOT Pre-Apprenticeship Training Program Graduate (TPG) special provision (Special Provision) is to place these certified program graduates on the project site for this Contract in order to provide the graduates with meaningful on-the-job training. Pursuant to this Special Provision, the Contractor must make every reasonable effort to recruit and employ certified TPG trainees to the extent such individuals are available within a practicable distance of the project site.

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

No payment will be made to the Contractor if the Contractor or subcontractor fails to provide the required on-site training to TPG trainees, as solely determined by IDOT. A TPG trainee must begin training on the project as soon as the start of work that utilizes the relevant trade skill and the TPG trainee must remain on the project site through completion of the Contract, so long as training opportunities continue to exist in the relevant work classification. Should a TPG trainee's employment end in advance of the completion of the Contract, the Contractor must promptly notify the IDOT District EEO Officer for the Contract that the TPG's involvement in the Contract has ended. The Contractor must supply a written report for the reason the TPG trainee involvement terminated, the hours completed by the TPG trainee on the Contract, and the number of hours for which the incentive payment provided under this Special Provision will be, or has been claimed for the separated TPG trainee.

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision. Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

**METHOD OF MEASUREMENT:** The unit of measurement is in hours.

**BASIS OF PAYMENT:** This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 4.

The Department has contracted with several educational institutions to provide screening, tutoring and pre-training to individuals interested in working as a TPG trainee in various areas of common construction trade work. Only individuals who have successfully completed a Pre-Apprenticeship Training Program at these IDOT approved institutions are eligible to be TPG trainees. To obtain a list of institutions that can connect the Contractor with eligible TPG trainees, the Contractor may contact: HCCTP TPG Program Coordinator, Office of Business and Workforce Diversity (IDOT OBWD), Room 319, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764. Prior to commencing construction with the utilization of a TPG trainee, the Contractor must submit documentation to the IDOT District EEO Officer for the Contract that provides the names and contact information of the TPG trainee(s) to be trained in each selected work classification, proof that that the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

To receive payment, the Contractor must provide training opportunities aimed at developing a full journeyworker in the type of trade or job classification involved. During the course of performance of the Contract, the Contractor may seek approval from the IDOT District EEO Officer to employ additional eligible TPG trainees. In the event the Contractor subcontracts a portion of the contracted work, it must determine how many, if any, of the TPGs will be trained by the subcontractor. Though a subcontractor may conduct training, the Contractor retains the responsibility for meeting all requirements imposed by this Special Provision. The Contractor must also include this Special Provision in any subcontract where payment for contracted work performed by a TPG trainee will be passed on to a subcontractor.

Training through the Program is intended to move TPGs toward journeyman status, which is the primary objective of this Special Provision. Accordingly, the Contractor must make every effort to enroll TPG trainees by recruitment through the Program participant educational institutions to the extent eligible TPGs are available within a reasonable geographic area of the project. The Contractor is responsible for demonstrating, through documentation, the recruitment efforts it has undertaken prior to the determination by IDOT whether the Contractor is in compliance with this Special Provision, and therefore, entitled to the Training Program Graduate reimbursement of \$15.00 per hour.

Notwithstanding the on-the-job training requirement of this TPG Special Provision, some minimal off-site training is permissible as long as the offsite training is an integral part of the work of the contract, and does not compromise or conflict with the required on-site training that is central to the purpose of the Program. No individual may be employed as a TPG trainee in any work classification in which he/she has previously successfully completed a training program leading to journeyman status in any trade, or in which he/she has worked at a journeyman level or higher.

## ACCESSIBLE PEDESTRIAN SIGNALS (APS) (BDE)

Effective: April 1, 2003

Revised: January 1, 2022

Description. This work shall consist of furnishing and installing accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements. The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications. A pushbutton locator tone shall sound at each pushbutton and shall be deactivated during the associated walk indication and when associated traffic signals are in flashing mode. Pushbutton locator tones shall have a duration of 0.15 seconds or less and shall repeat at 1-second intervals. Each actuation of the pushbutton shall be accompanied by the speech message "Wait".

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name, Walk Sign is on to cross Street Name." For signalized intersections utilizing exclusive pedestrian phasing, the verbal message shall be "Walk sign is on for all crossings". In addition, a speech pushbutton information message shall be provided by actuating the APS pushbutton when the WALK interval is not timing. This verbal message shall be modeled after: "Wait. Wait to cross Street Name at Street Name".

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

At locations with railroad interconnection, an additional speech message stating "Walk time shortened when train approaches" shall be used after the speech walk message. At locations with emergency vehicle preemption, an additional speech message "Walk time shortened when emergency vehicle approaches" shall be used after the speech walk message.

Pedestrian Pushbutton. Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street.

Signage. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall conform to one of the following standard MUTCD designs: R10-3, R10-3a, R10-3e, R10-3i, R10-4, and R10-4a.

Tactile Arrow. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided on the pushbutton.

Vibrotactile Feature. The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Method of Measurement. This work will be measured for payment as each, per pushbutton.

Basis of Payment. This work will be paid for at the contract unit price per each for ACCESSIBLE PEDESTRIAN SIGNALS.

80099

## AGGREGATE SUBGRADE IMPROVEMENT (BDE)

Effective: April 1, 2012

Revised: April 1, 2022

Add the following Section to the Standard Specifications:

### “SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

**303.01 Description.** This work shall consist of constructing an aggregate subgrade improvement (ASI).

**303.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate .....	1004.07
(b) Reclaimed Asphalt Pavement (RAP) .....	1031.09

**303.03 Equipment.** The vibratory roller shall be according to Article 1101.01, or as approved by the Engineer. Vibratory machines, such as tampers, shall be used in areas where rollers do not fit.

**303.04 Soil Preparation.** The minimum immediate bearing value (IBV) of the soil below the improved subgrade shall be according to the Department’s “Subgrade Stability Manual” for the aggregate thickness specified.

**303.05 Placing and Compacting.** The maximum nominal lift thickness of aggregate gradations CA 2, CA 6, and CA 10 when compacted shall be 9 in. (225 mm). The maximum nominal lift thickness of aggregate gradations CS 1, CS 2, and RR 1 when compacted shall be 24 in. (600 mm).

The top surface of the aggregate subgrade improvement shall consist of a layer of capping aggregate gradations CA 6 or CA 10 that is 3 in. (75 mm) thick after compaction. Capping aggregate will not be required when aggregate subgrade improvement is used as a cubic yard pay item for undercut applications.

Each lift of aggregate shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

**303.06 Finishing and Maintenance.** The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

**303.07 Method of Measurement.** This work will be measured for payment according to Article 311.08.

**303.08 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) or ton (metric ton) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.”

Add the following to Section 1004 of the Standard Specifications:

“**1004.07 Coarse Aggregate for Aggregate Subgrade Improvement (ASI).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. In applications where greater than 24 in. (600 mm) of ASI material is required, gravel may be used below the top 12 in (300 mm) of ASI.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.

(c) Gradation.

(1) The coarse aggregate gradation for total ASI thickness less than or equal to 12 in. (300 mm) shall be CA 2, CA 6, CA 10, or CS 1.

The coarse aggregate gradation for total ASI thickness greater than 12 in. (300 mm) shall be CS 1 or CS 2 as shown below or RR 1 according to Article 1005.01(c).

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8”	6”	4”	2”	#4
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

(2) Capping aggregate shall be gradation CA 6 or CA 10.”

Add the following to Article 1031.09 of the Standard Specifications:

“(b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Articles 1031.01(a), 1031.02(a), 1031.06(a)(1), and 1031.06(a)(2), and the following.

- (1) The testing requirements of Article 1031.03 shall not apply.
- (2) Crushed RAP used for the lower lift may be mechanically blended with aggregate gradations CS 1, CS 2, and RR 1 but it shall be no greater than 40 percent of the total product volume. RAP agglomerations shall be no greater than 4 in. (100 mm).
- (3) For capping aggregate, well graded RAP having 100 percent passing the 1 1/2 in. (38 mm) sieve may be used when aggregate gradations CS 1, CS 2, CA 2, or RR 1 are used in the lower lift. FRAP will not be permitted as capping material.

Blending shall be through calibrated interlocked feeders or a calibrated blending plant such that the prescribed blending percentage is maintained throughout the blending process. The calibration shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered.”

80274

## BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
- BPI<sub>P</sub> = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
- BPI<sub>L</sub> = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).
- %AC<sub>V</sub> = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC<sub>V</sub> will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC<sub>V</sub> and undiluted emulsified asphalt will be considered to be 65% AC<sub>V</sub>.
- Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards:  $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$ . For HMA mixtures measured in square meters:  $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$ . When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different  $G_{mb}$  and % AC<sub>V</sub>.

For bituminous materials measured in gallons:  $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$   
For bituminous materials measured in liters:  $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).  
D = Depth of the HMA mixture, in. (mm).  
G<sub>mb</sub> = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).  
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI<sub>L</sub> and BPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80173

**CEMENT, FINELY DIVIDED MINERALS, ADMIXTURES, CONCRETE, AND MORTAR (BDE)**

Effective: January 1, 2025

Revised: January 1, 2026

Revise the first paragraph of Article 285.05 of the Standard Specifications to read:

**“285.05 Fabric Formed Concrete Revetment Mat.** The grout shall consist of a mixture of cement, fine aggregate, and water so proportioned and mixed as to provide a pumpable slurry. Fly ash or ground granulated blast furnace (GGBF) slag, and concrete admixtures may be used at the option of the Contractor. The grout shall have an air content of not less than 6.0 percent nor more than 9.0 percent of the volume of the grout. The mix shall obtain a compressive strength of 2500 psi (17,000 kPa) at 28 days according to Article 1020.09.”

Revise Article 302.02 of the Standard Specifications to read:

**“302.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement .....	1001
(b) Water .....	1002
(c) Hydrated Lime .....	1012.01
(d) By-Product, Hydrated Lime .....	1012.02
(e) By-Product, Non-Hydrated Lime .....	1012.03
(f) Lime Slurry .....	1012.04
(g) Fly Ash .....	1010
(h) Soil for Soil Modification (Note 1) .....	1009.01
(i) Bituminous Materials (Note 2) .....	1032

Note 1. This soil requirement only applies when modifying with lime (slurry or dry).

Note 2. The bituminous materials used for curing shall be emulsified asphalt RS-2, CRS-2, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70; or medium curing liquid asphalt MC-70 or MC-250.”

Revise Article 312.07(c) of the Standard Specifications to read:

“(c) Cement ..... 1001”

Add Article 312.07(i) of the Standard Specifications to read:

“(i) Ground Granulated Blast Furnace (GGBF) Slag ..... 1010”

Revise the first paragraph of Article 312.09 of the Standard Specifications to read:

**“312.09 Proportioning and Mix Design.** At least 60 days prior to start of placing CAM II, the Contractor shall submit samples of materials to be used in the work for proportioning and testing. The mixture shall contain a minimum of 200 lb (120 kg) of cement per cubic yard (cubic meter). Cement may be replaced with fly ash or ground granulated blast furnace (GGBF) slag according to Article 1020.05(c)(1) or 1020.05(c)(2), respectively, however the minimum cement content in the mixture shall be 170 lbs/cu yd (101 kg/cu m). Blends of coarse and fine aggregates will be permitted, provided the volume of fine aggregate does not exceed the volume of coarse aggregate. The Engineer will determine the proportions of materials for the mixture according to the “Portland Cement Concrete Level III Technician Course” manual. However, the Contractor may substitute their own mix design. Article 1020.05(a) shall apply, and a Level III PCC Technician shall develop the mix design.”

Revise Article 352.02 of the Standard Specifications to read:

**“352.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement (Note 1) .....	1001
(b) Soil for Soil-Cement Base Course .....	1009.03
(c) Water .....	1002
(d) Bituminous Materials (Note 2) .....	1032

Note 1. Bulk cement may be used for the traveling mixing plant method if the equipment for handling, weighing, and spreading the cement is approved by the Engineer.

Note 2. The bituminous materials used for curing shall be emulsified asphalt RS-2, CRS-2, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70; or medium curing liquid asphalt MC-70 or MC-250.”

Revise Article 404.02 of the Standard Specifications to read:

**“404.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement .....	1001
(b) Water .....	1002
(c) Fine Aggregate .....	1003.08
(d) Bituminous Material (Tack Coat) .....	1032.06
(e) Emulsified Asphalts (Note 1) (Note 2) .....	1032.06
(f) Fiber Modified Joint Sealer .....	1050.05
(g) Additives (Note 3)	

Note 1. When used for slurry seal, the emulsified asphalt shall be CQS-1h according to Article 1032.06(b).

Note 2. When used for micro-surfacing, the emulsified asphalt shall be CQS-1hP according to Article 1032.06(e).

Note 3. Additives may be added to the emulsion mix or any of the component materials to provide the control of the quick-traffic properties. They shall be included as part of the mix design and be compatible with the other components of the mix.

Revise the last sentence of the fourth paragraph of Article 404.08 of the Standard Specifications to read:

“When approved by the Engineer, the sealant may be dusted with fine sand, cement, or mineral filler to prevent tracking.”

Revise Note 2 of Article 516.02 of the Standard Specifications to read:

“Note 2. The sand-cement grout mix shall be according to Section 1020 and shall be a 1:1 blend of sand and cement comprised of a Type I, IL, or II cement at 185 lb/cu yd (110 kg/cu m). The maximum water cement ratio shall be sufficient to provide a flowable mixture with a typical slump of 10 in. (250 mm).”

Revise Note 2 of Article 543.02 of the Standard Specifications to read:

“Note 2. The grout mixture shall be 6.50 hundredweight/cu yd (385 kg/cu m) of cement plus fine aggregate and water. Fly ash or ground granulated blast furnace (GGBF) slag may replace a maximum of 5.25 hundredweight/cu yd (310 kg/cu m) of the cement. The water/cement ratio, according to Article 1020.06, shall not exceed 0.60. An air-entraining admixture shall be used to produce an air content, according to Article 1020.08, of not less than 6.0 percent nor more than 9.0 percent of the volume of the grout. The Contractor shall have the option to use a water-reducing or high range water-reducing admixture.”

Revise Article 583.01 of the Standard Specifications to read:

“**583.01 Description.** This work shall consist of placing cement mortar along precast, prestressed concrete bridge deck beams as required for fairing out any unevenness between adjacent deck beams prior to placing of waterproofing membrane and surfacing.”

Revise Article 583.02(a) of the Standard Specifications to read:

“(a) Cement ..... 1001”

Revise the first paragraph of Article 583.03 of the Standard Specifications to read:

“**583.03 General.** This work shall only be performed when the air temperature is 45 °F (7 °C) and rising. The mixture for cement mortar shall consist of three parts sand to one part cement by volume. The amount of water shall be no more than that necessary to produce a workable, plastic mortar.”

Revise Article 606.02(h) of the Standard Specifications to read:

“(h) Fibers (Note 1) .....1014”

Revise Note 1 in Article 606.02(h) of the Standard Specifications to read:

“Note 1. Fibers, when required, shall only be used in the concrete mixture for slipform applications.”

Revise the third paragraph in Article 606.10 of the Standard Specifications to read:

“Welded wire fabric shall be 6 x 6 in. (150 x 150 mm) mesh, #4 gauge (5.74 mm), 58 lb (26 kg) per 100 sq ft (9 sq m).”

Revise Article 1001.01(d) of the Standard Specifications to read:

“(d) Rapid Hardening Cement. Rapid hardening cement shall be according to the Bureau of Materials Policy Memorandum “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”, and ASTM C 1600, Type URH, Type VRH, or Type RH-CAC. It shall be used according to Article 1020.04 or when approved by the Engineer. The Contractor shall submit a report from the manufacturer or an independent lab that contains results for testing according to ASTM C 1600 which shows the cement meets the requirements of either Type URH, Type VRH, or Type RH-CAC. Test data shall be less than 1 year old from the date of submittal.

Revise Article 1001.01(e) of the Standard Specifications to read:

“(e) Other Cements. Other cements shall be according to the Bureau of Materials Policy Memorandum “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”, and ASTM C 1157 or ASTM C 1600, as applicable. Other cements shall be used according to Article 1020.04 or when approved by the Engineer. For cements according to ASTM C 1157, the Contractor shall submit a report from the manufacturer or an independent lab that contains results of tests which shows the cement meets the requirements Type GU, HE, MS, MH, or LH. For cements according to ASTM C 1600, the Contractor shall submit a report from the manufacturer or an independent lab that contains results of tests which shows the cement meets the requirements Type MRH or GRH. Test data shall be less than 1 year old from the date of submittal.”

Revise Article 1002.02 of the Standard Specifications to read:

“**1002.02 Quality.** Water used with cement in concrete or mortar and water used for curing concrete shall be clean, clear, and free from sugar. In addition, water shall be tested and evaluated for acceptance according to one of the following options.

OPTION 1.

(a) Acceptable limits for acidity and alkalinity when tested according to ITP T 26.

- (1) Acidity -- 0.1 Normal NaOH ..... 2 ml max.\*
  - (2) Alkalinity -- 0.1 Normal HCl..... 10 ml max.\*
- \*To neutralize 200 ml sample.

(b) Acceptable limits for solids when tested according to the following.

- (1) Organic (ITP T 26)..... 0.02% max.
- (2) Inorganic (ITP T 26)..... 0.30% max.
- (3) Sulfate (SO<sub>4</sub>) (ASTM D 516-82) ..... 0.05% max.
- (4) Chloride (ASTM D 512) ..... 0.06% max.

(c) The following tests shall be performed on the water sample and on deionized water. The same cement and sand shall be used for both tests.

- (1) Unsoundness (ASTM C 151).
- (2) Initial and Final Set Time (ASTM C 266).
- (3) Strength (ASTM C 109).

The test results for the water sample shall not deviate from the test results for the deionized water, except as allowed by the precision in the test method.

OPTION 2. Water shall meet the requirements ASTM C 1602 Tables 1 and 2 as outlined in Sections 5.1, 5.2, and 5.4.”

Revise Note 2/ in Article 1003.01(b) of the Standard Specifications to read:

“2/ Applies only to sand. Sand exceeding the colorimetric test standard of 11 (Illinois Modified AASHTO T 21) will be checked for mortar making properties according to Illinois Modified ASTM C 87 and shall develop a compressive strength at the age of 14 days when using Type I, IL, or II cement of not less than 95 percent of the comparable standard.

Revise the second sentence of Article 1003.02(e)(1) of the Standard Specifications to read:

“The test will be performed with Type I, IL, or II portland cement having a total equivalent alkali content (Na<sub>2</sub>O + 0.658K<sub>2</sub>O) of 0.90 percent or greater.”

Revise the first sentence of the second paragraph of Article 1003.02(e)(3) of the Standard Specifications to read:

“The ASTM C 1293 test shall be performed with Type I, IL, or II portland cement having a total equivalent alkali content (Na<sub>2</sub>O + 0.658K<sub>2</sub>O) of 0.80 percent or greater.”

Revise the second sentence of Article 1004.02(g)(1) of the Standard Specifications to read:

“The test will be performed with Type I, IL, or II portland cement having a total equivalent alkali content ( $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ ) of 0.90 percent or greater.”

Add the following Section to the Standard Specifications.

#### **“SECTION 1014. FIBERS FOR CONCRETE**

**1014.01 General.** Fibers used in concrete shall be Type II or Type III (polyolefin or carbon) according to ASTM C 1116. The testing required for Type II fibers or Type III polyolefin fibers shall be performed by an independent lab a minimum of once every five years, and the test results provided to the Department. Manufacturers of Type III carbon fibers shall provide materials certification documentation not more than 6 years old a minimum of once every 5 years to the Department. The Department will maintain a qualified product list. The method of inclusion of fibers into concrete mixtures shall be according to the manufacturer’s specifications.

At the discretion of the Engineer, the concrete mixture shall be evaluated in a field demonstration for fiber clumping, ease of placement, and ease of finishing. The field demonstration shall consist of a minimum 2 cu yd (1.5 cu m) trial batch placed in a 12 ft x 12 ft (3.6 m x 3.6 m) slab.

**1014.02 Concrete Gutter, Curb, Median and Paved Ditch.** Fibers shall be Type III. Fibers shall have a minimum length of 1/2 in. (13 mm) and a maximum length of 0.75 in. (19 mm). The maximum dosage rate in the concrete mixture shall not exceed 1.5 lb/cu yd (0.9 kg/cu m). The minimum dosage rate shall be per the manufacturer’s recommendation.

**1014.03 Concrete Inlay or Overlay.** Fibers shall be Type III. Fibers shall have a minimum length of 1.0 in. (25 mm), a maximum length of 2 1/2 in. (63 mm), and a maximum aspect ratio (length divided by the equivalent diameter of the fiber) of 150. The maximum dosage rate shall not exceed 5.0 lb/cu yd (3.0 kg/cu m). The minimum dosage rate shall be per the manufacturer’s recommendation.

**1014.04 Bridge Deck Fly Ash, Ground Granulated Blast Furnace (GGBF) Slag, High Reactivity Metakaolin, or Microsilica (Silica Fume) Concrete Overlay.** Fibers shall be Type III. The dosage rate shall be a minimum of 3.0 lb/cu yd (1.8 kg/cu m), unless a field demonstration according to Article 1014.01 indicates that a lower dosage rate is necessary. Based on the results of the field demonstration, the Department has the option to reduce the dosage rate of fibers, but the dosage will not be reduced to less than 2.0 lb / cu yd (1.2 kg/cu m).

**1014.05 Bridge Deck Latex Concrete Overlay.** Fibers shall be Type II or III. Fibers shall have a minimum length of 0.75 in. (19 mm), a maximum length of 1.75 in. (45 mm), and an aspect ratio (length divided by the equivalent diameter of the fiber) of between 70 and 100. The dosage rate shall be a minimum of 3.0 lb/cu yd (1.8 kg/cu m), unless a field demonstration according to Article 1014.01 indicates that a lower dosage rate is necessary. Based on the results of the field

demonstration, the Department has the option to reduce the dosage rate of fibers, but the dosage will not be reduced to less than 2.0 lb/cu yd (1.2 kg/cu m).”

Add the following Section to the Standard Specifications:

### **“SECTION 1015. HIGH PERFORMANCE SHOTCRETE**

**1015.01 Packaged Shotcrete With Aggregate.** The packaged shotcrete with aggregate shall be a pre-blended dry combination of materials for the wet-mix shotcrete method according to ASTM C 1480, Type FA or CA, Grade FR, Class I. The fibers shall be Type III according to Article 1014.01. The cement and finely divided minerals in the mixture shall be a minimum 6.65 cwt/cu yd (395 kg/cu m), and the portland cement shall not be below 4.70 cwt/cu yd (279 kg/cu m). Microsilica is required in the mixture and shall be a minimum of 5 percent by weight (mass) of cementitious material, and a maximum of 10 percent. Strength requirements shall be according to ASTM C 1480 except that the strength at 28 days shall be at least 4000 psi (27,500 kPa). Strength testing shall be according to ASTM C 1140. The air content as shot shall be 4.0 – 8.0 percent when tested according to AASHTO T 152, and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm).

The packaged shotcrete shall have a water soluble chloride ion content of less than 0.15% by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260.

The testing according to ASTM C 1480, ASTM C 1140, AASHTO 152, and ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every 5 years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Batching and mixing shall be per the manufacturer’s recommendations.

**1015.02 Packaged Shotcrete Without Aggregate.** The packaged shotcrete that does not include pre-blended aggregate shall be according to Article 1015.01, except the added aggregate shall be according to Articles 1003.02 and 1004.02. The aggregate gradation shall be according to the manufacturer. The Department will maintain a qualified product list. Batching and mixing shall be per the manufacturer’s recommendations.”

Revise Section 1017 of the Standard Specifications to read:

### **“SECTION 1017. PACKAGED, DRY, COMBINED MATERIALS FOR MORTAR AND CONCRETE**

**1017.01 Mortar.** The mortar shall be high-strength according to ASTM C 387 and shall have a minimum 80.0 percent relative dynamic modulus of elasticity when tested according to AASHTO T 161. For prestressed concrete applications, the mortar shall have a water-soluble chloride ion content of less than 0.06 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260; and for non-prestressed concrete applications, the water soluble chloride content shall be less than 0.15 percent by weight of cementitious material. The testing according to ASTM C 387, AASHTO T 161, and either ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every five years, and the test results

shall be provided to the Department. The Department will maintain a qualified product list. Mixing of the high-strength mortar shall be according to the manufacturer's specifications.

**1017.02 Concrete.** The materials, testing, and preparation of aggregate for the "high slump" packaged concrete mixture shall be according to ASTM C 387. The mixture shall be air entrained, the slump shall be 5-10 in. (125-250 mm), and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). Strength requirements shall be according to ASTM C 387 except that the strength at 28 days shall be at least 4000 psi (27,500 kPa). The "high slump" packaged concrete mixture shall have a water soluble chloride ion content of less than 0.15% by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260. The testing according to ASTM C 387, and either ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every 5 years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing shall be per the manufacturer's recommendations.

**1017.02 Self-Consolidating Concrete.** The materials, testing, and preparation of aggregate for the "self-consolidating concrete" packaged concrete mixture shall be according to ASTM C 387. The mixture shall be air entrained, it should be uniformly graded, and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). Strength requirements shall be according to ASTM C 387 except that the strength at 28 days shall be at least 4000 psi (27,500 Pa). Slump flow range shall be 22 in. (550 mm) minimum to 28 in. (700 mm) maximum when tested according to AASHTO T 347. The visual stability index shall be a maximum of 1 when tested according to AASHTO T 351. At the option of the manufacturer, either the J-Ring value shall be a maximum of 2 in. (50 mm) when tested according to AASHTO T 347 or the L-Box blocking ratio shall be a minimum of 80 percent when tested according AASHTO T 419. The hardened visual stability index shall be a maximum of 1 when tested according to AASHTO R 81.

The "self -consolidating concrete" packaged concrete mixture shall have a water soluble chloride ion content of less than 0.15 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260.

The testing according to ASTM C 387, AASHTO T 347, AASHTO T 351, AASHTO T 419, AASHTO R 81, ASTM C 1218 and AASHTO T 260 shall be performed by an independent lab a minimum of once every 5 years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing shall be per the manufacturer's recommendations."

Revise Article 1018.01 of the Standard Specifications to read:

**"1018.01 Requirements.** The rapid hardening mortar or concrete shall be according to ASTM C 928 and shall have successfully completed and remain current with the AASHTO Product Eval and Audit Rapid Hardening Concrete Patching Materials (RHCP) testing program. R1, R2, or R3 concrete shall be air entrained, the slump shall be 5-10 in. (125-250 mm), and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). For prestressed concrete applications, the mortar or concrete shall have a water-soluble chloride ion content of less than 0.06 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260;

and for non-prestressed concrete applications, the water soluble chloride content shall be less than 0.15 percent by weight of cementitious material. The Department will maintain a qualified product list. Mixing of the mortar or concrete shall be according to the manufacturer's specifications..”

Revise Article 1019.02 of the Standard Specifications to read:

“**1019.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement .....	1001
(b) Water .....	1002
(c) Fine Aggregate for Controlled Low-Strength Material (CLSM) .....	1003.06
(d) Fly Ash .....	1010
(e) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(f) Admixtures (Note 1)	

Note 1. The air-entraining admixture may be in powder or liquid form. The air content produced by the admixture shall be 15-25 percent when incorporated into Mix 2 or an equivalent mixture as determined by the Department and tested according to AASHTO T 121 or AASHTO T 152. The testing according to AASHTO T 121 or AASHTO T 152 shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. The Department will maintain a qualified product list.”

Revise the third paragraph of Article 1019.04 of the Standard Specifications to read:

“The Engineer will instruct the Contractor to adjust the proportions of the mix design in the field as needed to meet the design criteria, provide adequate flowability, maintain proper solid suspension, or other criteria established by the Engineer.”

Revise Article 1019.05 of the Standard Specifications to read:

“**1019.05 Department Mix Design.** The Department mix design shall be Mix 1, 2, or 3 and shall be proportioned to yield approximately one cubic yard (cubic meter).

Mix 1	
Cement	50 lb (30 kg)
Fly Ash – Class C or F, and/or GGBF Slag	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2900 lb (1720 kg)
Water	50-65 gal (248-322 L)
Air Content	No air is entrained

Mix 2	
Cement	125 lb (74 kg)

Fine Aggregate – Saturated Surface Dry	2500 lb (1483 kg)
Water	35-50 gal (173-248 L)
Air Content	15-25 %

Mix 3	
Cement	40 lb (24 kg)
Fly Ash – Class C or F, and/or GGBF Slag	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2500 lb (1483 kg)
Water	35-50 gal (179-248 L)
Air Content	15-25 %

Revise Article 1020.04, Table 1, Note (8) of the Standard Specifications to read:

“(8) In addition to the Type III portland cement, 100 lb/cu yd of ground granulated blast-furnace slag and 50 lb/cu yd of microsilica (silica fume) shall be used. For an air temperature greater than 85 °F, the Type III portland cement may be replaced with Type I, IL, or II portland cement.”

Revise Article 1020.04, Table 1 (Metric), Note (8) of the Standard Specifications to read:

“(8) In addition to the Type III portland cement, 60 kg/cu m of ground granulated blast-furnace slag and 30 kg/cu m of microsilica (silica fume) shall be used. For an air temperature greater than 30 °C, the Type III portland cement may be replaced with Type I, IL, or II portland cement.”

Revise Note 9 of Table 1 of Article 1020.04 of the Standard Specifications to read:

“(9) The cement shall be a rapid hardening according to Article 1001.01(d). Minimum or maximum cement factor may be adjusted when approved by the Engineer.”

Revise the second paragraph of Article 1020.05(a) of the Standard Specifications to read:

“For a mix design using a portland-pozzolan cement, portland blast-furnace slag cement, portland-limestone cement, or replacing portland cement with finely divided minerals per Articles 1020.05(c) and 1020.05(d), the Contractor may submit a mix design with a minimum portland cement content less than 400 lbs/cu yd (237 kg/cu m), but not less than 375 lbs/cu yd (222 kg/cu m), if the mix design is shown to have a minimum relative dynamic modulus of elasticity of 80 percent determined according to AASHTO T 161. Testing shall be performed by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete.”

Revise the first sentence of the first paragraph of Article 1020.05(b) of the Standard Specifications to read:

“Corrosion inhibitors and concrete admixtures shall be according to the qualified product lists.”

Delete the fourth and fifth sentences of the second paragraph of Article 1020.05(b) of the Standard Specifications.

Revise Article 1020.05(b)(5) of the Standard Specifications to read:

“(5) For Class PP-4 concrete, a high range water-reducing admixture, retarder, and/or hydration stabilizer may be used in addition to the air-entraining admixture. The Contractor also has the option to use a water-reducing admixture with the high range water-reducing admixture. An accelerator shall not be used. A mobile portland cement concrete plant shall be used to produce the patching mixture.

For PP-5 concrete, a non-chloride accelerator, high range water-reducing admixture, retarder, hydration stabilizer, and/or air-entraining admixture may be used. The accelerator, high range water-reducing admixture, retarder, hydration stabilizer, and/or air-entraining admixture shall be per the Contractor’s recommendation and dosage. The qualified product list of concrete admixtures shall not apply. A mobile portland cement concrete plant shall be used to produce the patching mixture.”

Revise second paragraph of Article 1020.05(b)(10) of the Standard Specifications to read:

“When calcium nitrite is used, it shall be added at the rate of 4 gal/cu yd (20 L/cu m) and shall be added to the mix immediately after all compatible admixtures have been introduced to the batch. Other corrosion inhibitors shall be added per the manufacturer’s specifications.”

Delete the third paragraph of Article 1020.05(b)(10) of the Standard Specifications.

Revise Article 1020.15(b)(1)c. of the Standard Specifications to read:

“c. The minimum portland cement content in the mixture shall be 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). For a drilled shaft, foundation, footing, or substructure, the minimum portland cement may be reduced to as low as 330 lbs/cu yd (196 kg/cu m) if the concrete has adequate freeze/thaw durability. The Contractor shall provide freeze/thaw test results according to AASHTO T 161, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Testing shall be performed by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete. Freeze/thaw testing will not be required for concrete that will not be exposed to freezing and thawing conditions as determined by the Engineer.”

Revise Article 1021.01 of the Standard Specifications to read:

**“1021.01 General.** Admixtures shall be furnished in liquid or powder form ready for use. The admixtures shall be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer, the date of manufacture, and trade name of the material. Containers shall be readily identifiable as to manufacturer, the date of manufacture, and trade name of the material they contain.

Concrete admixtures shall be on one of the Department's qualified product lists. Unless otherwise noted, admixtures shall have successfully completed and remain current with the AASHTO Product Eval and Audit Concrete Admixture (CADD) testing program. For admixture submittals to the Department; the product brand name, manufacturer name, admixture type or types, an electronic link to the product's technical data sheet, and the NTPEP testing number which contains an electronic link to all test data shall be provided. In addition, a letter shall be submitted certifying that no changes have been made in the formulation of the material since the most current round of tests conducted by AASHTO Product Eval and Audit. After 28 days of testing by AASHTO Product Eval and Audit, air-entraining admixtures may be provisionally approved and used on Departmental projects. For all other admixtures, unless otherwise noted, the time period after which provisionally approved status may be earned is 6 months.

The manufacturer shall include the following in the submittal to the AASHTO Product Eval and Audit CADD testing program: the manufacturing range for specific gravity, the midpoint and manufacturing range for residue by oven drying, and manufacturing range of pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

For air-entraining admixtures according to Article 1021.02, the specific gravity allowable manufacturing range established by the manufacturer shall be according to AASHTO M 194. For residue by oven drying and pH, the allowable manufacturing range and test methods shall be according to AASHTO M 194.

For admixtures according to Articles 1021.03, 1021.04, 1021.05, 1021.06, 1021.07, and 1021.08, the pH allowable manufacturing range established by the manufacturer shall be according to ASTM E 70. For specific gravity and residue by oven drying, the allowable manufacturing range and test methods shall be according to AASHTO M 194.

All admixtures, except chloride-based accelerators, shall contain a maximum of 0.3 percent chloride by weight (mass) as determined by an appropriate test method. To verify the test result, the Department will use Illinois Modified AASHTO T 260, Procedure A, Method 1.

Prior to final approval of an admixture, the Engineer reserves the right to request a sample for testing. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). For freeze-thaw testing, the Department will perform the test according to Illinois Modified AASHTO T 161. The flexural strength test will be performed according to AASHTO T 177. If the Engineer decides to test the admixture, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by AASHTO.

Random field samples may be taken by the Department to verify an admixture meets specification. A split sample will be provided to the manufacturer if requested. Admixtures that do not meet specification requirements or an allowable manufacturing range established by the manufacturer shall be replaced with new material.”

Revise Article 1021.03 of the Standard Specifications to read:

“**1021.03 Retarding and Water-Reducing Admixtures.** The admixture shall be according to the following.

- (a) Retarding admixtures shall be according to AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) Water-reducing admixtures shall be according to AASHTO M 194, Type A.
- (c) High range water-reducing admixtures shall be according to AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).”

Revise Article 1021.05 of the Standard Specifications to read:

“**1021.05 Self-Consolidating Admixtures.** Self-consolidating admixture systems shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

High range water-reducing admixtures shall be according to AASHTO M 194, Type F.

Viscosity modifying admixtures shall be according to AASHTO M 194, Type S (specific performance).”

Revise Article 1021.06 of the Standard Specifications to read:

“**1021.06 Rheology-Controlling Admixture.** Rheology-controlling admixtures shall be capable of producing a concrete mixture with a lower yield stress that will consolidate easier for slipform applications used by the Contractor. Rheology-controlling admixtures shall be according to AASHTO M 194, Type S (specific performance).”

Revise Article 1021.07 of the Standard Specifications to read:

“**1021.07 Corrosion Inhibitor.** The corrosion inhibitor shall be according to one of the following.

- (a) Calcium Nitrite. Corrosion inhibitors shall contain a minimum 30 percent calcium nitrite by weight (mass) of solution and shall comply with either the requirements of AASHTO

M 194, Type C (accelerating) or the requirements of ASTM C 1582. The corrosion inhibiting performance requirements of ASTM C 1582 shall not apply.

(b) Other Materials. The corrosion inhibitor shall be according to ASTM C 1582.

For submittals requiring testing according to ASTM M 194, Type C (accelerating), the admixture shall meet the requirements of the AASHTO Product Eval and Audit CADD testing program according to Article 1021.01.

For submittals requiring testing according to ASTM C 1582, a report prepared by an independent laboratory accredited by AASHTO re:source for portland cement concrete shall be provided. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, ASTM G 109 test information specified in ASTM C 1582 is not required to be from an independent accredited lab. All other information in ASTM C 1582 shall be from an independent accredited lab. Test data and other information required to be submitted to AASHTO Product Eval and Audit according to Article 1021.01, shall instead be submitted directly to the Department.”

Add Article 1021.08 of the Standard Specifications as follows:

“**1021.08 Other Specific Performance Admixtures.** Other specific performance admixtures shall, at a minimum, be according to AASHTO M 194, Type S (specific performance). The Department also reserves the right to require other testing, as determined by the Engineer, to show evidence of specific performance characteristics.

Initial testing according to AASHTO M 194 may be conducted under the AASHTO Product Eval and Audit CADD testing program according to Article 1021.01, or by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete. In either case, test data and other information required to be submitted to AASHTO Product Eval and Audit according to Article 1021.01, shall also be submitted directly to the Department. The independent accredited lab report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications.”

Add Article 1021.09 of the Standard Specifications as follows:

“**1021.09 Latex Admixtures.** The latex admixture shall be a uniform, homogeneous, non-toxic, film-forming, polymeric emulsion in water to which all stabilizers have been added at the point of manufacture. The latex admixture shall not contain any chlorides and shall contain 46-49 percent solids.

In lieu of meeting the requirements of Article 1021.01, the Contractor shall submit a manufacturer's certification that the latex emulsion meets the requirements of FHWA Research Report RD-78-35, Chapter VI. The certificate shall include the date of manufacture of the latex admixture, batch or lot number, quantity represented, manufacturer's name, and the location of the manufacturing plant. The latex emulsion shall be sampled and tested in accordance with RD-78-35, Chapter VII, Certification Program.

The latex admixture shall be packaged and stored in containers and storage facilities which will protect the material from freezing and from temperatures above 85°F (30°C). Additionally, the material shall not be stored in direct sunlight and shall be shaded when stored outside of buildings during moderate temperatures.”

Revise Article 1024.01 of the Standard Specifications to read:

**“1024.01 Requirements for Grout.** The grout shall be proportioned by dry volume, thoroughly mixed, and shall have a minimum temperature of 50 °F (10 °C). Water shall not exceed the minimum needed for placement and finishing.

Materials for the grout shall be according to the following.

Item	Article/Section
(a) Cement .....	1001
(b) Water .....	1002
(c) Fine Aggregate .....	1003.02
(d) Fly Ash .....	1010
(e) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(f) Concrete Admixtures .....	1021”

Revise Note 1 of Article 1024.02 of the Standard Specifications to read:

“Note 1. Nonshrink grout shall be according to ASTM C 1107.

For prestressed concrete applications, the nonshrink grout shall have a water soluble chloride ion content of less than 0.06 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260; and for non-prestressed concrete applications, the water soluble chloride ion content shall be less than 0.15 percent by weight of cementitious material. The testing according to ASTM 1107, and either ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing of the nonshrink grout shall be according to the manufacturer’s specifications.”

Revise Article 1029.02 of the Standard Specifications to read:

**“1029.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement.....	1001
(b) Fly Ash .....	1010
(c) Ground Granulated Blast Furnace (GGBF) Slag .....	1010
(d) Water.....	1002
(e) Fine Aggregate.....	1003
(f) Concrete Admixtures .....	1021

(g) Foaming Agent (Note 1)

Note 1. The manufacturer shall submit infrared spectrophotometer trace and test results indicating the foaming agent meets the requirements of ASTM C 869 in order to be on the Department's qualified product list. Submitted data/results shall not be more than five years old."

Revise the second paragraph of Article 1103.03(a)(4) the Standard Specifications to read:

"The dispenser system shall provide a visual indication that the liquid admixture is actually entering the batch, such as via a transparent or translucent section of tubing or by independent check with an integrated secondary metering device. If approved by the Engineer, an alternate indicator may be used for admixtures dosed at rates of 25 oz/cwt (1630 mL/100 kg) or greater, such as accelerating admixtures, corrosion inhibitors, and viscosity modifying admixtures."

Revise Article 1103.04 of the Standard Specifications to read:

**"1103.04 Mobile Portland Cement Concrete Plants.** The mobile concrete plant shall be according to AASHTO M 241 and the Bureau of Materials Policy Memorandum "Approval of Volumetric Mobile Mixers for Concrete". The mixer shall be capable of carrying sufficient unmixed materials to produce not less than 6 cu yd (4.6 cu m) of concrete."

Revise the first two sections of Check Sheet #11 "Subsealing of Concrete Pavements" of the Recurring Special Provisions to read:

"Description. This work shall consist of filling voids beneath rigid and composite pavements with cement grout.

Materials. Materials shall be according to the following Articles/Sections of the Standard Specifications:

Item	Article/Section
(a) Cement .....	1001
(b) Water .....	1002
(c) Fly Ash .....	1010
(d) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(e) Admixtures .....	1021
(f) Packaged Rapid Hardening Mortar or Concrete .....	1018"

Revise the Materials section of Check Sheet #28 "Portland Cement Concrete Inlay or Overlay" of the Recurring Special Provisions to read:

"Materials. Materials shall be according to the following Articles/Sections of the Standard Specifications.

Item	Article/Section
(a) Portland Cement Concrete (Note 1) .....	1020
(b) Fibers for Concrete.....	1014
(c) Protective Coat.....	1023.01

Note 1. Class PV concrete shall be used, except the cement factor for central mixed concrete shall be 6.05 cwt/cu yd (360 kg/cu m). A cement factor reduction according to Article 1020.05(b)(8) of the Standard Specifications will be permitted. CA 5 shall not be used and CA 7 may only be used for overlays that are a minimum of 4.5 in. (113 mm) thick. The Class PV concrete shall have a minimum flexural strength of 550 psi (3800 kPa) or a minimum compressive strength of 3000 psi (20,700 kPa) at 14 days.”

80460

## **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

**EROSION CONTROL BLANKET (BDE)**

Effective: August 1, 2025

Revise Article 251.02 of the Standard Specifications to read:

**“251.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Compost .....	1081.05(b)
(b) Mulch .....	1081.06(a)
(c) Chemical Mulch Binder .....	1081.06(a)(3)
(d) Chemical Compost Binder .....	1081.06(a)(4)
(e) Erosion Control Blanket .....	1081.10(a)
(f) Wildlife Friendly Erosion Control Blanket .....	1081.10(b)
(g) Wire Staples.....	1081.10(c)
(h) Wood Stakes .....	1081.10(d)
(i) Turf Reinforcement Mat .....	1081.10(e)”

Revise the first and second sentences of Article 251.04 of the Standard Specifications to read:

**“251.04 Erosion Control Blanket.** All erosion control blanket materials shall be placed on the areas specified within 24 hours of seed placement.”

Revise the second paragraph of Article 251.04 of the Standard Specifications to read:

“After the area has been properly shaped, fertilized (when applicable), and seeded, the blanket shall be laid out flat, evenly, and smoothly, without stretching the material. The erosion control blanket shall be placed according to the manufacture’s recommendations.”

Revise the second sentence of Article 251.06(b) of the Standard Specifications to read:

“Erosion control blanket, wildlife friendly erosion control blanket, and turf reinforcement mat will be measured for payment in square yards (square meters).”

Revise Article 251.07 of the Standard Specifications to read:

**“251.07 Basis of Payment.** This work will be paid for at the contract unit price per acre (hectare) for MULCH, of the method specified; and at the contract unit price per square yard (square meter) for EROSION CONTROL BLANKET, WILDLIFE FRIENDLY EROSION CONTROL BLANKET, or TURF REINFORCEMENT MAT.”

Revise first sentence of Article 280.04(h) of the Standard Specifications to read:

“This system consists of temporarily installing erosion control blanket or wildlife friendly erosion control blanket over areas that are to be reworked during a later construction phase.”

Revise Article 280.08(g) of the Standard Specifications to read:

“(g) Temporary Erosion Control Blanket. Temporary erosion control blanket will be paid for at the contract unit price per square yard (square meter) for TEMPORARY EROSION CONTROL BLANKET or TEMPORARY WILDLIFE FRIENDLY EROSION CONTROL BLANKET.

The work of removing, storing, and reinstalling the blanket over areas to be reworked more than once will not be paid for separately but shall be included in the cost of the temporary erosion control blanket or temporary wildlife friendly erosion control blanket.”

Revise Article 1081.10 of the Standard Specifications to read:

“**1081.10 Erosion Control Blankets.** The manufacturer shall furnish a certificate with each shipment stating the amount of product furnished and that the material complies with these requirements.

(a) Erosion Control Blanket. Erosion control blanket shall be covered on top and bottom, also known as double net, with a 100 percent biodegradable woven, natural fiber or jute net meeting the following.

Material	Minimum Value
Excelsior	80%
Straw	100%
Coconut or Coir	100% Coconut or Coir
Straw/Coconut or Coir	70% Straw / 30% Coconut or Coir

(b) Wildlife Friendly Erosion Control Blanket. Wildlife friendly erosion control blanket shall be according to Article 1081.10(a) except the netting shall be loose weave, also known as leno weave or gauze weave, with a moveable joint.

(c) Wire Staples. Staples shall be made from No. 11 gauge or heavier uncoated black carbon steel wire, a minimum of 1 in. (25 mm) wide at the top and a minimum overall length of 8 in. (200 mm).

(d) Wood Stakes. Hardwood blanket anchors shall be nominally 7 in. (180 mm) long from neck of hook to tip of anchor. The anchor shall have a minimum 1/2 in. (13 mm) curving hook to hold the blanket in place.

(e) Turf Reinforcement Mat (TRM). The TRM shall be comprised of non-degradable, ultraviolet stabilized synthetic fibers, filaments, netting, and/or wire mesh processed into

a three-dimensional reinforced mat. The mats may include degradable material to assist with vegetation establishment. Soil filled mats will not be allowed.

The TRM shall meet the following physical and performance properties:

Property	Value	Test Method
Tensile Strength, lb/ft (kN/m)	150 (2.19) min.	ASTM D 6818
UV Stability, (% Tensile Retained)	80 min.	ASTM D 4355 (1000 Hour Exposure)
Resiliency, (% Thickness Retained)	80 min.	ASTM D 6524
Allowable Shear Stress, lb/sq ft (Pa) <sup>1/</sup>	8 (384)	ECTC approved test method and independent laboratory

1/ Minimum shear stress the TRM (fully vegetated) can sustain without physical damage or excess erosion (> 1/2 in. (13 mm) soil loss) during a 30 minute flow event in large scale testing.

For TRMs containing degradable components, all property values shall be obtained on the non-degradable portion of the matting alone.”

80467

## **FUEL COST ADJUSTMENT (BDE)**

Effective: April 1, 2009

Revised: August 1, 2017

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

### (a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any

modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.

- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B - Subbase and Aggregate Base courses	0.62	gal / ton
C - HMA Bases, Pavements and Shoulders	1.05	gal / ton
D - PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E - Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B - Subbase and Aggregate Base courses	2.58	liters / metric ton
C - HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D - PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E - Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$  
FPI<sub>P</sub> = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)  
FPI<sub>L</sub> = Fuel Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/gal (\$/liter)  
FUF = Fuel Usage Factor in the pay item(s) being adjusted  
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI<sub>L</sub> and FPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80229

## **HOT-MIX ASPHALT (BDE)**

Effective: January 1, 2024

Revised: April 1, 2026

Add the following to the end of Article 406.06(c) of the Standard Specifications:

“The amount of HMA binder course placed shall be limited to that which can be surfaced during the same construction season.”

Revise the fifteenth through eighteenth paragraphs of Article 406.14 of the Standard Specifications to read:

“The mixture used in constructing acceptable HMA test strips will be paid for at the contract unit price. Unacceptable HMA test strips shall be removed and replaced at no additional cost to the Department.”

Revise the first and second paragraphs of Articles 1030.06(c)(2) of the Standard Specifications to read:

“(2) Personnel. The Contractor shall provide a QC Manager who shall have overall responsibility and authority for quality control. This individual shall maintain active certification as a Hot-Mix Asphalt Level II technician.

In addition to the QC Manager, the Contractor shall provide sufficient personnel to perform the required visual inspections, sampling, testing, and documentation in a timely manner. Mix designs shall be developed by personnel with an active certification as a Hot-Mix Asphalt Level III technician. Technicians performing mix design testing and plant sampling/testing shall maintain active certification as a Hot-Mix Asphalt Level I technician. The Contractor may provide a technician trainee who has successfully completed the Department’s “Hot-Mix Asphalt Trainee Course” to assist in the activities completed by a Hot-Mix Asphalt Level I technician for a period of one year after the course completion date. The Contractor may also provide a Gradation Technician who has successfully completed the Department’s “Gradation Technician Course” to run gradation tests only under the supervision of a Hot-Mix Asphalt Level II Technician. The Contractor shall provide a Hot-Mix Asphalt Density Tester who has successfully completed the Department’s “Nuclear Density Testing” course to run all nuclear density tests on the job site.”

Add Article 1030.06(d)(3) to the Standard Specifications as follows:

“(3) The Contractor shall take possession of any Department HMA mixture samples or density specimens upon notification by the Engineer. The Contractor shall collect the HMA mixture samples or density specimens from the location designated by the Engineer and may add these materials to RAP stockpiles according to Section 1031.”

Revise the second paragraph of Articles 1030.07(a)(11) and 1030.08(a)(9) of the Standard Specifications to read:

“When establishing the target density, the HMA maximum theoretical specific gravity ( $G_{mm}$ ) will be based on the running average of four available Department test results for that project. If less than four  $G_{mm}$  test results are available, an average of all available Department test results for that project will be used. The initial  $G_{mm}$  will be the last available Department test result from a QMP project. If there is no available Department test result from a QMP project, the Department mix design verification test result will be used as the initial  $G_{mm}$ .”

Revise the Quality Control Limits table in Article 1030.09(c) to read:

“CONTROL LIMITS						
Parameter	IL-19.0, IL-9.5, IL-9.5FG, IL-19.0L, IL-9.5L		SMA-12.5, SMA-9.5		IL-4.75	
	Individual Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4
% Passing: <sup>1/</sup>						
1/2 in. (12.5 mm)	± 6 %	± 4 %	± 6 %	± 4 %		
3/8 in. (9.5mm)			± 4 %	± 3 %		
# 4 (4.75 mm)	± 5 %	± 4 %	± 5 %	± 4 %		
# 8 (2.36 mm)	± 5 %	± 3 %	± 4 %	± 2 %		
# 16 (1.18 mm)			± 4 %	± 2 %	± 4 %	± 3 %
# 30 (600 µm)	± 4 %	± 2.5 %	± 4 %	± 2.5 %		
Total Dust Content # 200 (75 µm)	± 1.5 %	± 1.0 %			± 1.5 %	± 1.0 %
Asphalt Binder Content	± 0.3 %	± 0.2 %	± 0.2 %	± 0.1 %	± 0.3 %	± 0.2 %
Air Voids <sup>2/</sup>	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %
Field VMA <sup>3/</sup>	-0.7 %	-0.5 %	-0.7 %	-0.5 %	-0.7 %	-0.5 %

1/ Based on washed ignition oven or solvent extraction gradation.

2/ The air voids target value shall be 3.2 to 4.8 percent.

3/ Allowable limit below minimum design VMA requirement.”

Revise Article 1030.09(g)(1) of the Supplemental Specifications with the following:

“(1) The Contractor shall sample approximately 200 lb (91 kg) of mix as required for the Department’s random mixture verification tests according to Article 1030.09(h)(1).”

Revise Article 1030.09(g)(2) of the Standard Specifications to read:

“(2) The Contractor shall complete split verification sample tests listed in the Limits of Precision table in Article 1030.09(h)(1).”

Revise the second sentence of Article 1030.09(h)(1) of the Supplemental Specifications with the following:

“The random verification mixture sampling interval will be a maximum of 3,000 tons (2,720 metric tons). The Engineer will randomly identify one sample per interval, with a minimum of one sample per mix. If the remaining mix quantity is 600 tons (544 metric tons) or less, the quantity will be combined with the previous interval in the Engineer’s random sample identification. If the required tonnage of a mixture for a single pay item is less than 250 tons (225 metric tons) in total, the Engineer will waive mixture verification sampling and testing.”

Revise the third paragraph of Article 1030.09(h)(1) of the Standard Specifications to read:

“If comparisons of the mixture verification test results are outside the above limits of precision, the Department will verify the results by testing the retained split sample. The retest results will replace all the original results.”

In the Supplemental Specifications, replace the revision for the end of the third paragraph of Article 1030.09(h)(2) with the following:

“When establishing the target density, the HMA maximum theoretical specific gravity ( $G_{mm}$ ) will be the Department mix design verification test result.”

Replace the last sentence of the fourth paragraph of Article 1030.10 of the Standard Specifications with the following:

“The mixture test results shall meet the requirements of Article 1030.05(d), except tensile strength and TSR testing will only be conducted on the first use of a mix design for the year and Hamburg wheel tests will only be conducted on High ESAL mixtures. To be considered acceptable to remain in place, the Department’s mixture test results shall meet the acceptable limits stated in Article 1030.09(i)(1). In addition, no visible pavement distress such as, but not limited to, segregation, excessive coarse aggregate fracturing outside of growth curves, excessive dust balls, or flushing shall be present as determined by the Engineer.”

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

“Production is not required to stop after a test strip has been constructed.”

Replace the eleventh paragraph of Article 1030.10 of the Standard Specifications with the following:

“If an initial Hamburg wheel or I-FIT test fails to meet the requirements of Article 1030.05(d), the Department will verify the results by testing the retained gyratory cylinders. Upon notification by the Engineer of a Hamburg wheel or I-FIT test failure on the retained gyratory cylinders, the Contractor shall substitute an approved mix design, submit a new mix design for mix verification testing according to Article 1030.05(d), or pave 250 tons with or without an adjustment and resample for Department Hamburg wheel and I-FIT testing as directed by the Engineer. Paving may continue as long as all other mixture criteria is being met. If Hamburg wheel or I-FIT tests on the resampled HMA fail, production of the affected mixture shall cease and the Contractor shall substitute an approved mix design or submit a new mix design for mix verification testing according to Article 1030.05(d).”

80456

## HOT-MIX ASPHALT – LONGITUDINAL JOINT SEALANT (BDE)

Effective: November 1, 2022

Revised: August 1, 2023

Add the following after the second sentence in the eighth paragraph of Article 406.06(h)(2) of the Standard Specifications:

“If rain is forecasted and traffic is to be on the LJS or if pickup/tracking of the LJS material is likely, the LJS shall be covered immediately following its application with FA 20 fine aggregate mechanically spread uniformly at a rate of  $1.5 \pm 0.5$  lb/sq yd ( $0.75 \pm 0.25$  kg/sq m). Fine aggregate landing outside of the LJS shall be removed prior to application of tack coat.”

Add the following after the first sentence in the ninth paragraph of Article 406.06(h)(2) of the Standard Specifications:

“LJS half-width shall be applied at a width of  $9 \pm 1$  in. ( $225 \pm 25$  mm) in the immediate lane to be placed with the outside edge flush with the joint of the next HMA lift. The vertical face of any longitudinal joint remaining in place shall also be coated.”

Add the following after the eleventh paragraph of Article 406.06(h)(2) of the Standard Specifications:

“LJS Half-Width Application Rate, lb/ft (kg/m) <sup>1/</sup>			
Lift Thickness, in. (mm)	Coarse Graded Mixture (IL-19.0, IL-19.0L, IL-9.5, IL-9.5L, IL-4.75)	Fine Graded Mixture (IL-9.5FG)	SMA Mixture (SMA-9.5, SMA-12.5)
$\frac{3}{4}$ (19)	0.44 (0.66)		
1 (25)	0.58 (0.86)		
1 $\frac{1}{4}$ (32)	0.66 (0.98)	0.44 (0.66)	
1 $\frac{1}{2}$ (38)	0.74 (1.10)	0.48 (0.71)	0.63 (0.94)
1 $\frac{3}{4}$ (44)	0.82 (1.22)	0.52 (0.77)	0.69 (1.03)
2 (50)	0.90 (1.34)	0.56 (0.83)	0.76 (1.13)
$\geq 2 \frac{1}{4}$ (60)	0.98 (1.46)		

1/ The application rate includes a surface demand for liquid. The thickness of the LJS may taper from the center of the application to a lesser thickness on the edge of the application, provided the correct width and application rate are maintained.”

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

“Aggregate for covering tack, LJS, or FLS will not be measured for payment.”

Add the following to the end of the second paragraph of Article 406.14 of the Standard Specifications:

“Longitudinal joint sealant (LJS) half-width will be paid for at the contract unit price per foot (meter) for LONGITUDINAL JOINT SEALANT, HALF-WIDTH.”

80446

## INLET FILTERS

Effective: April 1, 2026

Revise the first paragraph of Article 1081.15(h) of the Standard Specifications to read:

“(h) Inlet Filters. An inlet filter shall consist of a steel frame with a two piece geotextile fabric bag or a single reinforced geotextile fabric bag attached with a stainless steel band and locking cap that is suspended from the frame. A clean, used bag and a used steel frame in good condition meeting the approval of the Engineer may be substituted for new materials. Materials for the inlet filter assembly shall be according to the following.”

Revise Article 1081.15(h)(3) of the Standard Specifications to read:

“(3) Geotextile Fabric Bag. The sediment bag shall have a minimum silt and debris capacity of 2.0 cu ft (0.06 cu m). The sediment bag shall also meet one of the following options.

- a. OPTION 1. Two piece geotextile fabric bag.

The inner filter bag shall be constructed of a polypropylene geotextile fabric according to the following.

Inner Filter Bag		
Material Property	Test Method	Minimum Average Roll Value
Grab Tensile Strength	ASTM D 4632	100 lb (45 kg)
Grab Tensile Elongation	ASTM D 4632	50%
Puncture Strength	ASTM D 4833/ ASTM D 6241	65 lb (29 kg)
Trapezoidal Tear	ASTM D 4533	45 lb (20 kg)
UV Resistance	ASTM D 4355	70% at 500 hours
Apparent Opening Size	ASTM D 4751	No. 70 (212 $\mu$ m) sieve
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	145 gpm/sq ft (5900 Lpm/sq m)

The outer reinforcement bag shall be constructed of a polyester mesh material according to the following.

Outer Reinforcement Bag		
Material Property	Test Method	Value
Content	ASTM D 629	Polyester
Weight	ASTM D 3776	4.55 oz/sq yd (155 g/sq m) ± 15%
Apparent Opening Size	ASTM D 4751	No. 30 (600 µm) sieve
Water Flow Rate	ASTM D 4491	225 gpm/sq ft (9150 Lpm/sq m)
Burst	ASTM D 3786/ ASTM D 3787	120 psi (830 kPa) min.
Thickness	ASTM D 1777	0.040 ± 0.0050 in. (1.0 ± 0.1 mm)

b. OPTION 2. Reinforced geotextile fabric bag.

The filter bag shall be constructed of a polypropylene geotextile fabric reinforced with continuous filament fiberglass according to the following.

Reinforced Filter Bag		
Material Property	Test Method	Value or Minimum Average Roll Value
Weight	ASTM D 3776	5.00 oz/sq yd (170 g/sq m) ± 15%
Grab Tensile Strength	ASTM D 4632	200 lb (90 kg)
Grab Tensile Elongation	ASTM D 4632	50%
Puncture Strength	ASTM D 4833/ ASTM D 6241	95 lb (42 kg)
Trapezoidal Tear	ASTM D 4533	70 lb (31 kg)
Burst Strength	ASTM D 3786/ ASTM D 3787	325 psi (2240 kPa)
UV Resistance	ASTM D 4355	70% at 500 hours
Apparent Opening Size	ASTM D 4751	No. 70 (212 µm) sieve
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	145 gpm/sq ft (5900 Lpm/sq m)

- (4) Certification. The manufacturer shall furnish a certification with each shipment of inlet filters, stating the amount of product furnished and that the material complies with these requirements.”

80483

## LONGITUDINAL TINING (BDE)

Effective: January 1, 2026

Revise the first three paragraphs of Article 420.09(e)(1) of the Standard Specifications to read:

- “(1) Type A. Type A final finish shall be obtained by the use of a carpet drag composed of an artificial turf followed immediately by a mechanically operated metal comb longitudinal tining device.

The artificial turf shall be made of molded polyethylene with synthetic turf blades approximately 0.85 in. (20 mm) long and contain approximately 7,200 individual blades per 1 sq ft (0.1 sq m). The artificial turf shall be attached to a device that will permit control of the time and rate of texturing. The artificial turf carpet shall be full pavement width and of sufficient size that during the finishing operation, approximately 2 ft (600 mm) of carpet in the direction of drag (i.e., parallel to the pavement centerline) will be in contact with the pavement surface over the entire pavement width. The drag shall be operated in a longitudinal direction to produce a uniform appearing finish. If necessary for maintaining contact with the pavement surface, the carpet may be weighted.

The metal comb shall consist of a single line of tempered spring steel tines uniformly spaced at 3/4 in. (19 mm). The tines shall be flat and of a size and stiffness sufficient to produce a groove of the specified dimensions in the plastic concrete without tearing of the pavement surface. The mechanically operated metal comb shall be either an exclusive piece of equipment which is mechanically self-propelled or shall be combined with the curing equipment. The artificial turf carpet drag may be attached to this piece of equipment provided a surface texture is produced satisfactory to the Engineer. The tining device shall be operated to produce a pattern of grooves, 1/8 to 3/16 in. (3 to 5 mm) deep and 1/10 to 1/8 in. (2.5 to 3 mm) wide along the pavement in a single pass. The tining shall be operated parallel to the longitudinal joint or edge of pavement and shall not deviate more than 1 in. (25 mm) in 25 ft (8 m). Tining shall be withheld 1 to 1 1/2 in. (25 to 38 mm) from a longitudinal joint or pavement edge.

Hand tining or tining with a mechanically operated comb combined with the curing equipment specified in Article 1101.09 will be permitted where the specifications permit hand finishing or screeds, one lane construction up to 16 ft (5 m) wide, gaps, projects with a net length of 1/2 mile (800 m) or less, and where the production rate on any paving day will be less than 1,500 cu yd (1200 cu m) per day. A foot bridge shall be provided for the hand tining operation for all pavement over 12 ft (3.6 m) wide, unless it can be demonstrated that an alternate texturing operation produces satisfactory results.”

80477

## **PAVEMENT MARKING (BDE)**

Effective: April 1, 2025

Revised: November 1, 2025

Revise the fourth sentence of the fourth paragraph of Article 780.05 of the Standard Specifications to read:

“Grooves for letters and symbols shall be cut in a rectangular shape or in the shape of the proposed marking so the entire marking will fit within the limits of the grooved area.”

Revise the last sentence of the third paragraph of Article 780.08 of the Standard Specifications to read:

“The Contractor shall install the preformed plastic pavement markings according to the manufacturer’s recommendations.”

Revise the second sentence of the first paragraph of Article 780.13 of the Standard Specifications to read:

“In addition, thermoplastic, preformed plastic, epoxy, preformed thermoplastic, polyurea, and modified urethane pavement markings will be inspected following a winter performance period that extends from November 15 to April 1 of the next year.”

80464

## **PAVEMENT PATCHING (BDE)**

Effective: August 1, 2025

Revise the first sentence of the last paragraph of Article 442.06(a)(2) of the Standard Specifications to read:

“Type IV patches shall be reinforced with welded wire reinforcement according to the details shown on the plans.”

Revise Article 442.06(a)(3) of the Standard Specifications to read:

“(3) Class C Patching. Patches adjacent to a new lane of pavement, new portland cement concrete shoulder, or new curb and gutter of more than 20 ft (6 m) in length shall be tied with No. 6 (No. 19) tie bars, 24 in. (600 mm) long, embedded 8 in. (200 mm) at 36 in. (900 mm) centers according to Article 420.05(b).

When the patched pavement is not to be resurfaced, transverse contraction joints shall be formed on 15 ft (4.5 m) to 20 ft (6 m) centers by sawing in all patches that are more than 20 ft (6 m) in length. They shall be placed in line with joints or cracks in the existing slab whenever possible.”

Revise the eighth paragraph of Article 442.11 of the Standard Specifications to read:

“Pavement tie bars for patches will be paid for at the contract unit price per each for TIE BARS, of the diameter specified.”

80468

## PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2023

Revised: April 1, 2026

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, $\Delta T_c$ , 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 (SBS). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be a styrene-butadiene-styrene without oil extension. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the following requirements for the grade shown on the plans.

Requirements for Styrene-Butadiene Copolymer (SBS) Modified Asphalt Binders			
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.	
Tests on Residue from Rolling Thin Film Oven Test (RTFO), AASHTO T 240			
Multiple Stress Creep Recovery (MSCR), AASHTO T 350			
Asphalt Grade	Test Temperature	Maximum J <sub>nr</sub> (3.2 kPa)	Minimum % Recovery (3.2 kPa)
SBS 76-22	64 °C	≤ 0.5	≥ 75 %
SBS 70-22		≤ 2	≥ 30 %
SBS 76-28	58 °C	≤ 0.5	≥ 80 %
SBS 70-28		≤ 1	≥ 60 %
SBS 64-28		≤ 2	≥ 30 %

- (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.

Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
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, 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 Article 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.

Requirements for Softener Modified (SM) Asphalt Binders		
Test	Asphalt Grade	
		SM PG 46-28
	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, $\Delta T_c$ , 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, $\Delta G^* _{peak}$ , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	$\geq 54$ %	

- (4) Polymer/Softener Modification (SBS/SM). Polymer/Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, amines, and fatty acid derivatives, used in combination with SBS modified PG asphalt binder as modified in accordance with Article 1032.05(b)(1) to achieve the specified performance grade. Polymer/Softeners shall be compatible with

each other and dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder with no separation. Polymer/Softeners shall not be added to modified PG asphalt binder as defined in Article 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the polymer and the softening compound as well as the polymer/softener modified asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged polymer/softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged polymer/softener modified binder, and 40-hour PAV aged polymer/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.

Requirements for Polymer/Softener Modified (SBS-SM) Asphalt Binders			
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.	
Tests on Residue from Rolling Thin Film Oven Test (RTFO), AASHTO T 240			
Multiple Stress Creep Recovery (MSCR), AASHTO T 350			
Asphalt Grade	Test Temperature	Maximum $J_{nr}$ (3.2 kPa)	Minimum % Recovery (3.2 kPa)
SBS-SM 76-22	64 °C	≤ 0.5	≥ 75 %
SBS-SM 70-22		≤ 2	≥ 30 %
SBS-SM 76-28	58 °C	≤ 0.5	≥ 80 %
SBS-SM 70-28		≤ 1	≥ 60 %
SBS-SM 64-28		≤ 2	≥ 30 %
Small Strain Parameter (AASHTO PP 113) BBR, $\Delta T_c$ , 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, $\Delta G^* _{peak}$ $\tau$ , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)			≥ 60 %

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 % <sup>1/ 2/</sup>			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface <sup>3/</sup>
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 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 % <sup>1/ 2/</sup>			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface <sup>3/</sup>
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 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  $\pm 0.40$  percent.”

80441

## **PREFORMED PLASTIC PAVEMENT MARKING (BDE)**

Effective: June 2, 2024

Revise Article 1095.03(h) of the Standard Specifications to read:

“(h) Glass Beads. Glass beads shall be colorless and uniformly distributed throughout the yellow and white portions of the material only. A top coating of beads shall be bonded to or directly embedded into the surface of the markings such that the beads are not easily removed when the film is scratched firmly with a thumb nail.

The glass bead refractive index shall be tested using the liquid immersion method.

Type B material shall have an inner mix of glass beads with a minimum refractive index of 1.50 and a top coating of ceramic beads bonded to top urethane wear surface with a minimum refractive index of 1.70. Beads with a refractive index greater than 1.80 shall not be used.

Type C material shall have glass beads with a minimum refractive index of 1.50 and a layer of skid resistant ceramic particles bonded to the top urethane wear surface. The urethane wear surface shall have a nominal thickness of 5 mils (0.13 mm).”

Revise Article 1095.03(n) of the Standard Specifications to read:

“(n) Sampling and Inspection.

(1) Sample. Prior to approval and use of preformed plastic pavement markings, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The independent laboratory test report shall state the lot tested, the manufacturer’s name, and the date of manufacture.

After initial approval by the Department, samples and certification by the manufacturer shall be submitted for each subsequent batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, the manufacturer’s name, and the date of manufacture.

(2) Inspection. The Contractor shall provide a manufacturer’s certification to the Engineer stating the material meets all requirements of this specification. All material samples for acceptance tests will be taken or witnessed by a representative of the Bureau of Materials and will be submitted to the Engineer of Materials, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations.”

80459

## **RAISED REFLECTIVE PAVEMENT MARKERS (BDE)**

Effective: November 1, 2025

Revise the eighth sentence of the second paragraph of Article 781.03(a) of the Standard Specifications to read:

“A rapid setting epoxy selected from the Department’s qualified product list for raised reflective pavement markers shall be poured into the cut to within 3/8 in. (9 mm) of the pavement surface.”

Revise the first sentence of Article 1096.01 of the Standard Specifications to read:

“**1096.01 Raised Reflective Pavement Markers.** Raised reflective pavement markers shall meet the following requirements and be on the Department’s qualified product list.”

80473

## REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024

Revised: April 1, 2026

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

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

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

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

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

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

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

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

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

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

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

Add the following paragraph after the fourth paragraph of Article 669.10 of the Standard Specifications.

"Regulated substances monitoring will be measured for payment per calendar day, where 4 or more hours of monitoring activities is defined as 1.0 calendar day and less than 4 hours of monitoring activities is defined as 0.5 calendar day."

Revise the second paragraph of Article 669.11 of the Standard Specification to read:

"Regulated substances monitoring, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day for REGULATED SUBSTANCES MONITORING. In no case will more than 1.0 calendar day be paid on a given calendar day."

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

## **SEEDING (BDE)**

Effective: November 1, 2022

Revise Article 250.07 of the Standard Specifications to read:

**“250.07 Seeding Mixtures.** The classes of seeding mixtures and combinations of mixtures will be designated in the plans.

When an area is to be seeded with two or more seeding classes, those mixtures shall be applied separately on the designated area within a seven day period. Seeding shall occur prior to placement of mulch cover. A Class 7 mixture can be applied at any time prior to applying any seeding class or added to them and applied at the same time.

TABLE 1 - SEEDING MIXTURES		
Class - Type	Seeds	lb/acre (kg/hectare)
1 Lawn Mixture 1/	Kentucky Bluegrass	100 (110)
	Perennial Ryegrass	60 (70)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	40 (50)
1A Salt Tolerant Lawn Mixture 1/	Kentucky Bluegrass	60 (70)
	Perennial Ryegrass	20 (20)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	20 (20)
	<i>Festuca brevipila</i> (Hard Fescue)	20 (20)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	60 (70)
1B Low Maintenance Lawn Mixture 1/	Turf-Type Fine Fescue 3/	150 (170)
	Perennial Ryegrass	20 (20)
	Red Top	10 (10)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	20 (20)
2 Roadside Mixture 1/	<i>Lolium arundinaceum</i> (Tall Fescue)	100 (110)
	Perennial Ryegrass	50 (55)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	40 (50)
	Red Top	10 (10)
2A Salt Tolerant Roadside Mixture 1/	<i>Lolium arundinaceum</i> (Tall Fescue)	60 (70)
	Perennial Ryegrass	20 (20)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	30 (20)
	<i>Festuca brevipila</i> (Hard Fescue)	30 (20)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	60 (70)
3 Northern Illinois Slope Mixture 1/	<i>Elymus canadensis</i> (Canada Wild Rye) 5/	5 (5)
	Perennial Ryegrass	20 (20)
	Alsike Clover 4/	5 (5)
	<i>Desmanthus illinoensis</i> (Illinois Bundleflower) 4/ 5/	2 (2)
	<i>Schizachyrium scoparium</i> (Little Bluestem) 5/	12 (12)
	<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/	10 (10)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	30 (35)
	Oats, Spring	50 (55)
	Slender Wheat Grass 5/	15 (15)
	Buffalo Grass 5/ 7/	5 (5)
	3A Southern Illinois Slope Mixture 1/	Perennial Ryegrass
<i>Elymus canadensis</i> (Canada Wild Rye) 5/		20 (20)
<i>Panicum virgatum</i> (Switchgrass) 5/		10 (10)
<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/		12 (12)
<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/		10 (10)
<i>Dalea candida</i> (White Prairie Clover) 4/ 5/		5 (5)
<i>Rudbeckia hirta</i> (Black-Eyed Susan) 5/		5 (5)
Oats, Spring		50 (55)

Class – Type	Seeds	lb/acre (kg/hectare)
4 Native Grass 2/ 6/	<i>Andropogon gerardi</i> (Big Blue Stem) 5/	4 (4)
	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/	5 (5)
	<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/	5 (5)
	<i>Elymus canadensis</i> (Canada Wild Rye) 5/	1 (1)
	<i>Panicum virgatum</i> (Switch Grass) 5/	1 (1)
	<i>Sorghastrum nutans</i> (Indian Grass) 5/	2 (2)
	Annual Ryegrass	25 (25)
	Oats, Spring	25 (25)
	Perennial Ryegrass	15 (15)
	4A Low Profile Native Grass 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/
<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/		5 (5)
<i>Elymus canadensis</i> (Canada Wild Rye) 5/		1 (1)
<i>Sporobolus heterolepis</i> (Prairie Dropseed) 5/		0.5 (0.5)
Annual Ryegrass		25 (25)
Oats, Spring		25 (25)
Perennial Ryegrass		15 (15)
4B Wetland Grass and Sedge Mixture 2/ 6/	Annual Ryegrass	25 (25)
	Oats, Spring	25 (25)
	Wetland Grasses (species below) 5/	6 (6)
<u>Species:</u>		<u>% By Weight</u>
<i>Calamagrostis canadensis</i> (Blue Joint Grass)		12
<i>Carex lacustris</i> (Lake-Bank Sedge)		6
<i>Carex slipata</i> (Awl-Fruited Sedge)		6
<i>Carex stricta</i> (Tussock Sedge)		6
<i>Carex vulpinoidea</i> (Fox Sedge)		6
<i>Eleocharis acicularis</i> (Needle Spike Rush)		3
<i>Eleocharis obtusa</i> (Blunt Spike Rush)		3
<i>Glyceria striata</i> (Fowl Manna Grass)		14
<i>Juncus effusus</i> (Common Rush)		6
<i>Juncus tenuis</i> (Slender Rush)		6
<i>Juncus torreyi</i> (Torrey's Rush)		6
<i>Leersia oryzoides</i> (Rice Cut Grass)		10
<i>Scirpus acutus</i> (Hard-Stemmed Bulrush)		3
<i>Scirpus atrovirens</i> (Dark Green Rush)		3
<i>Bolboschoenus fluviatilis</i> (River Bulrush)		3
<i>Schoenoplectus tabernaemontani</i> (Softstem Bulrush)		3
<i>Spartina pectinata</i> (Cord Grass)		4

Class – Type	Seeds	lb/acre (kg/hectare)
5	Forb with Annuals Mixture 2/ 5/ 6/	Annuals Mixture (Below) Forb Mixture (Below)
		1 (1) 10 (10)
	Annuals Mixture - Mixture not exceeding 25 % by weight of any one species, of the following:	
	<i>Coreopsis lanceolata</i> (Sand Coreopsis) <i>Leucanthemum maximum</i> (Shasta Daisy) <i>Gaillardia pulchella</i> (Blanket Flower) <i>Ratibida columnifera</i> (Prairie Coneflower) <i>Rudbeckia hirta</i> (Black-Eyed Susan)	
	Forb Mixture - Mixture not exceeding 5 % by weight PLS of any one species, of the following:	
	<i>Amorpha canescens</i> (Lead Plant) 4/ <i>Anemone cylindrica</i> (Thimble Weed) <i>Asclepias tuberosa</i> (Butterfly Weed) <i>Aster azureus</i> (Sky Blue Aster) <i>Symphotrichum leave</i> (Smooth Aster) <i>Aster novae-angliae</i> (New England Aster) <i>Baptisia leucantha</i> (White Wild Indigo) 4/ <i>Coreopsis palmata</i> (Prairie Coreopsis) <i>Echinacea pallida</i> (Pale Purple Coneflower) <i>Eryngium yuccifolium</i> (Rattlesnake Master) <i>Helianthus mollis</i> (Downy Sunflower) <i>Heliopsis helianthoides</i> (Ox-Eye) <i>Liatris aspera</i> (Rough Blazing Star) <i>Liatris pycnostachya</i> (Prairie Blazing Star) <i>Monarda fistulosa</i> (Prairie Bergamot) <i>Parthenium integrifolium</i> (Wild Quinine) <i>Dalea candida</i> (White Prairie Clover) 4/ <i>Dalea purpurea</i> (Purple Prairie Clover) 4/ <i>Physostegia virginiana</i> (False Dragonhead) <i>Potentilla arguta</i> (Prairie Cinquefoil) <i>Ratibida pinnata</i> (Yellow Coneflower) <i>Rudbeckia subtomentosa</i> (Fragrant Coneflower) <i>Silphium laciniatum</i> (Compass Plant) <i>Silphium terebinthinaceum</i> (Prairie Dock) <i>Oligoneuron rigidum</i> (Rigid Goldenrod) <i>Tradescantia ohiensis</i> (Spiderwort) <i>Veronicastrum virginicum</i> (Culver's Root)	

Class – Type	Seeds	lb/acre (kg/hectare)
5A Large Flower Native Forb Mixture 2/ 5/ 6/	Forb Mixture (see below)	5 (5)
	<u>Species:</u>	<u>% By Weight</u>
	<i>Aster novae-angliae</i> (New England Aster)	5
	<i>Echinacea pallida</i> (Pale Purple Coneflower)	10
	<i>Helianthus mollis</i> (Downy Sunflower)	10
	<i>Heliopsis helianthoides</i> (Ox-Eye)	10
	<i>Liatris pycnostachya</i> (Prairie Blazing Star)	10
	<i>Ratibida pinnata</i> (Yellow Coneflower)	5
	<i>Rudbeckia hirta</i> (Black-Eyed Susan)	10
	<i>Silphium laciniatum</i> (Compass Plant)	10
	<i>Silphium terebinthinaceum</i> (Prairie Dock)	20
	<i>Oligoneuron rigidum</i> (Rigid Goldenrod)	10
5B Wetland Forb 2/ 5/ 6/	Forb Mixture (see below)	2 (2)
	<u>Species:</u>	<u>% By Weight</u>
	<i>Acorus calamus</i> (Sweet Flag)	3
	<i>Angelica atropurpurea</i> (Angelica)	6
	<i>Asclepias incarnata</i> (Swamp Milkweed)	2
	<i>Aster puniceus</i> (Purple Stemmed Aster)	10
	<i>Bidens cernua</i> (Beggarticks)	7
	<i>Eutrochium maculatum</i> (Spotted Joe Pye Weed)	7
	<i>Eupatorium perfoliatum</i> (Boneset)	7
	<i>Helenium autumnale</i> (Autumn Sneezeweed)	2
	<i>Iris virginica shrevei</i> (Blue Flag Iris)	2
	<i>Lobelia cardinalis</i> (Cardinal Flower)	5
	<i>Lobelia siphilitica</i> (Great Blue Lobelia)	5
	<i>Lythrum alatum</i> (Winged Loosestrife)	2
	<i>Physostegia virginiana</i> (False Dragonhead)	5
	<i>Persicaria pensylvanica</i> (Pennsylvania Smartweed)	10
	<i>Persicaria lapathifolia</i> (Curlytop Knotweed)	10
	<i>Pycnanthemum virginianum</i> (Mountain Mint)	5
	<i>Rudbeckia laciniata</i> (Cut-leaf Coneflower)	5
	<i>Oligoneuron riddellii</i> (Riddell Goldenrod)	2
	<i>Sparganium eurycarpum</i> (Giant Burreed)	5
6 Conservation Mixture 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/ <i>Elymus canadensis</i> (Canada Wild Rye) 5/ Buffalo Grass 5/ 7/ Vernal Alfalfa 4/ Oats, Spring	5 (5) 2 (2) 5 (5) 15 (15) 48 (55)
6A Salt Tolerant Conservation Mixture 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/ <i>Elymus canadensis</i> (Canada Wild Rye) 5/ Buffalo Grass 5/ 7/ Vernal Alfalfa 4/ Oats, Spring <i>Puccinellia distans</i> (Fulfs Saltgrass or Salty Alkaligrass)	5 (5) 2 (2) 5 (5) 15 (15) 48 (55) 20 (20)
7 Temporary Turf Cover Mixture	Perennial Ryegrass Oats, Spring	50 (55) 64 (70)

Notes:

- 1/ Seeding shall be performed when the ambient temperature has been between 45 °F (7 °C) and 80 °F (27 °C) for a minimum of seven (7) consecutive days and is forecasted to be the same for the next five (5) days according to the National Weather Service.
- 2/ Seeding shall be performed in late fall through spring beginning when the ambient temperature has been below 45 °F (7 °C) for a minimum of seven (7) consecutive days and ending when the ambient temperature exceeds 80 °F (27 °C) according to the National Weather Service.
- 3/ Specific variety as shown in the plans or approved by the Engineer.
- 4/ Inoculation required.
- 5/ Pure Live Seed (PLS) shall be used.
- 6/ Fertilizer shall not be used.
- 7/ Seed shall be primed with  $\text{KNO}_3$  to break dormancy and dyed to indicate such.

Seeding will be inspected after a period of establishment. The period of establishment shall be six (6) months minimum, but not to exceed nine (9) months. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department.”

80445

## SHORT TERM AND TEMPORARY PAVEMENT MARKINGS (BDE)

Effective: April 1, 2024

Revised: April 2, 2024

Revise Article 701.02(d) of the Standard Specifications to read:

“(d) Pavement Marking Tapes (Note 3) ..... 1095.06”

Add the following Note to the end of Article 701.02 of the Standard Specifications:

“Note 3. White or yellow pavement marking tape that is to remain in place longer than 14 days shall be Type IV tape.”

Revise Article 703.02(c) of the Standard Specifications to read:

“(c) Pavement Marking Tapes (Note 1) ..... 1095.06”

Add the following Note to the end of Article 703.02 of the Standard Specifications:

“Note 1. White or yellow pavement marking tape that is to remain in place longer than 14 days shall be Type IV tape.”

Revise Article 1095.06 of the Standard Specifications to read:

**“1095.06 Pavement Marking Tapes.** Type I white or yellow marking tape shall consist of glass spheres embedded into a binder on a foil backing that is precoated with a pressure sensitive adhesive. The spheres shall be of uniform gradation and distributed evenly over the surface of the tape.

Type IV tape shall consist of white or yellow tape with wet reflective media incorporated to provide immediate and continuing retroreflection in wet and dry conditions. The wet retroreflective media shall be bonded to a durable polyurethane surface. The patterned surface shall have approximately 40 ± 10 percent of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed reflective elements or particles.

Blackout tape shall consist of a matte black, non-reflective, patterned surface that is precoated with a pressure sensitive adhesive.

- (a) Color. The white and yellow markings shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 min.
Yellow *	36 - 59

\*Shall match Aerospace Material Specification Standard 595 33538 (Orange Yellow) and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (b) Retroreflectivity. The white and yellow markings shall be retroreflective. Reflective values measured in accordance with the photometric testing procedure of ASTM D 4061 shall not be less than those listed in the table below. The coefficient of retroreflected luminance,  $R_L$ , shall be expressed as average millicandelas/footcandle/sq ft (millicandelas/lux/sq m), measured on a 3.0 x 0.5 ft (900 mm x 150 mm) panel at 86 degree entrance angle.

Coefficient of Retroreflected Luminance, $R_L$ , Dry					
Type I			Type IV		
Observation Angle	White	Yellow	Observation Angle	White	Yellow
0.2°	2700	2400	0.2°	1300	1200
0.5°	2250	2000	0.5°	1100	1000

Wet retroreflectance shall be measured for Type IV under wet conditions according to ASTM E 2177 and meet the following.

Wet Retroreflectance, Initial $R_L$	
Color	$R_L$ 1.05/88.76
White	300
Yellow	200

- (c) Skid Resistance. The surface of Type IV and blackout markings shall provide a minimum skid resistance of 45 BPN when tested according to ASTM E 303.
- (d) Application. The pavement marking tape shall have a precoated pressure sensitive adhesive and shall require no activation procedures. Test pieces of the tape shall be applied according to the manufacturer's instructions and tested according to ASTM D 1000, Method A, except that a stiff, short bristle roller brush and heavy hand pressure will be substituted for the weighted rubber roller in applying the test pieces to the metal test panel. Material tested as directed above shall show a minimum adhesion value of 750 g/in. (30 g/mm) width at the temperatures specified in ASTM D 1000. The adhesive shall be resistant to oils, acids, solvents, and water, and shall not leave objectionable stains or residue after removal. The material shall be flexible and conformable to the texture of the pavement.

(e) Durability. Type IV and blackout tape shall be capable of performing for the duration of a normal construction season and shall then be capable of being removed intact or in large sections at pavement temperatures above 40 °F (4 °C) either manually or with a roll-up device without the use of sandblasting, solvents, or grinding. The Contractor shall provide a manufacturer's certification that the material meets the requirements for being removed after the following minimum traffic exposure based on transverse test decks with rolling traffic.

- (1) Time in place - 400 days
- (2) ADT per lane - 9,000 (28 percent trucks)
- (3) Axle hits - 10,000,000 minimum

Samples of the material applied to standard specimen plates will be measured for thickness and tested for durability in accordance with ASTM D 4060, using a CS-17 wheel and 1000-gram load, and shall meet the following criteria showing no significant change in color after being tested for the number of cycles indicated.

Test	Type I	Type IV	Blackout
Minimum Initial Thickness, mils (mm)	20 (0.51)	65 (1.65) <sup>1/</sup> 20 (0.51) <sup>2/</sup>	65 (1.65) <sup>1/</sup> 20 (0.51) <sup>2/</sup>
Durability (cycles)	5,000	1,500	1,500

1/ Measured at the thickest point of the patterned surface.

2/ Measured at the thinnest point of the patterned surface.

The pavement marking tape, when applied according to the manufacturer's recommended procedures, shall be weather resistant and shall show no appreciable fading, lifting, or shrinkage during the useful life of the marking. The tape, as applied, shall be of good appearance, free of cracks, and edges shall be true, straight, and unbroken.

(f) Sampling and Inspection.

(1) Sample. Prior to approval and use of Type IV pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The independent laboratory test report shall state the lot tested, the manufacturer's name, and the date of manufacture.

After initial approval by the Department, samples and certification by the manufacturer shall be submitted for each subsequent batch of Type IV tape used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, the manufacturer's name, and the date of manufacture.

- (2) Inspection. The Contractor shall provide a manufacturer's certification to the Engineer stating the material meets all requirements of this specification. All material samples for acceptance tests shall be taken or witnessed by a representative of the Bureau of Materials and shall be submitted to the Engineer of Materials, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations."

80457

## **SIGN PANELS AND APPURTENANCES (BDE)**

Effective: January 1, 2025

Revised: January 1, 2026

Add Article 720.02(c) of the Standard Specifications to read:

“(c) Aluminum Epoxy Mastic .....1008.03”

Revise the second and third paragraphs of Article 720.02 of the Standard Specifications to read:

“The sign mounting support channel shall be manufactured from steel or aluminum and shall be according to Standard 720001.

Steel support channels shall be according to ASTM A 1011 (A 1011M), ASTM A 635 (A 635M), ASTM A 568 (A 568M), or ASTM A 684 (A 684M), and shall be galvanized. Galvanizing shall be according to ASTM A 653 (A 653M) when galvanized before fabrication, and AASHTO M 111 (M 111M) when galvanized after fabrication. Field or post fabricated drilled holes shall be spot painted with one coat of aluminum epoxy mastic paint prior to installation.”

Revise the fifth paragraph of Article 720.02 of the Standard Specifications to read:

“The stainless steel banding for mounting signs or sign support channels to light or signal standards shall be according to ASTM A 240 (A 240M) Type 302 stainless steel.”

Revise the first sentence of the tenth paragraph of Article 720.03 of the Standard Specifications to read:

“The backs of all sign panels shall be marked in a manner designed to last as long as the sign face material, in letters and numerals at least 3/8 in. (9.5 mm) but no more than 3/4 in. (19 mm) in height with the month and year of manufacture, the name of the sign manufacturer, the name of the sign sheeting manufacturer, the method of manufacture (“screened”, “EC film”, “direct applied”, or “digital print”), and the initials IDOT.”

Revise the first sentence of the fourth paragraph of Article 1091.03(a)(10) of the Standard Specifications to read:

“Transparent colors screened, or transparent acrylic electronic cutting films, or digital printing on white sheeting, shall meet the minimum initial coefficient of retroreflection values of the 0.2 degree observation angle, -4.0 degree entrance angle values as listed in the previous tables for the color being applied.”

Add the following after the fourth paragraph of Article 1091.03(a)(10) of the Standard Specifications:

“Digitally printed signs shall be produced using digital print technologies and ink systems, products and processes that comply with the sheeting manufacturer’s recommendation. The digitally printed signs shall be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlamine shall comply with the sheeting manufacturer’s recommendations to ensure proper adhesion and transparency.”

Add the following after the third paragraph of Article 1106.01 of the Standard Specifications:

“Digitally printed signs may omit protective overlay film.”

80462

## SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)

Effective: January 2, 2023

Revised: January 1, 2026

Revise the third through ninth paragraphs of Article 106.01 of the Standard Specifications to read:

“Articles, materials, and supplies shall be classified into only one of the following categories.

- (a) Iron and Steel. All iron and steel products, which are to be incorporated into the work, shall be domestically manufactured or produced and fabricated, unless an exception is expressly permitted under Federal and/or State law and written permission is given by the Department. The Contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The applications of all coatings, epoxy, galvanizing, painting, etc. to iron and steel products shall be domestically applied.

- (b) Manufactured Products. Manufactured products shall include articles, materials or supplies that have been processed into a specific form or shape; or have been combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products incorporated into the work shall have the final assembly for the manufacturing process occur domestically.

A manufactured product may include components that are construction materials, iron or steel products, or exempt materials.

Precast concrete products and intelligent transportation systems (ITS) or other electronic hardware systems shall comply with the requirements of Article 106.01(a) in addition to the requirements of manufactured products.

- (c) Construction Materials. All manufacturing processes for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply consisting of only one of the following.

(1) Non-ferrous metals;

(2) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);

(3) Glass (including optic glass);

(4) Fiber optic cable (including drop cable);

(5) Optical fiber;

(6) Lumber;

(7) Drywall;

(8) Engineered wood.

Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

(d) Exempt Materials. Materials exempt from domestic production requirements are cement or cementitious materials, aggregates, aggregate binding agents or additives, or items not permanently incorporated into the work. Exempt materials may be combined with other materials into a final form to produce a manufactured product.”

80448

## STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: November 1, 2025

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, welded reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. The following documentation shall be furnished to the Engineer.

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars  
Q = quantity of steel incorporated into the work, in lb (kg)  
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where:  $MPI_M$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

$MPI_L$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items will be derived from submitted documentation.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the  $MPI_M$  will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the  $MPI_L$  and  $MPI_M$  in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80127

## **SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)**

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

**“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.**  
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

## **SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)**

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

80391

## **SUBMISSION OF BIDDERS LIST INFORMATION (BDE)**

Effective: January 2, 2025

Revised: March 2, 2025

In accordance with 49 CFR 26.11(c) all DBE and non-DBEs who bid as prime contractors and subcontractors shall provide bidders list information, including all DBE and non-DBE firms from whom the bidder has received a quote or bid to work as a subcontractor, whether or not the bidder has relied upon that bid in placing its bid as the prime contractor.

The bidders list information shall be submitted with the bid using the link provided within the “Integrated Contractor Exchange (iCX)” application of the Department’s “EBids System”.

80463

## **SUBMISSION OF PAYROLL RECORDS – FEDERAL AID CONTRACT (BDE)**

Effective: April 1, 2026

If the prevailing rate of wages published by the Illinois Department of Labor (IDOL) is equal to or greater than the prevailing wage determination by the United States Secretary of Labor for the same locality for the same type of construction used to classify the federal construction project, the requirements of the Illinois Prevailing Wage Act (820 ILCS 130) shall apply, including the “ILLINOIS PREVAILING WAGE ACT” section below. If not, only the requirements of the Davis-Bacon Act shall apply, including the “DAVIS-BACON ACT” section below.

DAVIS-BACON ACT. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### “STATEMENTS AND PAYROLLS

The payroll records shall include the worker’s name, social security number, last known address, telephone number, email address, classification(s) of work actually performed, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof), daily and weekly number of hours actually worked in total, deductions made, and actual wages paid.

The Contractor and each subcontractor shall submit certified payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers, last known addresses, telephone numbers, and email addresses shall not be included on weekly submittals. Instead, the payrolls need only include an identification number for each employee (e.g., the last four digits of the employee’s social security number). The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.”

ILLINOIS PREVAILING WAGE ACT. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### “STATEMENTS AND PAYROLLS

- (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 Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor will not be allowed additional compensation on account of said revisions.

- (2) Payroll Records. The Contractor and each subcontractor shall make and keep, for a period of five years from the later of the date of final payment under the contract or completion of the contract, records of the wages paid to his/her workers. The payroll records shall include the worker's name, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, and the worker's starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employer and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable. Upon seven business days' notice, these records shall be available at a location within the State, during reasonable hours, for inspection by the Department or the Department of Labor; and Federal, State, or local law enforcement agencies and prosecutors.
- (3) Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15<sup>th</sup> day of each calendar month, file a certified payroll for the immediately preceding month to the Illinois Department of Labor (IDOL) through the Certified Transcript of Payroll Portal in compliance with the State Prevailing Wage Act (820 ILCS 130). The portal can be found on the IDOL website at <https://labor.illinois.gov>. Payrolls shall be submitted in the format prescribed by the IDOL.

In addition to filing certified payroll(s) with the IDOL, the Contractor and each subcontractor shall certify and submit payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted. The submittals shall be made using LCPtracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option ("No Work", "Suspended", or "Complete") selected.

- (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."

80482

**SURVEYING SERVICES (BDE)**

Effective: April 1, 2025

Delete the fourth paragraph of Article 667.04 of the Standard Specifications.

Delete Section 668 of the Standard Specifications.

80465

**TEMPORARY CONCRETE BARRIER (BDE)**

Effective: January 1, 2026

Add the following to Article 704.02 of the Standard Specifications:

“(f) Type C Reflector .....1097.02(c)”

80481

## **TRAINING SPECIAL PROVISIONS (BDE)**

Effective: October 15, 1975  
Revised: September 2, 2021

This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 4. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee it employs on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor Employment Training Administration shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting its performance under this Training Special Provision.

For contracts with an awarded contract value of \$500,000 or more, the Contractor is required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules to the extent permitted by Section 20-20(g). For federally funded projects, the number of trainees to be trained under this contract, as stated in the Training Special Provisions, will be the established goal for the Illinois Works Apprenticeship Initiative 30 ILCS 559/20-20(g). The Contractor shall make a good faith effort to meet this goal. For federally funded projects, the Illinois Works Apprenticeship Initiative will be implemented using the FHWA approved OJT procedures. The Contractor must comply with the recordkeeping and reporting obligations of the Illinois Works Apprenticeship Initiative for the life of the project, including the certification as to whether the trainee/apprentice labor hour goals were met.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

20338

## **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

**WOOD SIGN SUPPORT (BDE)**

Effective: November 1, 2023

Add the following to Article 730.02 of the Standard Specifications:

“(c) Preservative Treatment .....1007.12”

Revise the first paragraph of Article 730.03 of the Standard Specifications to read:

“**730.03 General.** Wood sign supports shall be treated. When the 4 x 6 in. (100 x 150 mm) posts are used, they shall be modified to satisfy the breakaway requirements by drilling 1 1/2 in. (38 mm) diameter holes centered at 4 and 18 in. (100 and 450 mm) above the groundline and perpendicular to the centerline of the roadway.”

80454

## WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Revised: January 1, 2026

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports ..... 1106.02”

Revise Article 701.03(p) of the Standard Specifications to read:

“(p) Detectable Pedestrian Channelizing Barricades ..... 1106.02(m)”

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 shall be MASH compliant.

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 shall be MASH compliant.

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 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350, 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 sign supports, speed feedback displays, 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 compliant is available, an NCHRP 350 compliant device may be used, even if manufactured after December 31, 2019.”

Revise the first paragraph of Section 1106.02(a) of the Standard Specifications to read:

“(a) Lights. Lights shall meet the requirements of Chapter 13 of the “Equipment and Materials Standards of the Institute of Transportation Engineers,” 1998, Institute of Transportation Engineers, and shall be visible on a clear night from a distance of 3000 ft (900 m). Lights are classified as follows.”

Revise Articles 1106.02(g), 1106.02(k), 1106.02(l), and 1106.02(m) of the Standard Specifications 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.

- (m) Detectable Pedestrian Channelizing Barricades. The top panel or handrail shall be continuous and there should be at least a 2 in. (50 mm) gap between the hand trailing edge and its support. When visible to vehicular traffic, the top rail shall have alternating white and orange retroreflective stripes sloping at 45 degrees. The bottom panel shall be continuous and have alternating white and orange retroreflective stripes sloping at 45 degrees. Barricade stripes shall be 6 in. (150 mm) in width. The predominant color for other barricade components shall be white, orange, or silver.”

80427

**WORKING DAYS (BDE)**

Effective: January 1, 2002

The Contractor shall complete the work within 300 working days.

80071

## MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES

Effective: October 4, 2016

Revised: March 1, 2019

**Description.** This work shall consist of furnishing and placing a membrane waterproofing system on the top slab and sidewalls, or portions thereof, for buried structures as detailed on the contract plans.

All membrane waterproofing systems shall be supplied by qualified producers. The Department will maintain a list of qualified producers.

**Materials.** The materials used in the waterproofing system shall consist of the following.

- (a) Cold-applied, self-adhering rubberized asphalt/polyethylene membrane sheet with the following properties:

<b>Physical Properties</b>	
Thickness ASTM D 1777 or D 3767	60 mils (1.500 mm) min.
Width	36 inches (914 mm) min.
Tensile Strength, Film ASTM D 882	5000 lb./in <sup>2</sup> (34.5 MPa) min.
Pliability [180° bend over 1" inch (25 mm) mandrel @ -20 °F (-29 °C)] ASTM D 146 (Modified) or D1970	No Effect
Puncture Resistance-Membrane ASTM E 154	40 lb. (178 N) min.
Permeability (Perms) ASTM E 96, Method B	0.1 max.
Water Absorption (% by Weight) ASTM D 570	0.2 max.
Peel Strength ASTM D 903	9 lb./in (1576 N/m) min.

- (b) Ancillary Materials: Adhesives, Conditioners, Primers, Mastic, Two-Part Liquid Membranes, and Sealing Tapes as required by the manufacturer of the membrane and film for use with the respective membrane waterproofing system.

**Construction.** The areas requiring waterproofing shall be prepared and the waterproofing shall be installed in accordance with the manufacturer's instructions. The Contractor shall not install any part of a membrane waterproofing system in wet conditions, or if the ambient or concrete surface temperature is below 40° (4° C), unless allowed by the Engineer.

Surfaces to be waterproofed shall be smooth and free from projections which might damage the membrane sheet. Projections or depressions on the surface that may cause damage to the membrane shall be removed or filled as directed by the Engineer. The surface shall be power washed and cleaned of dust, dirt, grease, and loose particles, and shall be dry before the waterproofing is applied.

The Contractor shall uniformly apply primer to the entire area to be waterproofed, at the rate stated in the manufacturer's instructions, by brush, or roller. The Contractor shall brush out primer that tends to puddle in low spots to allow complete drying. The primer shall be cured according to the manufacturer's instructions. Primed areas shall not stand uncovered overnight. If membrane sheets are not placed over primer within the time recommended by the manufacturer, the Contractor shall recoat the surfaces at no additional cost to the Department.

The installation of the membrane sheet to primed surfaces shall be such that all joints are shingled to shed water by commencing from the lowest elevation of the buried structure's top slab and progress towards the highest elevation. The membrane sheets shall be overlapped as required by the manufacturer. The Contractor shall seal with mastic any laps that were not thoroughly sealed. The membrane shall be smooth and free of wrinkles and there shall be no depressions in horizontal surfaces of the finished waterproofing. After placement, exposed edges of membrane sheets shall be sealed with a troweled bead of a manufacturer's recommended mastic, or two-part liquid membrane, or with sealing tape.

Sealing bands at joints between precast segments shall be installed prior to the waterproofing system being applied. Where the waterproofing system and sealing band overlap, the installation shall be planned such that water will not be trapped or directed underneath the membrane or sealing band.

Care shall be taken to protect and to prevent damage to the waterproofing system prior to and during backfilling operations. The waterproofing system shall be removed as required for the installation of slab mounted guardrails and other appurtenances. After the installation is complete, the system shall be repaired and sealed against water intrusion according to the manufacturer's instructions and to the satisfaction of the Engineer.

Replace the last paragraph of Article 540.06 Precast Concrete Box Culverts and replace with:

Handling holes shall be filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation nor project above the outside surface to the extent that may cause damage to the membrane. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar compatible with the membrane.

Method of Measurement. The waterproofing system will be measured in place, in square yards (square meters) of the concrete surface to be waterproofed.

Basis of Payment. This work will be paid for at the contract unit price, per square yard (square meter) for MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES.

**REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

**II. NONDISCRIMINATION** (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

#### **8. Reasonable Accommodation for Applicants /**

**Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurances Required:**

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

#### 1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov). The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov), refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.*

Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

## 2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

### 3. Records and certified payrolls (29 CFR 5.5)

*a. Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

*(2) Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

*(3) Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

*(4) Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

*b. Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

*(2) Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker ( e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDLegacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

*(3) Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

*(4) Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

#### 4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

**6. Subcontracts.** The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

**9. Disputes concerning labor standards.** As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.** a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

**11. Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)\* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

\* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

### 3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

### VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

## **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

**IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)**

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

**X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

**1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

\* \* \* \* \*

**2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

\* \* \* \* \*

**3. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

\* \* \* \* \*

**4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**XII. USE OF UNITED STATES-FLAG VESSELS:**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY  
SYSTEM OR APPALACHIAN LOCAL ACCESS**

**ROAD CONTRACTS** (23 CFR 633, Subpart B, Appendix B)  
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.