77

Letting September 19, 2025

Notice to Bidders, Specifications and Proposal

Illinois Department of Transportation

Contract No. 87846
KENDALL County
Section 23-00052-02-PV (Oswego)
Route FAU 1577 (Wolfs Crossing Road)
Project JS0S-749 ()
District 3 Construction Funds

Prepared by

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Checked by

(Printed by authority of the State of Illinois)

Illinois Department of Transportation

NOTICE TO BIDDERS

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. September 19, 2025 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. 87846
   KENDALL County
   Section 23-00052-02-PV (Oswego)
   Project JS0S-749 ()
   Route FAU 1577 (Wolfs Crossing Road)
   District 3 Construction Funds

Convert the intersecton of Wolf's Crossing Road and Douglas Road to a roundabout. Includes; full depth HMA paving, drainage improvements, detention pond grading, culverts, multi-use path and sidewalks.

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

CONTRACT 87846

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2025

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 1-1-25)

SUPPLEMENTAL SPECIFICATIONS

RECURRING SPECIAL PROVISIONS

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

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Table of Contents

TABLE OF CONTENTS

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.

	File Name	Pg.		Special Provision Title	Effective	Revised
	80099		☐	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
	80274	108	☒	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
	80192		☐	Automated Flagger Assistance Device	Jan. 1, 2008	April 1, 2023
	80173	111	☒	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
	80426		☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
	80241		☐	Bridge Demolition Debris	July 1, 2009	
	5053I		☐	Building Removal	Sept. 1, 1990	Aug. 1, 2022
	5026I		☐	Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
	80460	113	☒	Cement, Finely Divided Minerals, Admixtures, Concrete, and Mortar	Jan. 1, 2025	
	80384	124	☒	Compensable Delay Costs	June 2, 2017	April 1, 2019
	80198		☐	Completion Date (via calendar days)	April 1, 2008	
	80199		☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
	80461		☐	Concrete Barrier	Jan. 1, 2025	
	80453		☐	Concrete Sealer	Nov. 1, 2023	
	80261	128	☒	Construction Air Quality – Diesel Retrofit	June 1, 2010	Jan. 1, 2025
	80029	130	☒	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 2, 2025
*	80467	133	☒	Erosion Control Blanket	Aug. 1, 2025	
	80229	136	☒	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
	80452		☐	Full Lane Sealant Waterproofing System	Nov. 1, 2023	
	80447		☐	Grading and Shaping Ditches	Jan 1, 2023	
	80433		☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
	80456	139	☒	Hot-Mix Asphalt	Jan. 1, 2024	Jan. 1, 2025
	80446	141	☒	Hot-Mix Asphalt – Longitudinal Joint Sealant	Nov. 1, 2022	Aug. 1, 2023
	80438		☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	April 2, 2024
*	80450		☐	Mechanically Stabilized Earth Retaining Walls	Aug. 1, 2023	Aug. 1, 2025
	80464	143	☒	Pavement Marking Inspection	April 1, 2025	
*	80468	144	☒	Pavement Patching	Aug. 1, 2025	
	80441	145	☒	Performance Graded Asphalt Binder	Jan 1, 2023	
	80459		☐	Preformed Plastic Pavement Marking	June 2, 2024	
	3426I		☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
	80455	150	☒	Removal and Disposal of Regulated Substances	Jan. 1, 2024	April 1, 2024
	80445	152	☒	Seeding	Nov. 1, 2022	
	80457	158	☒	Short Term and Temporary Pavement Markings	April 1, 2024	April 2, 2024
	80462	162	☒	Sign Panels and Appurtenances	Jan. 1, 2025	April 1, 2025
*	80469		☐	Slope Wall	Aug. 1, 2025	
	80448	163	☒	Source of Supply and Quality Requirements	Jan. 2, 2023	
	80340		☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
	80127		☐	Steel Cost Adjustment	April 2, 2004	Jan. 1, 2022
	80397	164	☒	Subcontractor and DBE Payment Reporting	April 2, 2018	
	80391	165	☒	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
*	80463	166	☒	Submission of Bidders List Information	Jan. 2, 2025	Mar. 2, 2025
	80437	167	☒	Submission of Payroll Records	April 1, 2021	Nov. 2, 2023
	80435		☐	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
	80465	169	☒	Surveying Services	April 1, 2025	
	80466		☐	Temporary Rumble Strips	April 1, 2025	
*	80470		☐	Traffic Signal Backplate	Aug. 1, 2025	
	20338	170	☒	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
	80429		☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
	80439	173	☒	Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
	80458		☐	Waterproofing Membrane System	Aug. 1, 2024	
	80302	174	☒	Weekly DBE Trucking Reports	June 2, 2012	Jan. 2, 2025
	80454	175	☒	Wood Sign Support	Nov. 1, 2023	
	80427	176	☒	Work Zone Traffic Control Devices	Mar. 2, 2020	Jan. 1, 2025
	80071		☐	Working Days	Jan. 1, 2002	

GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET

Effective as of the: November 8, 2024 Letting

Pg #	√	File Name	Title	Effective	Revised
	☐	GBSP 4	Polymer Modified Portland Cement Mortar	June 7, 1994	April 1, 2016
	☐	*GBSP 13	High-Load Multi-Rotational Bearings	Oct 13, 1988	June 28, 2024
	☐	GBSP 14	Jack and Remove Existing Bearings	April 20, 1994	April 13, 2018
	☐	GBSP 16	Jacking Existing Superstructure	Jan 11, 1993	April 13, 2018
	☐	GBSP 18	Modular Expansion Joint	May 19, 1994	Oct 27, 2023
	☐	GBSP 21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	June 30, 2003	Oct 23, 2020
	☐	GBSP 25	Cleaning and Painting Existing Steel Structures	Oct 2, 2001	April 15, 2022
	☐	GBSP 26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	Apr 22, 2016
	☐	GBSP 28	Deck Slab Repair	May 15, 1995	Feb 2, 2024
	☐	GBSP 29	Bridge Deck Microsilica Concrete Overlay	May 15, 1995	April 30, 2021
	☐	GBSP 30	Bridge Deck Latex Concrete Overlay	May 15, 1995	April 30, 2021
	☐	GBSP 31	Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay	Jan 21, 2000	April 30, 2021
	☐	GBSP 33	Pedestrian Truss Superstructure	Jan 13, 1998	Oct 27, 2023
	☐	GBSP 34	Concrete Wearing Surface	June 23, 1994	Oct 4, 2016
	☐	*GBSP 45	Bridge Deck Thin Polymer Overlay	May 7, 1997	June 28, 2024
	☐	GBSP 53	Structural Repair of Concrete	Mar 15, 2006	Aug 9, 2019
	☐	GBSP 55	Erection of Curved Steel Structures	June 1, 2007	
	☐	GBSP 59	Diamond Grinding and Surface Testing Bridge Sections	Dec 6, 2004	April 15, 2022
	☐	GBSP 60	Containment and Disposal of Non-Lead Paint Cleaning Residues	Nov 25, 2004	Apr 22, 2016
	☐	GBSP 61	Slipform Parapet	June 1, 2007	April 15, 2022
	☐	GBSP 67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	Oct 5, 2015
	☐	GBSP 71	Aggregate Column Ground Improvement	Jan 15, 2009	Oct 15, 2011
	☐	GBSP 72	Bridge Deck Fly Ash or GGBF Slag Concrete Overlay	Jan 18, 2011	April 30, 2021
	☐	GBSP 78	Bridge Deck Construction	Oct 22, 2013	Dec 21, 2016
	☐	GBSP 79	Bridge Deck Grooving (Longitudinal)	Dec 29, 2014	Mar 29, 2017
178	☒	GBSP 81	Membrane Waterproofing for Buried Structures	Oct 4, 2016	March 1, 2019
	☐	GBSP 82	Metallizing of Structural Steel	Oct 4, 2016	Oct 20, 2017
	☐	*GBSP 83	Hot Dip Galvanizing for Structural Steel	Oct 4, 2016	June 28, 2024
	☐	GBSP 85	Micropiles	Apr 19, 1996	Oct 23, 2020
	☐	GBSP 86	Drilled Shafts	Oct 5, 2015	Oct 27, 2023
	☐	GBSP 87	Lightweight Cellular Concrete Fill	Nov 11, 2001	Apr 1, 2016
	☐	GBSP 88	Corrugated Structural Plate Structures	Apr 22, 2016	April 13, 2018
	☐	GBSP 89	Preformed Pavement Joint Seal	Oct 4, 2016	March 24, 2023
	☐	GBSP 90	Three Sided Precast Concrete Structure (Special)	Dec 21, 2016	March 22, 2024
	☐	GBSP 91	Crosshole Sonic Logging Testing of Drilled Shafts	Apr 20, 2016	March 24, 2023
	☐	GBSP 92	Thermal Integrity Profile Testing of Drilled Shafts	Apr 20, 2016	March 24, 2023
	☐	*GBSP 93	Preformed Bridge Joint Seal	Dec 21, 2016	June 28, 2024
	☐	GBSP 94	Warranty for Cleaning and Painting Steel Structures	Mar 3, 2000	Nov 24, 2004
	☐	GBSP 96	Erection of Bridge Girders Over or Adjacent to Railroads	Aug 9, 2019	
	☐	GBSP 97	Folded/Formed PVC Pipeliner	April 15, 2022	
	☐	GBSP 98	Cured-in-Place Pipe Liner	April 15, 2022	
	☐	GBSP 99	Spray-Applied Pipe Liner	April 15, 2022	
	☐	GBSP 100	Bar Splicers, Headed Reinforcement	Sept 2, 2022	Oct 27, 2023
	☐	*GBSP 101	Noise Abatement Wall, Ground Wall	Dec 9, 2022	June 28, 2024
	☐	*GBSP 102	Noise Abatement Wall, Structure Mounted	Dec 9, 2022	June 28, 2024
	☐	GBSP 103	Noise Abatement Wall Anchor Rod Assembly	Dec 9, 2022	

An * indicates a new or revised special provision.

STATE OF ILLINOIS

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 F.A.U. Route 1577, Section 23-00052-02-PV, 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.

F.A.U. RTE 1577
Section 23-00052-02-PV
Project JS0S(749)
KENDALL County
Contract 87846

LOCATION OF PROJECT

This project is located at the intersection of Wolfs Crossing Road (F.A.U. Route 1577) and Douglas Road, approximately 1.3 miles east of US 34/IL 71, T37N, R8E, sections 15 and 16 in Oswego Township, in Kendall County, IL.

DESCRIPTION OF PROJECT

This project consists of reconstructing the existing 4-way stop-controlled intersection as a roundabout under staged construction. The work includes earthwork, hot-mix asphalt full depth paving, drainage improvements, detention pond grading, traffic control, pavement markings, lighting, box culvert construction, watermain improvements, construction of a multi-use path, sidewalk and ADA ramps, and other associated items.

NON-PARTICIPATING ITEMS

In addition to the Standard Specifications, checklists and manuals, the Fox Metro Water Reclamation District Standard Specifications (latest edition) and the Village of Oswego Standards shall be used for non-participating items.

COMPLETION DATE PLUS WORKING DAYS

(Effective January 1, 2016)

Replace Article 108.05 (b) of the Standard Specifications with the following:

(b) Completion Date Plus Working Days. When a completion date plus working days is specified, the Contractor shall complete all major items of work, except as specified below, and safely open all roadways to traffic by 11:59 p.m. on November 20, 2026.

The Contractor will be allowed to complete landscaping items, pavement marking, and other punch list items as approved by the Engineer within 15 working days. Under extenuating circumstances, the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed with the specified number of working days. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

STATUS OF UTILITIES

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information regarding their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Department's contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances, resolution will be a function of the construction staging. The responsible agency must relocate, or complete new installations as noted below; this work has been deemed necessary to be complete for the Department's contractor to then work in the stage under which the item has been listed.

Spring 2025

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME
North side of Wolfs Crossing Road	Relocation	Aerial cable on ComEd poles. * Underground facilities.	ATT	Spring/Summer 2025
North side of Wolfs Crossing Road	Relocation	Aerial cable and aerial fiber on ComEd poles. *	Comcast	Spring/Summer 2025
North side of Wolfs Crossing Road	Relocation	Aerial cable on ComEd poles. * Underground facilities.	ComEd	Spring/Summer 2025
North and south sides of Wolfs Crossing Road and east and west sides of Douglas Road	Relocation	Underground facilities.	Nicor	Spring/Summer 2025

*Existing aerial lines to be buried in underground facilities.

The following contact information is what was used during the preparation of the plans provided by the Agency/Company responsible for resolution of the conflict.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
ATT	Steve Pesola	(815) 412-5255	sp9653@att.com
Comcast	Robert Stoll Axel Perez	(224) 229-5849	Robert_Stoll2@comcast.com Axel_Perez@comcast.com
ComEd	Cassie Evans Markeis Sayles	(773) 241-0741	Cassie.evans@comed.com Markeis.sayles@comed.com
Nicor	Charles Parrot Karey Johnson Colin Dunn (Milhouse Inc.)	 (224) 471-9356 (630) 881-1564	cparrot@southernco.com karenjohn@southernco.com cdunn@milhouseinc.com
WOW	Kevin Rhodes	(630) 930-7597	Kevin.rhodes@wowinc.com
Metronet	Dale Smith	(224) 619-0678	Dale.smith@metronet.com
Verizon	Matt Dubowski Federico Gutierrez		Matt.dubowski@verizonwireless.com Federico.gutierrez@verizonwireless.com

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Department's contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances, the contractor will be responsible for notifying the owner in advance of the work to take place so necessary staffing on the owner's part can be secured.

All Stages

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER
East side of Douglas, south and north sides of Wolfs Crossing between Bluegrass Pkwy and Douglas	Sanitary Sewer	Sanitary sewer originating in Avanterra Subdivision with connection to existing sewer at Bluegrass Pkwy	Village of Oswego
West side of Bluegrass Pkwy, east and west sides of Douglas Road	Watermain	Watermain originating in Avanterra Subdivision with connection to proposed watermain in NE quadrant of Wolfs Crossing Road and Douglas Road	Village of Oswego

The above represents the best information available to the Department and is included for the convenience of the bidder. The days required for conflict resolution should be considered in the bid as this information has also been factored into the timeline identified for the project when setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided above for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation duration must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor, and the utility companies when necessary.

The Department's contractor is responsible for contacting JULIE prior to all excavation work. State Electrical Contractor shall be notified 72 hours in advance of construction to locate IDOT underground electrical facilities at 773-287-7600 or dispatch@meade100.com.

STATUS OF UTILITIES – OUTSIDE ROUNDABOUT LIMITS

Existing utilities from South Douglas Road to Cardinal Street will remain in place during construction. There is no plan to relocate utilities within these limits. The Contractor is responsible for constructing the multi-use path with the utilities in place. The construction means and method is the Contractor's responsibility, and no additional compensation will be awarded for construction with proximity to existing utilities.

The existing utility locations shown on the plans are based on utility atlases provided by the utility companies and field verification of utility poles and markers.

SUBSURFACE CONDITIONS

During the progress of the work, if subsurface conditions differ materially from those indicated in the contract, the Contractor shall notify the Engineer in accordance with Article 104.03 of the Standard Specifications. The Engineer shall notify the Village Engineer if said conditions cause an increase or decrease in the cost or time required to continue work.

WATER SUPPLY

The indiscriminate use of fire hydrants, existing streams, creeks, wetlands, or ponds is strictly prohibited. The Contractor shall provide a water truck and driver as required to obtain and transport this water. The Contractor shall be responsible for obtaining water from an approved source. If this water is from a source other than his yard, written approval from the agency having jurisdiction for the source of the water must be received by the Contractor prior to use of the water.

TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

Description. This work shall consist of the furnishing, erection, maintenance, and removal of all traffic control and protection as detailed in the maintenance of traffic plan sheets.

Construction. This work shall be completed in accordance with Section 701 of the Standard Specifications and the Special Provision for Road Closure Requirements and Completion Date.

Traffic control shall be maintained through the duration of the construction contract. Any shutdowns due to winter, delay, or other reasons will not remove this requirement. Any traffic control required during shutdown periods shall be coordinated between the Contractor, the Engineer, the Village of Oswego and the District 3 Bureau of Operations.

The Contractor shall submit an access plan to the Engineer detailing plans to maintain traffic through the work zone during delivery and removal of equipment and materials. The Contractor shall submit an access plan to the Engineer detailing plans to maintain access to driveways, crossroads, and development entrances at all times with the exception of short-term closures at Bluegrass Parkway and the north leg of Douglas Road for pavement tie-ins. The Contractor shall submit a closure plan, if needed, to the Engineer for these two crossroads.

Method of Measurement. The work of establishing, maintaining, and removing all the traffic control detailed in the maintenance of traffic plans will be measured as Lump Sum.

Additional traffic control required for shutdown periods will not be measured for payment with the exception that additional pavement marking will be measured.

The use of Standards 701001, 701006, 701201, 701306, 701311, 701326, 701426, 701501, 701502, 701801, 701901 and B.L.R. 21 shall be used for the construction of temporary pavement at locations shown on the plans, construction of the splitter islands and roadway median and for any other miscellaneous work outside of the roundabout roadway.

Basis of Payment. This work will be paid for at the Lump Sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

Additional flaggers required as described in this provision will be paid for according to Article 109.04. Flaggers shown on the maintenance of traffic plans will not be paid for separately but shall be considered included in Traffic Control and Protection, (Special).

Temporary Information Signs will be paid for according to the special provision TEMPORARY INFORMATION SIGNING.

KEEPING ROADS OPEN TO TRAFFIC

All lanes shall be open to traffic during the legal holiday periods according to Article 107.09 of the Standard Specifications, during weekends defined as 3:00 p.m. Friday to 12:00 midnight Sunday, and at the end of each workday, with the following exception:

Lane closures for the construction of temporary pavement during pre-stage construction and tie-in pavement will be allowed on weeknights and weekends if needed. This work will not be paid for separately but shall be included in the cost of the applicable traffic control items.

MAXIMUM DROP-OFFS BETWEEN ADJACENT LANES

(Effective December 14, 2009, Revised July 31, 2020)

When the Contractor's operations cause a difference in elevation greater than 1.5 in. (38 mm) for a vertical milled face, or 2 in (50mm) for a lift of HMA resurfacing between adjacent lanes, the lane shall remain closed. The Contractor shall adjust his milling and paving operations so thatall traffic lanes are open at the end of each workday.

To meet the above requirement, the Contractor shall

Place the binder lift immediately following the milling operation before opening the lane to traffic or

Place a temporary wedge after the milling operations (minimum 1V:3H

slope) or Mill a sloped wedge between lanes (minimum 1V:3H slope).

When the difference in elevation between adjacent open traffic lanes is greater than 1 in. (25 mm) and less than or equal to 1.5 in. (38 mm) for a vertical milled face or 2 in (50mm) for a HMA lift, "UNEVEN LANES" signs (W8-11(FO)) shall be erected at 1 mile (1.6 km) intervals.

The above requirements were developed based on IDOT Safety Engineering Policy Memorandum 4-21. Any changes to the proposed lift thicknesses, milling depths or sequence of operations that change drop-offs at the centerline or edge of pavement must follow this policy and be approved by the Engineer.

This work will not be paid for separately but shall be included in the cost of the applicable traffic control items.

TRAFFIC CONTROL SURVEILLANCE

(Effective: January 1, 2016)

Revise the first sentence of Article 701.10 of the Standard Specifications to read:

701.10 Surveillance. When open holes, broken pavement, trenches over 3 in. (75 mm) deep and 4 in. (100 mm) wide, or other hazards are present within 8 ft (2.4 m) of the edge of an open lane; when opposing directions of traffic are separated by barrier wall; or on a closed road from the time a structure is removed until the time the structure has been replaced, the Contractor shall furnish traffic control surveillance during all hours when the Contractor is not engaged in construction operations.

PLASTIC DRUMS

(Effective August 15, 2005; Revised April 27, 2018)

Plastic drums according to Standard 701901 shall be used in lieu of cones, Type I and Type II barricades, and vertical barricades throughout lane closures.

TEMPORARY INFORMATION SIGNING
(Effective: September 24, 2013, Revised July 31, 2020)

Description. This work shall consist of the furnishing, installation, maintenance, and removal of temporary information signs.

Materials. Materials shall be according to the applicable portions of Section 701 of the Standard Specifications and as shown on the plans.

Construction Requirements. The temporary information signs shall be in place at least one week prior to the beginning of construction activities that impact traffic flow and shall remain in place until the completion of the road closure(s)/detour(s). If all lanes are open for an extended period of time during the project the Contractor shall cover the signs until lane closures resume. If the project is shut down for the winter, the signs shall read “Road Work Resumes Spring XXXX”.

Signs shall be installed according to the requirements of Section 701.

Method of Measurement: This work will be measured for payment in square feet in place. The auxiliary sign panel will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per square foot for TEMPORARY INFORMATION SIGNING.

PROPOSED LIGHTING AND SIGNS AT ROUNDABOUT

In addition to the requirements of the staging plans, the Contractor shall include in his/her progress schedule the installation of the proposed lighting equipment and cables. This installation is required to be completed and in working order prior to beginning Stage 4.

Prior to beginning Stage 4 and with the approval of the Engineer, the contractor shall install the permanent roundabout traffic signs if they do not conflict with future stages of construction.

STORM SEWER ADJACENT TO OR CROSSING WATER MAIN

Description. This work consists of constructing storm sewer adjacent to or crossing a water main, at the locations shown on the plans. The material and installation requirements shall be according to the latest edition of the “Standard Specifications for Water and Sewer Main Construction in Illinois”, and the applicable portions of Section 550 of the Standard Specifications; which may include concrete collars and encasing pipe with seals if required.

Pipe materials shall meet the requirements of Sections 40 and 41-2.01 of the “Standard Specifications for Water and Sewer Main Construction in Illinois”, except PVC pipe will not be allowed. Ductile-Iron pipe shall meet the minimum requirements for Thickness Class 50.

Encasing of standard type storm sewer, according to the details for “Water and Sewer Separation Requirements (Vertical Separation)” in the “STANDARD DRAWINGS” Division of the “Standard Specifications for Water and Sewer Main Construction in Illinois”, may be used for storm sewers crossing water mains.

Basis of Payment: This work will be paid according to Article 550.10 of the Standard Specifications, except the pay item shall be STORM SEWERS, WATER MAIN QUALITY PIPE, of the type and diameter specified.

REMOVE EXISTING FLARED END SECTION

Description. This work shall consist of removing flared end sections at the locations shown in the plans or where directed by the Engineer. The work shall be performed in accordance with the applicable portions of Section 501 of the Standard Specifications.

Method of Measurement. This work will be measured for payment in units of each.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE EXISTING FLARED END SECTION, which payment shall constitute full compensation for all labor, equipment, tools and incidentals necessary to complete the work as specified.

CLASS D PATCHES

This work shall be performed in accordance with Section 442 of the Standard Specifications with the following noted in Article 442.02 Note 2: In addition to the binder placed for the Class D Patch, there shall be 2" of HMA surface placed as part of the patch. Please refer to the HMA Table on Sheet 23 of the Contract Plans for the HMA requirements for the Class D Patch, Type II, Class D Patch, Type III and Class D Patch, Type IV.

PORTLAND CEMENT CONCRETE PAVEMENT 10 INCH (JOINTED) SPECIAL

Description. This work shall consist of the construction of colored Portland Cement Concrete Pavement 10-inch around the inner truck apron. This work shall be done in accordance with Section 420 of the Standard Specifications and the Plan details, except as modified herein.

Qualifications. The Contractor shall provide written evidence that his firm or other entity proposed for the colored Portland cement paving work has at a minimum two years' experience with projects of similar scope and quality.

Materials. Portland cement concrete will include chemical admixtures to provide a red brick color to the finished product. Contractor shall provide pure and concentrated mineral pigments which meet the dosage rate requirement in ASTM C979, "Standard Specification for Pigments for Integrally Colored Concrete."

Contractor shall submit a design for the proposed concrete mix, including proposed pigment dosage rate, not less than fourteen (14) calendar days prior to preparation of concrete sample submittals, for approval by the Engineer. When mix designs are submitted, Standard Specification 1020.05.b.8 (cement factor reduction) will not be permitted when water-reducing or retarding admixtures are proposed. The Contractor may submit color cards for the color selection prior to preparing samples. The pigment number and dosage rate shall be indicated on the color cards.

After the target color is selected by the Engineer, the Contractor shall prepare three (3) concrete

samples each in different shades, measuring 2 feet wide by 2 feet long, 2 inches in depth. Samples shall be finished per the requirements of Article 420 to the extent possible. The first sample will be mixed to the target color, the second sample will be darker than the target color, and the third sample will be lighter than the target color. The Engineer may request additional samples at no additional cost to provide additional data for the color selection.

Once a color sample has been approved by the Engineer, the Contractor shall not change the material sources or admixtures, concrete mix designs, water/cement ratio or other factors which may alter the structural or appearance characteristics of the work, without prior written approval of the Engineer. The Contractor shall preserve the approved color sample for use as a reference.

Construction Requirement. The Engineer will conduct a visual appraisal of concrete work acceptability during dry daylight conditions. When directed by the Engineer, the approved color sample shall be provided as a reference and transported to the installation site for that purpose. The Engineer will evaluate the completed work for lack of uniformity in color, mottled or discolored appearance, visible streaks, and other visual defects as determined by the Engineer. Work that exhibits these visual flaws will be considered defective and shall be removed and replaced at the Contractor's expense. The Engineer's assessment of these flaws will be final and binding.

The Contractor shall ensure that the concrete finishing process and subsequent regular work activities do not compromise or create differences in the color of the finished product. Sections of the finished product which become discolored as a result of regular work activities shall be removed and replaced to the satisfaction of the Engineer, at no additional cost.

The adjacent curb and gutter in shall not be colored.

Basis of Payment. This work shall be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE PAVEMENT 10 INCH (JOINTED) SPECIAL.

CONCRETE MEDIAN SURFACE, 4 INCH (SPECIAL)

Description. Concrete Median Surface shall be placed in accordance with Section 606 of the Standard Specifications. The median surface shall be PCC of 4” thickness. The area between the top of the Aggregate Subgrade Improvement and the proposed median surface grade shall be filled with Aggregate Subgrade Improvement. The concrete shall be colored according to the PORTLAND CEMENT CONCRETE PAVEMENT 10 INCH (JOINTED) SPECIAL special provision in this contract document.

Basis of Payment. This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN SURFACE, 4 INCH (SPECIAL). The Aggregate Subgrade Improvement will be measured per cubic yard for payment and paid for at the contract unit price for AGGREGATE SUBGRADE IMPROVEMENT.

RECESSED REFLECTIVE PAVEMENT MARKER (HMA)

Description. The recessed reflective pavement markers shall be constructed according to the detail shown in the plans. The depressed area shall be orientated lengthwise and longitudinally with respect to the roadway.

A pavement marker shall be placed and cemented with epoxy in the center of the depressed area. A shop drawing of the pavement marker shall be provided to the Engineer for approval prior to placement.

The recessed area shall be cleaned free of all loose material by means of sand blasting and also free of moisture 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 vacuum sweeper truck.

Basis of Payment. This work shall be measured and paid for at the contract unit price per each for RECESSED REFLECTIVE PAVEMENT MARKER (HMA), which price shall be payment in full for all labor materials, and equipment necessary to complete the work as described herein.

TEMPORARY PAVEMENT

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 303, 355, and 406 of the Specifications.

Construction. In various 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 be included in the temporary pavement.

All other temporary pavement shall abut existing or proposed pavement and shall be constructed of 12” of Aggregate Subgrade Improvement and 11” of Hot-Mix Asphalt. The top 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.

This work shall include all necessary excavation, installation, maintenance, saw cutting. The removal of temporary pavement shall be paid for separately.

Method of Measure. Temporary pavement will be measured in place in Square Yards. Aggregate Subgrade Improvement 12” for temporary pavement will be measured in place in Square Yards. Excavation will be measured according to Article 202.07. Bituminous materials (tack coat) and all work required for pavement maintenance will not be measured separately but shall be included in the cost of Temporary Pavement.

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

Aggregate Subgrade Improvement will be paid for according to Article 303.10.

Earth Excavation will be paid for according to Article 202.08.

STABILIZED CONSTRUCTION ENTRANCE

Description: This work shall consist of furnishing, installation, maintenance and removal of stabilized pad of aggregate underlain with filter fabric as shown on the plans or directed by the Engineer.

Materials: Materials shall conform to the following:

Aggregate size. IDOT Coarse Aggregate Graduation: CA-1 CA-2 CA-3, or CA-4 in accordance with Article 1004 of the Standard Specifications.

Filter Fabric shall be in accordance with Article 1080.03 of the Standard Specifications.

Construction Requirements. The coarse aggregate shall be a thickness of 3 inches or more. The stone entrance should not be filled until the area has been inspected and approved by the Engineer.

The rock shall be dumped and spread into place in approximately horizontal layers not more than 3 feet in thickness. It shall be placed in a manner to produce a reasonable homogeneous stable fill that contains no segregated pockets, or larger or small fragments or large unfilled space caused by bridging of larger fragments. No compaction will be required beyond that resulting from the placing and spreading operations.

The minimum width and length shall be 14 and 50 feet, respectively.

All surface water flowing or diverted toward the construction entrance shall be piped across the entrance. Any pipe used for this will be considered incidental to the STABILIZED CONSTRUCTION ENTRANCE. The stabilized construction entrance will have positive drainage away from the roadway.

The entrance shall remain in place and be maintained until the disturbed area is stabilized. Any sediment spilled onto public rights-of-way must be removed immediately.

Method of Measurement. This work will be measured per square yard.

Basis of Payment. The work will be for at the contract unit price per square yard for STABILIZED CONSTRUCTION ENTRANCE, which price shall be payment in full for all material, labor and any other items required to complete the work.

FENCE REMOVAL

Description: This work shall consist of the removal and disposal of an existing fence and fence posts located across a field entrance from the project site as shown on the plans or as directed by the Engineer.

General: The Contractor shall remove all components of the existing fence including any concrete used to anchor fence posts, bracing, guy wires, posts, and/or gates. All removed materials shall be disposed of outside the limits of the right-of-way according to Article 202.03 of the “Standard Specifications” and/or as directed by the Engineer.

Method of Measurement: This work will be measured for payment in feet, along the top of the existing fence, from center to center of end posts, excluding the length occupied by gates.

Basis of Payment: This work will be paid for at the contract unit price per foot for FENCE REMOVAL. The unit price shall include all equipment, materials and labor required to remove and dispose of the fence.

CONCRETE MEDIAN SURFACE, CORRUGATED

Description: This work shall consist of constructing a concrete median surface to a depth of 6 inches at locations shown on the plans or as directed by the Engineer in accordance with Section 606 of the Standard Specifications and Highway Standards.

Method of Measurement: This work will be measured for payment in square feet of the type of median surface specified in the plans.

Basis of Payment: This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN SURFACE, CORRUGATED which price shall include all labor, materials, and equipment necessary to complete the work as shown on the plans, directed by the Engineer, or as described herein.

RIVER ROCK

Description: This work shall consist of furnishing and placing river rock at structure outlets at the locations as shown in the plans. The rock shall be 6” to 8” in size and be placed at a depth of 1 foot as shown on the plans.

General. Prior to placement, the Contractor shall submit a sample of the river rock to the Village of Oswego for approval.

Method of Measurement: This work shall be measured for payment per ton of River Rock.

Basis of Payment: This work shall be paid for at the contract unit price per ton for RIVER ROCK, which shall include all labor, equipment and materials necessary for the completion of the work.

MANHOLES, TYPE A, 6’-DIA, WITH 2 TYPE 1 FRAMES, CLOSED LID, RESTRICTOR PLATE

Description: This work shall consist of constructing a Type A manhole of the diameter specified with restrictor in accordance with Sections 602 and 1006 of the Standard Specifications and the plans and/or as directed by the Engineer.

Construction Requirements: Construction shall conform to the details shown in the plans, all applicable Standard Drawings, and all applicable portions of Sections 602 and 1006 of the Standard Specifications.

Method of Measurement: This work will be measured for payment, complete in place and accepted, in units of EACH.
Basis of Payment: This work will be paid for at the contract unit price per EACH for MANHOLES, TYPE A, 6’ DIAMETER, WITH 2 TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE installed. Price shall include but not be limited to all frames, grates, lids, sand cushion, steps, 6” concrete wall, flat slab tops, snout or debris trap, all excavation and backfilling, and all other labor, materials, and equipment needed to perform the work as specified herein.

WATER MAIN REMOVAL

The existing water mains that have been abandoned shall be removed only at locations where they interfere with construction and all open ends shall be sealed. The location for removal shall be as approved by the Engineer.

All salvageable material shall become the property of the Contractor.

All trenches required for the water main removal that fall under any proposed pavement shall be filled with trench backfill material meeting the requirements of Article 1003.04 of the Standard Specifications.

This work shall be paid for at the contract unit price per lineal foot (meter) for WATER MAIN REMOVAL, which price shall include the water main removal and disposal, placement of the trench backfill material, and all other incidental items required to complete the work and no additional compensation will be allowed.

TRENCH BACKFILL, WATERMAIN

Description. This work shall be in accordance with applicable portions of Section 208 of the Standard Specifications and the Village of Oswego plan detail except as modified herein.

Add the following to Article 208.01 of the Standard Specifications:

> Trench Backfill in Paved Areas: This shall apply to excavation in any area which has, or which is proposed to have a permanent type of street, sidewalk, curb and gutter, bituminous paved parking lot, or is within 2 feet of a paved surface.
>
> Use of native soil for backfill shall be incidental to the cost of the water main installation and no separate payment shall be made. Use of native soils for backfill that has been transported between different locations on this project shall be incidental to the cost of the water main installation unless otherwise approved in advance by the Engineer.

Materials. Add the following to Article 208.02 of the Standard Specifications:

> Water Main
> Bedding (4” below bottom of pipe) – Coarse Aggregate
> Trench backfill (bottom of pipe to 4” above top of pipe) – Fine Aggregate
>
> Fine aggregate shall meet the requirements of Article 1003.4 of the Standard Specifications.
>
> Coarse aggregate shall be crushed gravel or crushed stone gradation CA-7.

Method of Measurement. This work shall be measured in cubic yards of Trench Backfill, Watermain and in accordance with Article 208.03 (b).

Basis of Payment. This work shall be paid for at the contract unit price per cubic yard for TRENCH BACKFILL, WATERMAIN.

DUCTILE IRON WATERMAIN

Description: This work shall be in accordance with the Standard Specifications Section 561 and these Special Provisions and shall consist of furnishing all labor, materials and equipment necessary to install ductile iron water main, of the size specified to the alignment, grade and locations shown on the Drawings.

All fittings which deflect the flow 11-1/4 degrees or greater shall be provided with pipe joints on both sides of the fitting that are restrained joint. Joint deflection shall be limited to the manufacturer's maximum allowable deflection.

Polyethylene encasement shall be wrapped and taped around all ductile iron pipe and fittings, valves in valve boxes (if any), fire hydrants and auxiliary valves and boxes (if any). All material shall be manufactured in the United States.

Materials: All watermains shall be cement lined ductile iron pipe, class 52 conforming to AWWA C-151 with push-on or mechanical joints and shall be encased in polyethylene film in accordance with AWWA C-105-82 (Griffin, Clow, US Pipe). Fittings shall be cement lined, tar coated cast iron with mechanical joints rated 250 psi per AWWA C110/ANSI 21.20. All materials shall be made in the United States.

General Requirements: This work shall be completed in accordance with the requirements of the Village of Oswego and the Standard Specifications for Water & Sewer Construction in Illinois, latest Edition. The Contractor shall furnish and install ductile iron restrained joint type water main fittings at all bends, with restraints extended along straight pipe as required for particular bends. All necessary joint restraint methods and fittings not identified for separate payment elsewhere shall be incidental to the water main and will not be paid for separately.

Testing and Disinfection: Conduct pressure test and leakage test; disinfect new water main; flush main; and after acceptance for use, put water main into service (while existing main continues to function). When connecting new service valves to existing service lines, short sections of pipe less than 20 feet, shall be swabbed with disinfectant prior to installation, and flushed per Village of Oswego requirements. Oswego must witness these tests and connections and requires a minimum of 24 hours advance notice.
Pressure Tests: All piping shall be subject to pressure tests as specified herein. After the pipe has been laid and partially backfilled, the pipe shall be subjected to a hydrostatic pressure equal to 150 psi at the lowest elevation of the pipe section. The duration of each pressure test shall be for a period of two hours, and the pressure shall not drop more than 5 psi over this duration. The basic provisions of AWWA C-600 and C-603 shall apply.

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

Basis of Payment: This work will be paid for at the contract unit price per foot for DUCTILE IRON WATERMAIN, of the size specified. The cost of the polyethlene encasement shall be included in the unit cost of the water main. Trench backfill will be paid for separately.

FIRE HYDRANT W AUX VALVE AND VALVE BOX

Description. This section includes requirements for supplying materials for and the installation of fire hydrants, with auxiliary valve and valve box, as shown on the drawings and specified here. The work shall be constructed in accordance with the applicable sections of the "Standard

Specifications for Water and Sewer Main Construction in Illinois" latest edition and the Village of Oswego's "Subdivision and Development Control Regulations".

Materials. Fire hydrants shall meet AWWA C-502 and shall be "Waterous Pacer WB-67-250" or Clow Medallion type with a 5-1/4 inch steamer connection, two 2-1/2 inch hose nozzles and one pumper nozzle. The 5-1/4 inch steamer connection must have a storz connection. Threads shall conform to Nation Standard Specifications. Construction shall conform to that indicated on the fire hydrant detail. Each hydrant shall be equipped with an auxiliary gate valve complete with roadway box from A.Y. McDonald and valve box stabilizer. Hydrants shall be installed no closer than 2' or further than 6' from the back of curb. No hydrants shall be installed within 48" of an obstruction nor shall any obstruction be placed within 48 inches of the hydrant. The manufacturer shall paint the hydrants red. Hydrants shall be installed with a valve box brace as supplied by BLR Enterprises Inc. or with a trench adapter as supplied by American Flow Control.

Method of Measurement. This work will be measured for payment in units of each and will include all pieces of the fire hydrant assembly.

Basis of Payment. This work shall be paid for at the contract unit price per each for FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX.

FIRE HYDRANT AND VALVE TO BE MOVED

Description. This work shall be done in accordance with Section 564 of the Standard Specifications except as modified herein and as shown on the details on the plans and per Village standards. This item includes the vertical and horizontal adjustment of existing fire hydrant and auxiliary valve to the required grade.

All work, including operation of valves and water main shut-downs, shall be coordinated with the Village of Oswego. It will be the Contractor's responsibility to determine the type of valve and materials required to complete the adjustment.

The excavated areas shall be backfilled with aggregate and mechanically compacted. All required trench backfill shall be included in this pay item. The Contractor shall ensure that the valve box is cleaned of all debris and shall be keyable.

Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for FIRE HYDRANT AND VALVE TO BE MOVED which price shall be payment in full for all labor, equipment, trench backfill, and materials necessary to complete the work specified herein.

IRRIGATION SYSTEM, SPECIAL

PART 1 - GENERAL

1.1 SUMMARY

A. This work shall consist of furnishing and installing landscape irrigation in the roundabout median. This work shall include all material and labor required to install a complete functioning, automatic controlled irrigation system, including but not limited to connection to existing water main, sprinkler piping/sleeves, controller, sensor, backflow preventer, electric/manual valves, boxes, wiring, drip tubing, etc.

1.2 RELATED DOCUMENTS

A. Drawings

B. IDOT Standard Specifications for Road and Bridge Construction, Latest Edition

1.3 DEFINITIONS

A. Circuit Piping: Downstream from control valves to sprinklers and specialties. Piping is under pressure during flow.

B. Irrigation Main Piping: Downstream from point of connection to service line piping including control valves. Piping is under system pump pressure.

C. Supply Header: PVC pipe downstream of remote-control valve with multiple connections to driplines.

D. Flush Header: PVC pipe with multiple connections to driplines that forms the end of a drip zone.

E. Drip Irrigation: Low-volume water delivery system utilizing in-line drip tubing, pressure-compensating emitters, low-volume sprays and bubblers or any combination of these products.

F. The following are industry abbreviations for plastic materials:

1. ABS: Acrylonitrile-butadiene-styrene plastic.
2. FRP: Fiberglass-reinforced plastic.
3. PA: Polyamide (nylon) plastic.
4. PE: Polyethylene plastic.
5. PP: Polypropylene plastic.
6. PTFE: Polytetrafluoroethylene plastic.
7. PVC: Polyvinyl chloride plastic.
8. TFE: Tetrafluoroethylene plastic.

1.4 SYSTEM REQUIREMENTS

A. Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs, light standards, utility boxes, planters and tree grates.

B. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties, unless otherwise indicated:

1. Irrigation Main Piping: 200 psig
2. Circuit Piping: 200 psig

1.5 SUBMITTALS

A. Product Data: Include pressure ratings, rated capacities, and settings of selected models for the following:

1. Shut-off valves.
2. Remote Control valves.
3. Quick-couple valves
4. General-duty valve boxes
5. Control-valve boxes.
6. Sprinkler specialties
7. Drip specialties
8. Controllers. Include wiring diagrams.
9. Control wiring. Include splice kits

B. Coordination Drawings: Show piping and major system components. Indicate interface and spatial relationship between piping, system components, adjacent utilities, and proximate structures.

C. Field quality-control test reports.

1. Pressure and flow test performed at point(s) of connection.

D. Operation and Maintenance Data: For irrigation systems, to include in emergency, operation, and maintenance manuals. Include data for the following:

1. Automatic-control valves.
2. Sprinklers and drip equipment.
3. Controllers.
4. Drip maintenance procedures.
5. Winterization procedures

E. A shop drawing submittal shall be sent to the Village and Engineer for approval prior to construction.

1.6 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Installer shall have five (5) years minimum experience on comparable irrigation system projects.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver semi-rigid piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

B. Deliver flexible piping in factory-assembled rolls. Maintain protective wrap or packaging through shipping, storage, and handling.

C. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.8 PROJECT CONDITIONS

A. Irrigation Contractor shall coordinate with other trades to ensure pre-construction protective measures have been taken to maintain system operation and integrity.

1.9 COORDINATION

A. General: Coordination is required between several trades to execute the design as shown on the Drawings.

1. The irrigation system shall be supplied from a new irrigation controller from water mains located on the north side of Wolfs Crossing Road. Irrigation Contractor shall coordinate all points of connection and scheduling with the relevant trades.

1.10 WARRANTY

1. All components and equipment shall be warrantied per the manufacturer's reference.

PART 2 - PRODUCTS

2.1 WATER SERVICE CONNECTION

A. Connection to the water supply as shown on drawings. Contractor is to pressure tap existing water mains in strict accordance with the Village guidelines. Contractor to

coordination location of service and stop valve locations.

B. Backflow Preventers
   1. The backflow preventers shall the sized as noted on the plans and to be installed in an enclosure as shown on plans.

C. Backflow Prevented Enclosure
   1. The backflow preventer enclosure shall be sized as noted on plans and shall be a solid aluminum enclosure, with factory powder coated paint finish.

D. Domestic Water Service Box with Curb Stop
   1. The curb stop shall be sized as noted on the plans. Curb stops valve shall have the ability to drain.

E. Corporation Stop Valve
   1. The corporation stop coupling shall be sized as noted on the plans with a quarter bend flared coupling.

F. Water Meter
   1. Contractor to coordinate water meter with the Engineer.

2.2 PIPES, TUBES, AND FITTINGS

A. Refer to Part 3 "Piping Applications" Article for applications of pipe, fitting, and joining materials.

B. Hard Copper Tube: Type M (ASTM B 88M, Type C) water tube, drawn temper.
   1. Copper Pressure Fittings: ASME 816.18, cast-copper-alloy or ASME B16.22, wrought- copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.
   2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end.
   3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

C. PVC/HDPE, Pressure-Rated Pipe:
   1. Circuit Piping (all sizes): ASTM D 2241, PVC 1120 compound, SDR 21.
   2. Mainline Piping, 3" and smaller: ASTM D 2241, PVC 1120 compound, SDR 21.
   3. Sleeves (all sizes): ASTM D 1785, PVC 1120 compound, Schedule 80

D. PVC Socket fittings, Schedule 40, ASTM D 2467.

2.3 JOINING MATERIALS

A. Solvent Cement (PVC Piping):
   1. Primer and Solvent conforming to ASTM D2564-02

2.4 BALL VALVES

A. General: Cast brass quarter turn ball valve with handle and threaded ends conforming to ANSI Standard B 2.1. Size shall match pipeline.

B. Manufacturers:
   1. Matco-Norca — 758 Series
   2. Watts
   3. Crane Valves

2.5 QUICK-COUPLE VALVES

A. General: Factory-fabricated, brass, two-piece assembly. Include coupler water-seal \/alve; removable upper body with spring-loaded or weighted, locking rubber-covered cap; hose swivel with ASME B1.20.7, 3/4-11.5NH threads for garden hose on outlet;

and operating key.

1. Locking-Top Option: Vandal-resistant, locking feature. Include two matching keys.
2. Manufacturers:
   a. Hunter Industries — HQ Series
   b. Rain Bird — 44 Series

2.6 GENERAL-DUTY VALVE BOXES

A. Application: Shut-off Valves, Quick Couple Valves, Splice Boxes, Drip Flush Valves, Drip Zone Kits.

B. Box and cover, with open bottom and openings for piping; designed for installing flush with grade. Include size as required for valves and service.
   1. Shape: Rectangular
   2. Sidewall Material: Polymer concrete
   3. Cover Material: Polymer concrete, green in color in landscape; grey/concrete color in concrete; or standard color to match brick
   4. Cover Tier Rating: 8
   5. Manufacturers:
      a. Plymouth Products Inc.
      b. Quazite, MMFG Pavers
      c. Applied Engineering Products
      d. Carson Industries, Inc.
      e. Ametek
      f. Synertech

C. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4-inch minimum to 1-inch maximum.

2.7 REMOTE CONTROL VALVE BOXES

A. Application: Manual Isolation Valves in Landscaping

B. Plastic Control-Vals/e Boxes for Remote Control Valves: Box and cover, with open bottom and openings for piping; designed for installing flush with grade. Include size as required for valves and service.
   1. Shape: Round.
   2. Sidewall Material: Polymer concrete
   3. Con/er Material: Polymer concrete green in color in landscape; grey/concrete color in concrete; or standard color to match brick
   4. Cover Tier Rating: 8
   5. Manufacturers:
      a. Plymouth Products Inc.
      b. Quazite, MMFG Pavers
      c. Applied Engineering Products
      d. Carson Industries, Inc.
      e. Ametek
      f. Synertech

C. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4-inch minimum to 1-inch maximum.

2.8 SPRINKLERS

A. The sprinkler shall be of the gear-driven, rotary type, capable of covering an 18-foot radius at 50 PSI with a discharge rate of 0.5 GPM. The sprinkler shall have radius adjustment capabilities by means of a stainless-steel nozzle retainer/radius adjustment screw. The sprinkler shall have a feature that will enable the user to stop the water flow through an individual sprinkler head.

B. The sprinkler shall be both full-circle and adjustable part-circle operation in a single unit. The sprinkler shall be minutely adjustable from 50° to 360°. It shall be adjustable in all phases of installation (i.e., before installation, after installation while static, and after installation while in operation). The sprinkler shall be equipped with a self-adjusting stator to ensure constant rotation speed regardless of nozzle installed.

C. The sprinkler shall have a non-strippable drive mechanism that allows the nozzle turret to be turned during operation, without damage. It shall also have an automatic arc return feature that returns the nozzle turret to its proper orientation if it is turned outside its intended arc of coverage.

D. The sprinkler shall be a 4-inch (10cm) pop-up. The sprinkler shall have a rubber cover firmly attached to the top of the sprinkler riser. The sprinkler shall be equipped with a drain check valve to prevent low head drainage, and be capable of checking up to 10 feet (3.0 m) in elevation change. The sprinkler shall have an exposed surface diameter after installation of 1-3/4 inches (4 cm).

E. The unit shall have a 3/4-inch Female National Pipe Thread (FNPT) inlet. The sprinkler shall be serviceable after installation in the field by unscrewing the body cap, removing the riser assembly, and extracting the inlet filter screen.

F. The body and riser of the sprinkler shall be constructed of corrosion resistant, impact resistant, hea'vy-duty A.B.S. It shall have a stainless steel spring for positive retraction of the riser when irrigation is complete. The sprinkler shall carry a five-year, exchange warranty (not prorated).

G. Manufacturers:
   1. Hunter Industries - Model 1-20 Series
   2. Rain Bird — Model 3500 Series

2.9 TRIPLE SWING JOINT ASSEMBLIES

A. Triple swing joint assemblies shall be manufactured of rigid PVC, Type 1, Cell classification 12454-B per ASTM D1784 with NPT threads and pipe sockets per ASTM D2464 and D2466, respectively. Each rotating joint shall be sealed with Buna rubber O-ring, installed pre-compressed in a sealing groove free of parting lines to present leakage. Modified stub ACME threads shall have specially engineered diameters and clearances to allow full circle movement in 360 degrees.

B. Manufacturers:
   1. Hunter Industries - Model SJ
   2. Rain Bird — Model TSJ

2.10 DRIP SPECIALTIES

A. Drip Control Zone Kit:
   1. Factory assembled kit for controlling low-flow irrigation zones comprised of the following components:
      a. Low-flow remote control valve with external bleed and internal bleed for manual operation.
      b. Pressure regulator with plastic body capable of maintaining outlet pressure

of 40 psi

c. Filtration provided by inline Y filter of heavy-duty glass-filled nylon material with 150-mesh filter screen (factory-installed)

2. Manufacturers:
   a. Hunter Industries — Model ICZ
   b. Rain Bird — Model — Model XCZ

B. Landscape Dripline
1. Flexible PE tubing with pre-installed pressure-compensating emitters with dual outlet ports, 0.49 inch inside diameter. Flow rate shall be 1.0 gallons-per-hour.
2. Manufacturers:
   a. Hunter Industries — Model PLD
   b. Rain Bird — Model XFD

C. Dripline Supply Tubing
1. Flexible PE tubing, 5/8-inch (ID controlled). Fittings shall be 5/8-inch lock-type fittings specified below.
2. Manufacturers:
   a. Hunter Industries - ProFlex
   b. Rain Bird — Model SPX

D. Lock-type Fittings
1. UV-resistant ABS fittings with locking external ring for making dripline connections.
2. Manufacturers:
   a. Hunter Industries — HSBE
   b. Rain Bird — BF

E. Air/Vacuum Relief Valve
1. Plastic housing with rustproof materials designed for use with dripline tubing.
2. Manufacturers:
   a. Hunter Industries
   b. Rain Bird

F. Flush Cap
1. Locking compression fitting with screw-on type cap.
2. Manufacturers:
   a. Hunter Industries
   b. Rain Bird

2.11 AUTOMATIC-CONTROL SYSTEM

A. The controller shall be of a modular design with a standard 6-station model. The controller shall have a 48 station decoder output module.

B. The decoder output module shall occupy no more than 3 expansion slots, and may coexist with up to 2 6-station modules in the plastic enclosure, or 4 6-station modules in the metal enclosure.

C. The removable station modules shall allow servicing of, and removing of the module(s) without removing field wires from the controller.

D. The controller shall have four independent programs (A, B, C, and D) with 8 start times per program for programs A, B, and C; and 16 start times for program D for a total of up to 40 daily start times. Any two programs shall have the capability of running

concurrently. Watering times shall be available from 1 minute to 12 hours in 1-minute increments per station. There shall be a programmable delay between stations available of up to 9 hours. The controller shall have 4 weekly schedule options to choose from: 7-day calendar, 31-day calendar, odd day programming and even day programming. It shall also have a 365-day calendar clock to accommodate true odd-even watering. Operation shall be available in automatic, semi-automatic and manual modes. All programming shall be accomplished by use of a programming dial and selection buttons with user feedback provided by a backlit LCD display. The front panel of the controller shall be removable and capable of being programmed when not attached to the controller cabinet.

E. The controller shall be equipped with a rain sensor on-off switch that allows the user to override a sensor that has suspended watering. The controller shall ha\ie a programmable rain delay that turns off the controller for a predetermined period of time, from 1 to 180 days.

F. The controller shall have a cycle and soak scheduling capability by station that allows a cycle to be programmed for up to 60 minutes and a soak period to be programmed for up to 120 minutes.

G. The controller shall have a seasonal adjustment feature with 3 different modes that allows station run times to be altered from 0% to 300% by program to compensate for weather changes. The modes shall include a Global Adjust, and Monthly Adjust. The Global Adjust shall increase the station run times in a given program by a fixed percentage. The Monthly Adjust shall allow all the seasonal adjustment values for the full year to be programmed into the controller, for each program.

H. The controller shall be capable of monitoring up to two sensors or flow sensors in the plastic configuration, and up to 3 sensors or flow sensors in the metal configuration.

I. The controller shall permit connection of a flow meter which is calibrated by the operator for the pipe diameter in which it is installed. The flow meter shall measure actual flow in gallons or liters. The controller shall have a learning mode in which the controller operates each single station for a short period, learns the actual flow for each station, and stores the information internally by station.

J. When the learned flow is exceeded during normal operations the controller shall record a flow alarm event, cease irrigating the station or stations contributing to the high or low flow readings, and resume irrigation with any stations which do not cause alarms. The controller shall have the ability to determine high or low flow conditions when multiple stations are operating, and shall perform diagnostics to identify stations which contribute to the problem flow. Allowable limits and duration of incorrect flow shall be preset, but reprogrammable by the operator for unique local conditions. The flow meter shall be an appropriately sized FCT fitting. It shall also be possible to except certain stations from flow monitoring devices. The controller shall also be equipped with a flow-totalizing function that will provide a running total of all the gallons or liters of water used between two reference dates.

K. Automatic programs shall have user-programmed Non-Water windows to except certain time windows from watering, regardless of the water day schedule.

L. Automatic programs shall also permit the designation of non-water days, even when Odd/Even or Interval Day patterns have been set. Non-water window violations shall be detected and the operator shall be alerted when an irrigation program would have run during a non-water window.

M. The controller shall also save an Easy Retrieve Program which stores all original programming settings. The installing contractor shall be able to restore the system to

this saved state at any time after initial installation. The stored Easy Retrieve settings may also be updated at any time by the operator.

N. The controller shall have a one-button manual station advance in Test mode for quick diagnostics checks.

O. The controller shall be equipped with a programmable pump start/master valve circuit that can activate the pump start relay by zone. It shall also have a programmable delay between valve stations. Delays between stations shall be programmable up to a maximum of 10 hours.

P. Transformer input shall be 120/240 VAC, 50/60Hz. Transformer output shall be 24 VAC, 1.5A (40VA). All AC power wiring connections shall be made in an internal junction box. Maximum output per conventional station shall be 24 VAC, 0.56A. Program backup shall be provided by a non-volatile memory circuit that will hold the program information indefinitely. The controller shall have Metal Oxide Varistors (MOVs) on the AC power input portion and the secondary output portion to help protect the micro-circuitry from power surges. The secondary MOVs shall be enclosed in the station modules for easy servicing. There shall be self-diagnostic, electronic short circuit protection that detects a faulty circuit, continues watering the remainder of the program, and reports the faulty station on the display. The diagnostic procedure shall also be capable of being initiated by the user manually. The controller shall provide backup timekeeping in the event of a power outage with the use of an internal long-life lithium battery.

Q. The controller shall have a diagnostic feature that provides a visual indication via LED lights that show the current status of sensor activity, station activity and flow activity. Any station or flow alarms shall be report on the LCD display.

R. The controller shall have as an option, the ROAM or ICR remote control package that enables remote operation of the controller. Connection of remotes to the controller shall be provided through factory-installed outlet.

S. The controller shall have a multi-language capability that allows programming of the display in 6 different languages: English, French, Spanish, German, Italian, and Portuguese. It shall also be capable of setting the units of measure to either English (GPM) or Metric (LPM)

T. The controller shall be installed in accordance with the manufacturer's published instructions. The controller shall carry a conditional five-year exchange warranty.

U. Interior Control Enclosures: NEMA 3R with key-locking cover and two matching keys.

1. Material: Molded plastic.
2. Mounting: Surface type for wall mounting.
3. Features:
   a. Internal wiring junction box
   b. Removable, battery-programmable panel

V. Manufacturers:

1. Hunter Industries — Model I-Core
2. Rain Bird — Model ESP-LXME

2.12 DECODERS

A. Decoder Output Module

1. The decoder output module shall include its own user interface dedicated to decoder programming and diagnostics, including a backlit LCD display and navigational buttons. The decoder output module shall fit into 3 of the slots

that accommodate conventional station output modules. The decoder output module shall co-exist with conventional station output modules, so that a hybrid system of conventional solenoid wiring and two-wire decoder wiring is possible in the same controller.

2. The decoder output module shall include a Programming Port for field programming of decoder station addresses via the decoder wires. Decoder programming shall not require the use of serial numbers or external devices.
3 The decoder output module shall offer 3 separate two-wire paths to the field. Up to 48 decoder stations may be on any one path, or dispersed over 2 or 3 paths.
4. The decoder output module shall display active stations by number, and shall also be able to display current draw in milliamps on the two-wire paths at any time, without disruption to running irrigation. The decoder output module shall detect and display Line Open and Line Fault conditions on the two wire path.
5. The decoder output module shall use a current sensing logic to determine whether active stations are drawing sufficient current and shall provide alarm notification when either an underdraw or overdraw situation is detected.
6. The decoder output module shall provide a solenoid finder feature, which chatters a solenoid loudly, for location purposes.

A. Decoders
1. The decoders shall be completely waterproof. Each decoder shall has/e a single red and a single blue wire, for connection to the color-coded two-wire path. Each decoder shall include 2 waterproof connectors, UL listed to 600V direct burial, to insure proper connection.
2. The decoders shall be available in a single-station configuration, and a two-station configuration. The individual station outputs shall also be color-coded to insure proper connection.
3. Each decoder station output shall be capable of activating a minimum of 2 typical 24VAC irrigation solenoids. Individual solenoid specifications should be referenced for any difficulties with decoder operations (such as solenoids containing extra components for surge protection).
4. Decoders shall be installed within 100 ft/30 m of the solenoids they are intended to operate. In high lightning areas, the use of webbed wire pairs for decoder-to-solenoid connections is highly recommended.
5. All decoder installations shall be made in appropriately sized valve boxes. At each decoder splice, approximately 5 ft/1.5 m of wire slack shall be proc/ided, looped inside each valve box, to prevent strain on the connection over time.
6. The system shall accommodate up to 48 decoder stations in any combination of single or two-station decoders.
7. All decoder stations shall be compatible with license-free wireless remote control.

B. Manufacturers
1. Hunter Industries — DUAL Series
2. Rain Bird

2.13 RAIN SENSOR

A. General: Rain sensor with adjustable rainfall settings.
1. Adjustable rainfall settings from 1/8-inch to 3/4-inch, selected by turning sensor

body.

2. Manufacturers:
   a. Hunter Industries — Solar Sync
   b. Rain Bird — RSD

2.14 AUTOMATIC CONTROL SYSTEM WIRE

A. General: Two conductor solid-copper twisted pair cable with overall jacket of PE insulation; installed in 1" Schedule 40 PVC conduit in the same trench as the irrigation piping mainline.
   1. Low-Voltage, Branch-Circuit Cables: No. 14 AWG minimum, between controller and decoders; color coded per the following:
      a. Control Cable — Red and Blue- with Gray outer jacket
      b. Spare Control Cable — Red and Blue- with Orange outer jacket
   2. Manufacturers:
      a. Paige Electric
      b. Regency Wire and Cable
      c. TEK Wire and Cable
      d. Hunter Industries

2.15 WIRE SPLICES

A. Single unit consisting of conductive lug with swing-type closure. Wire paths shall be filled with grease and upon closing the connector a completely enclosed and mechanically sound splice shall be made.
   1. Manufacturers:
      a. 3M
      b. Burndy
      c. DSG Canusa

B. ALTERNATE — Splice kit conforming to the following requirements:
   1. Factory packaged kit consisting of wire nut and grease-filled tube. Kit shall provide moisture and mechanical protection to the completed splice.
   2. Manufacturers
      a. 3M Corporation — 'DBY-6'
      b. Burndy
      c. DSG Canusa

2.16 ELECTRIC REMOTE CONTROL VALVES

A. General: The valve shall be a normally closed, electronically-actuated, diaphragm-operated, remote-control valve. The valve will be capable of operating between 20 and 100 PSI with a flow range of between 0.10 and 300 GPM (m3/hr; l/m). Pressure loss shall be 3.0 PSI (bars; kPa) maximum at 15 GPM (m3/hr; l/m).

B. The valve shall be available in a globe configuration with 1-,1-1/2- or 2-inch Female National Pipe Thread (FNPT) inlet and outlet. The vat\ie shall be equipped with a flow control mechanism with removable handle that will regulate flow from full on to completely off.

C. The body and bonnet shall be molded of non-corrodible, glass-reinforced nylon, rated to 220 PSI (15 bars, 1500 kPa). The body of the valve shall have brass inserts, with through-holes, which will accept the bonnet bolts. The bonnet bolts shall be serviceable with a slotted screwdriver, Phillips screwdriver, or a hex wrench, and shall be held captive in the bonnet when the bonnet is remo\/ed from the valve body.

The diaphragm assembly shall be of molded construction, reinforced with nylon fabric and have a thermoplastic elastomer seating material. The valve shall be equipped with an internal filter as well as a self-cleaning metering rod, so only clean water can enter the solenoid chamber. A filter cleaning system that cleans a stainless steel filter each time the valve opens and closes shall be provided. All metal parts internal to the valve shall be manufactured from corrosion-resistant stainless steel.

D. The valve shall be provided with an adjustable pressure regulating device with a calibrated dial for setting of the outlet pressure. (The regulator shall be capable of adjusting the outlet pressure from between 20 and 100 PSI (1.4 to 7.0 bars; 138 to 689 kPa) when inlet pressure is 15 PSI (1.0 bars; 103 kPa) or greater than regulated outlet pressure.) The regulated downstream pressure shall remain constant regardless of variations in upstream pressure. The regulation shall be maintained when valve is manually operated with use of internal bleed valve. The regulator should be capable of regulating upstream pressures from 35 psi to 220 psi.

E. The standard solenoid shall be a 24 VAC unit with a 370mA inrush current and 190mA holding current at 60 cycles and a 475 mA inrush current and 230 mA holding current at 50 cycles. When specified, the unit shall be equipped with a DC latching solenoid for use with battery-operated controllers. The solenoid shall be an encapsulated, one- piece unit with captive plunger. It shall be equipped with manual internal bleed capability to release tha upper chamber water to the downstream piping, allowing the valve to open.

F. The valve shall carry a five-year, exchange warranty (not prorated).

G. Manufacturers
   1. Hunter Industries - Model ICV
   2. Rain Bird - Model PEB

2.17 VALVE IDENTIFICATION TAGS

A. Pre-printed plastic tags with minimum text height of 1", capable of being attached to Valve stem or valve wire within valve box.

B. Manufacturers
   1. Christy's

PART 3 - EXECUTION

3.1 GENERAL

A. Install piping and wiring under sidewalks and roadways.
   1. Install piping by boring or jacking under existing paving if possible. Where boring or jacking is not feasible, cutting and patching operations will conform to relevant Division One requirements.

B. Provide minimum cover over top of underground piping according to the following:
   1. Irrigation Main Piping: Minimum depth of 30 inches below finished grade
   2. Circuit Piping (including drip headers): 24 inches
   3. Sleeves: 24 inches

3.2 PREPARATION

A. Stake layout of system in the field, utilizing appropriate materials and notify Engineer to obtain approval prior to beginning installation activities.
   1. Notify Engineer 48 hours prior to desired on-site review. Engineer will provide review within the 48-hour time period.

3.3 POINT OF CONNECTION

A. Construct connection to stubbed supply lines (provided by others) using appropriate fittings for metallic to plastic piping.

3.4 PIPING APPLICATIONS

A. Install components having pressure rating equal to or greater than system operating pressure.

B. Underground Irrigation Main Piping: Use the following piping materials for each size range:

1. NPS 3" and Smaller: SDR 21, HDPE, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.

C. Circuit Piping: Use the following piping materials for each size range:

1. NPS 2" and Smaller: SDR 21, HDPE, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.

D. Swing Assemblies: Install appropriate swing assemblies as required by the Drawings and Part 2 abo\ie.

E. Sleeves: Rigid Galvanized Steel pipe and socket fittings; and solvent-cemented joints.

F. Transition Fittings: Use transition fittings for plastic-to-metal pipe connections according to the following:

1. Couplings:
   a. Underground Piping NPS 1-1/2" and Smaller. Manufactured fitting or coupling.
   b. Underground Piping NPS 2" and Larger: AWWA transition coupling.
2. Fittings:
   a. Aboveground Piping: Plastic-to-metal transition fittings.
   b. Underground Piping: Union with plastic end of same material as plastic piping.

3.5 VALVE APPLICATIONS

A. Remote Control Valves:

1. NPS 2” and Smaller: Plastic automatic control \/alve.

B. Shut-off Valves:

1. NPS 2“ and Smaller: Brass NRS Ball Valve

3.6 PIPING INSTALLATION

A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.

B. Install piping free of sags and bends.

C. Install groups of pipes parallel to each other and spaced to permit valve servicing.

D. Install fittings for changes in direction and branch connections.

E. Install underground thermoplastic piping according to ASTM D 2774

F. Install PVC piping in dry weather when temperature is above 40 deg F 5 deg C. Allow joints to cure at least 24 hours at temperatures above 40 deg F 5 deg C before testing unless otherwise recommended by manufacturer.

3.7 JOINT CONSTRUCTION

A. Construct solvent-weld joints per ASTM D2855

3.8 VALVE INSTALLATION

A. Control Valves: Install in rectangular control-valve box per the Drawings.

B. Quick Couple Valves: Install in valve box per the Drawings.

C. Shut-off Valves: Install in valve box per the Drawings.

3.9 DRIPLINE INSTALLATION

A. Following final grading or fill operations, install dripline as indicated on the drawings. Parallel lines shall be spaced per the Drawings with the emitters 'staggered' to provide even coverage of the irrigated area.

B. Install stainless steel stakes at 36-inch intervals to secure the dripline to the finished grade.

C. Construct supply and flush headers of PVC pipe as shown on the Drawings and make connection to dripline tubing with appropriate compression fittings.

D. Install Air/Vacuum relief kit at the highest point of the dripline zone as indicated on the Drawings.

E. Install flush cap at the lowest point of the dripline zone as indicated on the Drawings.

3.10 AUTOMATIC-CONTROL SYSTEM INSTALLATION

A. Install controllers as indicated on Drawings.

B. Install control cable in same trench as irrigation piping as indicated on Drawings. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas if irrigation piping is installed in sleeve.

C. Pull control cables through provided conduit to controller location and make final connections per the manufacturer's recommendations.

3.11 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Make all electrical connections in conformance with local code requirements. Provide waterproof connectors for all underground electrical connections.

C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.12 LABELING AND IDENTIFYING

A. Provide valve tags at each remote control valve as indicated on the Drawings.

3.13 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:

1. Hydrostatic Test: After installation, charge system with pressurized air to 100 psi. System will be able to maintain pressure with no more than 5 psi loss in one hour. Engineer must be in attendance during test. Provide a minimum of 48 hours notice prior to scheduled test.

2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.

3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Remove and replace faulty/malfunctioning system components and retest as specified above until the requirements are met.

3.14 STARTUP SERVICE

A. Verify that controllers are installed and connected according to the Contract

Documents.

B. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements.

C. Complete startup checks according to manufacturer's written instructions.

3.15 ADJUSTING

A. Adjust settings of controllers and provide initial watering schedule per Owner's requirements.

B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

C. Adjust valve boxes so they will be flush with finished grade.

3.16 CLEANING

A. Flush dirt and debris from piping before installing sprinklers and other de\/ices.

3.17 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controller and automatic control valves.

B. Schedule a complete demonstration and system walk-through with the Owner and Engineer. Final Payment will not be made until all items noted during demonstration and walk-through have been made by Contractor and verified by Owner’s staff.

3.18 DOCUMENTATION

A. Provide a complete operations and maintenance manual to the Engineer in a three-ring binder with the following items, separated by tabbed dix/iders for clear organization.

1. Provide a label on the spine of the binder clearly stating "IRRIGATION SYSTEM OPERATION AND MAINTENANCE”.
2. Table of Contents
3. Cut-sheets or manufacturer's data for alt installed equipment including:
    a. Remote Control Valves
    b. Ball Valves
    c. Landscape Dripline
    d. Dripline accessories (filters, valves, pressure regulators, etc.)
    e. Controller
    f. Rain Sensor
    g. Backflow Preventer
    h. Water Meter
    i. Enclosure
4. Operations Data from manufacturers documenting diagnostic, repair and replacement procedures for all items "a" through "I' identified aboVe.
5. Complete description of spring start-up operations including:
    a. Valve inspection
    b. Controller programming guidelines for spring, summer and fall watering schedules. Guidelines shall be based on historical EVT rates for the Chicago area.
    c. Controller battery replacement
    d. Drip zone filter inspection and replacement
    e. Drip zone back-flushing operations

6. Complete description of fall shut-down operations including:
    a. Blow-out procedures for irrigation system
    b. Drain-down procedures for irrigation system
    c. Controller shut-down procedures

B. Provide an as-built drawing at the same size and scale as the design drawings on reproducible vellum or Mylar with the following information clearly shown:
1. Location of all sleeves with dimensions to site elements
2. Location of mainline and lateral pipe runs with sizes clearly indicated
3. Location of all valves
4. Location of controllers and rain/freeze sensor
5. Utilize standard industry symbols and notations for all equipment.

C. Provide a copy of the Maintenance/Operations Manual and As-Built Drawing to the Engineer for review and approval.
1. Contractor shall make all revisions noted and required by the Engineer.
2. Contractor is required to demonstrate completion of all revisions, which may include providing a revised copy for additional review at the discretion of the Engineer.

D. Maintenance/Operations Manual and As-Built Drawing shall be completed and turned over to the Owner before Final Payment will be made to the Contractor.

3.19 FALL SHUTDOWN & SPRING START-UP

A. Contractor shall perform fall shutdown and spring start-up at no extra charge during the warranty period.

PART 4 - MEASUREMENT AND PAYMENT

The work shall be paid for at the contract lump sum price for IRRIGATION SYSTEM, SPECIAL which shall be payment in full for all work listed herein and as directed by the Engineer.

CURB STOPS 2”

Description: This work shall consist of furnishing and installing new curb stops with buffalo boxes for copper services of sizes shown on the plans. This work shall be in accordance with the details shown in the plans and the latest edition of the “Standard Specifications for Sewer and Water Construction in Illinois” latest edition and the Village of Oswego’s “Subdivision and Development Control Regulations”. New buffalo boxes shall be approved the Engineer. Buffalo boxes for services to irrigation system shall be installed to finished grade and within the limits of the proposed planters, unless otherwise directed by the engineer.

Lids from the curb boxes shall be cast iron with brass plugs coated with an anti-seizing, galling and corrosion lubricant conforming to standard MIL-A-907E. Prior to applying this lubricant, the plug threads shall be cleaned removing all shipping and storage coatings.

Method of Measurement: Work under this item will be measured per each as determined by the Engineer.

Basis of Payment: This item work be paid for at the contract unit price per each for CURB STOPS 2”, which shall include all excavation and disposal of unsuitable material, the furnishing of curb stops, fittings, buffalo boxes and all labor, material, and equipment necessary to render the service operative.

WATER SERVICE CONNECTION 2”

Description: This work shall consist of connecting water service lines to the new main complete in place, corporation stops; water service tubing; curb stops, and service boxes in accordance with the detail. Water service connections shall consist of water service pipe complete in place by open cut installation for near side services and auguring/moling (trenchless) methods for long side services. This work also includes all required fittings or adaptors necessary to connect to existing service lines, and backfilling with and compacting of trench backfill material. Service lines shall be flushed until water runs clear or minimum 20 seconds. The contractor shall hire a licensed plumber to connect the homeowner’s water service to the new curb stop. The work shall be constructed in accordance with the applicable sections of the “Standard Specifications for Water and Sewer Main Construction in Illinois" latest edition and the Village of Oswego’s “Subdivision and Development Control Regulations”.

The existing water main shall be uncovered and exposed to allow for confirmation of the existing pipe size in advance of making the connection.

Sufficient length of main shall be exposed to allow for the construction. The main shall be supported to properly carry its own weight plus the weight of the connection. The contractor shall be liable for any costs incurred in repairing any water main break that may occur within ten (10) feet of the connection for a period of one year after installation.

Pressure Connections: Connections to the existing water system shall be accomplished under full water service pressure. A pressure tap, using a two-piece stainless steel bolted tapping sleeve with mechanical joints, Clow F-5205, a tapping valve with fully ported gate valves complying with AWWA C500, and pressure connection pre-cast vault shall be provided at the point of connection to the existing system. There shall be a minimum of two (2) foot between a pressure tap and any pipe joint and a minimum of five (5) feet from any other tap.

Method of Measurement: Work under this item will be measured per each as determined by the Engineer.

Basis of Payment: This work will be paid for at the contract unit price each for WATER SERVICE CONNECTION 2”. The prices of this item will include fittings, gaskets, and the provision and proper installation of all gland nuts and bolts, valve vault and all other work required to complete the pressure connection. A pressure connection vault shall be used on all pressure connections.

WATER VALVES

Description: This work shall consist of the furnishing and installation of valves at locations as shown on the plans and as *directed* by the Engineer. The work shall be constructed in accordance with the applicable sections of the “Standard Specifications for Water and Sewer Main Construction in Illinois" latest edition and the Village of Oswego’s “Subdivision and Development Control Regulations”.

All valves shall be “American Flow Control” type gate valves and housed in a precast concrete vault of the appropriate size.

Method of Measurement: This work will be measured for payment per each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for WATER VALVES, of the size specified.

WATERMAIN FITTINGS

Description. Work under this item shall be performed in accordance with section 561 of the Standard Specifications and Section 41 of the Standard Specifications for Water and Sewer Construction in Illinois, and includes, but is not limited to, furnishing all labor, equipment, fittings, and materials necessary for the installation of additional Mechanical Joint fittings, complete, when ordered by the Engineer, and includes the following:

1. Fittings required for the installation of the work not covered under any other bid items.
2. Thrust restraints as required.
3. Related excavation, bedding, backfill, and restoration will be paid for under the appropriate bid items.
4. All work to be performed in making joints involved with the installation of additional fittings must be performed by a plumber, licensed in the City or State of Illinois. The work shall include but not be limited to the installation of gaskets, connection of pipe and fittings, and the tightening of gland nuts and bolts.

Materials. The Contractor shall provide a manufacturer's written certification that the materials used comply with the specifications.

Method of Measurement. Work under this item will be measured as the weight, in pounds, of WATERMAIN FITTINGS that are installed (as specified by the manufacturer, not including water, gland, gaskets, and nuts and bolts), as determined by the Engineer.

Basis of Payment. This work shall be paid for at the Contract unit price per POUND for WATERMAIN FITTINGS actually installed only upon the completion of the Contract. Credit shall be given to the Village of Oswego for fittings specified but not used. Adjustments for this credit will be made upon completion of the Contract.

BACKFLOW PREVENTER AND ENCLOSURE

Description: This work shall consist of furnishing and installing a new backflow preventer and enclosuer for the 2" service as shown on the plans. This work shall be in accordance with the details shown in the plans and the latest edition of the "Standard Specifications for Sewer and Water Construction in Illinois" latest edition and the Village of Oswego's "Subdivision and Development Control Regulations".

Lids for the enclosure shall be cast iron with brass plugs coated with an anti-seizing, galling and corrosion lubricant conforming to standard MIL-A-907E. Prior to applying this lubricant, the plug threads shall be cleaned removing all shipping and storage coatings.

Method of Measurement: Work under this item will be measured per each as determined by the Engineer.

Basis of Payment: This item work be paid for at the contract unit price per each for BACKFLOW PREVENTER AND ENCLOSURE, which shall include all excavation and disposal of unsuitable material, all labor, material, and equipment necessary to render the backflow preventer operative.

CONNECTION TO EXISTING WATER MAIN

Description. This work shall consist of making connection to existing watermain at the locations shown on the plans. The work shall be in accordance with the Standard Specifications Section 561 and these Special Provisions and shall consist of furnishing all labor, materials and equipment necessary to install ductile iron water main and fittings to make the connections of the size specified to the alignment, grade and locations shown on the Plans.

All fittings which deflect the flow 11-1/4 degrees or greater shall be provided with pipe joints on both sides of fitting that are restrained joint. Joint deflection shall be limited to the manufacturer's maximum allowable deflection.

Polyethylene encasement shall be wrapped and taped around all ductile iron pipe and fittings.

Materials. Water main shall be ductile iron, class 52, bituminous seal coated pipe and cement mortar lining per AWWA C104/ANSI 21.4 (Griffin, Clow, US Pipe), with mechanical or rubber gasket push-on restrained joints per ANSI A21.11 (AWWA C111 and AWWA C600). All pipe and fitting gaskets shall be fluorocarbon or buna-nitrile material gaskets. The polyethylene material shall be Class C (blue in color) in conformance with the requirements of ANSI A21.5 and AWWA C-105. The minimum nominal thickness shall be 8 mils (0.008 inches). All materials shall be made in the United States.

General Requirements. This work shall include all excavation and disposal of materials; dewatering of excavation; bedding; and coordinating shut-down of existing watermain with the Village of Oswego, who will close existing valves as needed to allow for the connections. This work shall be completed in accordance with the requirements of the Village of Oswego and the Standard Specifications for Water & Sewer Construction in Illinois, 7th Edition. The Contractor shall furnish and install ductile iron restrained joint type water main fittings at all bends, with restraints extended along straight pipe as required for particular bends. All necessary joint restraint methods and fittings shall be incidental to the water main and will not be paid for separately.

Any linestops required for the shutdown of the existing water main to make this connection, as well as all labor, excavation, and additional materials, shall be incidental to the connection and will not be paid for separately.

Pressure-testing and chlorination shall be as required by the Village of Oswego and performed as indicated under Ductile Iron Watermain, 12".

Method of Measurement. This work will be measured for payment in units of each. All fittings needed for reconnection to the existing water main shall be incidental to this item.

Basis of Payment. This work will be paid for at the contract unit price per each for CONNECTION TO EXISTING WATER MAIN, of the size specified in the plans.

STEEL CASING 18"

Description: This work shall consist of all labor, equipment and materials necessary to construct casing pipes at locations and sizes shown on the plans. The work shall include excavation, dewatering, shoring, bracing, non-granular backfill, surplus soil removal and disposal. Additional

backfill material required to bring the excavated pits to existing grade is considered incidental to this pay item.

Construction Requirements: The nearest edge of all boring or jacking pits shall be located a minimum of 30 feet from the edge of pavement on fully access controlled highways and at a minimum distance of 10 feet plus the depth of the pit without shoring on conventional highways. If sheeting or shoring is used, the pits shall be located a minimum of 10 feet from the edge of pavement on conventional highways. The shoring shall be installed immediately during excavation of the pit, and it shall be designed, erected, supported, braced, and maintained so that it will safely support all vertical and lateral loads that may be imposed upon it during the boring or jacking operation. Design calculations and construction details, signed and sealed by an Illinois Professional Structural Engineer, must be submitted by the Contractor and approved by the Engineer prior to use.

Pits for boring or jacking shall be excavated no more than 48 hours in advance of boring or jacking operations and backfilled within 48 hours after boring or jacking operations are completed. While pits are open, they shall be clearly marked and enclosed by temporary snow fencing or other method approved by the Engineer. Upon completion of the boring or jacking operations the pits shall be backfilled and brought up to match the surrounding grade. Backfill materials shall be deposited in uniform lifts not exceeding 12-inches in depth and each lift shall be mechanically compacted to the satisfaction of the Engineer.

Borings shall be accomplished with an auger and following pipe (casing pipe). The diameter of the auger shall not exceed the outside diameter of the casing pipe by more than 1 inch.

When the proposed installation is made by boring, care must be taken to make the bore in a straight line and of uniform diameter. If an obstruction is encountered, the operation shall be suspended at once and the Contractor shall attempt to remove the obstruction. If the obstruction cannot be removed then a new bore and jack attempt shall be made at a different location and the pipe casing shall not be retrieved but shall be completely backfilled and sealed.

If, as a result of a boring operation, excessive voids or too large a bore hole is produced, pressure grouting should be applied through fittings installed in the casing pipe wall. The pressure grouting shall fill all excessive voids on the outside of the casing pipe. The grout mixture shall consist of a clean, dry concrete mix, composed of one part Portland Cement and ten parts sand by volume, or other mix approved by the Engineer.

Suitable lubricants, if required, may be used to decrease the frictional resistance on the exterior surface of the pipe being jacked.

Care shall be taken in arranging the jacking equipment and struts to ensure that thrust is applied parallel with the center line of the pipe or as approved by the Engineer. A jacking head or collar shall be used to apply pressure from the jack to the pipe. Pressure applied with the metal of the jack in direct contact with concrete pipe will not be permitted.

The steel casing pipe shall conform with the "Standard Specifications for Water and Sewer Main Construction in Illinois," Sixth Edition, except as modified herein. The steel casing pipe shall be installed by methods approved by the Engineer. The steel casing pipe shall have a minimum wall thickness of 0.500 inches, have a minimum 30 mil thickness bituminous coating inside and out, and shall be of leak proof construction. The steel casing pipe shall have a minimum yield strength of 35,000 psi and shall meet the requirements of ASTM A139, Grade B. Ring deflection shall not exceed 2% of the nominal diameter. The steel casing pipe shall be delivered to the jobsite with

beveled ends to facilitate field welding, and all joints shall be continuous field-welded butt joints per AWWA C206. Shop drawings and weld design, and welder certificates, shall be provided to the Engineer for approval

Manufactured non-metallic or non-corrosive casing spacers shall be used to support the pipe in the casing and shall be installed per manufacturer's recommendations. Casing Spacers must provide electrical transmission insulation between the casing pipe and water main pipe. A minimum of two supports shall be used per joint of pipe for lengths up to 12.5 feet, and a minimum of three supports shall be used per joint for lengths greater than 12.5 feet. The voids in the casing pipe will not be filled with pea gravel, grout or any other material. Casing ends shall be sealed with a minimum 12-inch thick non-shrink grout cap.

Method of Measurement**:** This work will be measured in feet as measured from end of casing pipe to end of casing pipe.

Basis of Payment**:** This work shall be paid at the contract unit price per foot for STEEL CASING 18".

Watermain placed in the casing pipe shall be paid for separately.

CAP EXISTING WATER MAIN

Description. This work shall include the capping of proposed water mains to avoid leaking for future connections where shown on the plans or as directed by the Engineer.

Construction Requirements. This item shall be placed in accordance with Section 561 and Section 563 of the Standard Specifications for Road and Bridge Construction and latest Standard Specifications for Water and Sewer Main Construction in Illinois.

All caps provided for this contract shall be mechanical joint caps.

Method of Measurement. This work will be measured for payment in each.

Basis of Payment. This work will be paid for at the Contract unit price per each for CAP EXISTING WATER MAIN. This shall include the MJ cap, any additional excavation, and the capping of the proposed water main; thrust blocking if needed.

RELOCATE EXISTING LIGHTING UNIT

This work shall consist of removing existing lighting units, storing it at an approved location and reinstalling it on a new foundation.

Description: This work shall be done in accordance with Article 844.03 of the Standard Specifications and shall meet the following additional requirements.

The removed poles, mast arms, light pole bases and associated hardware and appurtenances shall be stored on site or at an approved location until their reinstallation on a new foundation. Any damage sustained to the lighting unit during removal, storage, or reinstallation operations shall be repaired, or replaced in kind, to the satisfaction of the Engineer.

Method of Measurement: This work will be measured for payment per each.

Basis of Payment: Removal, retrieval, and installation of lighting units will be paid for at the contract unit price per EACH for RELOCATE EXISTING LIGHTING UNIT, which price shall include all required conduit and wiring extensions and required mounting hardware. New foundations, gulf box junctions, and removal of existing foundations will be paid for separately.

LIGHT POLE SPECIAL, 30 FT

This work shall be in accordance with Section 830 of the Standard Specifications, except as modified herein.

Description: This work shall consist of furnishing and installing a decorative light pole complete with an arm, when specified, and all hardware and accessories required for the intended permanent use of the pole.
Materials: The pole shall be Sternberg Lighting pole model SSA30E600-D1-UB with the Monrovia split base, to meet the proposed corridor aesthetic, as detailed in the plans.
The pole shall also include breakaway couplings as specified within Section 1070.04(a) of the Standard Specifications.

Installation: The light pole shall be set plumb on the foundation without the use of shims, or washers for leveling.
The handhole shall be located such that workers accessing the handhole shall face oncoming traffic directly or located on the back side of the pole facing the roadway.

Arms shall be set at right angles to the centerline of the pavement. Poles shall not be left in place without arm(s) and luminaire(s).

The Contractor shall be responsible to furnish pole mounting equipment that is of adequate strength and compatible for the pole it supports. This shall include, but not be limited to, the foundation, breakaway device, anchor rods, and hardware.

Lighting unit identification numbers shall be installed before the lighting unit is energized.

The Contractor shall avoid contact of dissimilar metals in erecting the pole on its foundation and/or breakaway device. Any concern of trapped moisture or potential corrosion cell shall be resolved to the satisfaction of the Engineer.

Delivery. Two entire pole units, including split base, shall be delivered to the Village of Oswego as directed by the Engineer. The luminaires shall be unloaded and turned over to the site manager. The delivery of the equipment shall be documented, with signed acknowledgement from the site manager. A copy of the delivery documentation shall be provided to the Engineer.

Method of Measurement: This work will be measured for payment per each.

Basis of Payment: This work will be paid for at the contract unit price per each for LIGHT POLE, SPECIAL, 30', which shall include breakaway couplings as specified.

LUMINAIRE, LED, SPECIAL

Description. This work shall be in accordance with Section 821 of the Standard Specifications, except as modified herein. This work shall consist of furnishing and installing a roadway LED luminaire as shown on the plans, as specified herein.

Materials. The luminaire shall be Sternberg Lighting luminaire model 1A-ML730-40L-40-T3-MDL016-CA-UB, to meet the proposed corridor aesthetic.

Submittal Requirements. The Contractor shall also the following manufacturer's product data for each type of luminaire:

1. Descriptive literature and catalogue cuts for luminaire, LED driver, and surge protection device. Completed manufacturer’s luminaire ordering form with the full catalog number provided

2. LED drive current, total luminaire input wattage and total luminaire current at the system operating voltage or voltage range and ambient temperature of 25 C.

3. LED efficacy per luminaire expressed in lumens per watt (l/w).

4. Initial delivered lumens at the specified color temperature, drive current, and ambient temperature.

5. IES file associated with each submitted luminaire in the IES LM-63 format.

6. Computer photometric calculation reports as specified and in the luminaire performance table.

7. TM-15 BUG rating report.

8. Isofootcandle chart with max candela point and half candela trace indicated.

9. Documentation of manufacturers experience and verification that luminaires were assembled in the U.S.A. as specified.

10. Written warranty.

Installation. Each luminaire shall be installed according to the luminaire manufacturer’s recommendations.

Luminaires which are pole mounted shall be mounted on site such that poles and arms are not left unloaded. Pole mounted luminaires shall be leveled/adjusted after poles are set and vertically aligned before being energized. When mounted on a tenon, care shall be exercised to assure maximum insertion of the mounting tenon. Each luminaire shall be checked to assure compatibility with the project power system. When the night-time check of the lighting system by the Engineer indicates that any luminaires are mis-aligned, the mis-aligned luminaires shall be corrected at no additional cost.

No luminaire shall be installed prior to approval. Where independent testing is required, full approval will not be given until complete test results, demonstrating compliance with the specifications, have been reviewed and accepted by the Engineer.

Pole wiring shall be provided with the luminaire. Pole wire shall run from handhole to luminaire. Pole wire shall be sized No. 10, rated 600 V, RHW/USE-2, and have copper conductors, stranded in conformance with ASTM B 8. Pole wire shall be insulated with cross-linked polyethylene (XLP) insulation. Pole wire shall include a phase, neutral, and green ground wire. Wire shall be trained within the pole or sign structure so as to avoid abrasion or damage to the insulation.

Pole wire shall be extended through the pole, pole grommet, luminaire ring, and any associated arm and tenon. The pole wire shall be terminated in a manner that avoids sharp kinks, pinching, pressure on the insulation, or any other arrangement prone to damaging insulation value and producing poor megger test results. Wires shall be trained away from heat sources within the luminaire. Wires shall be terminated so all strands are extended to the full depth of the terminal lug with the insulation removed far enough so it abuts against the shoulder of the lug, but is not compressed as the lug is tightened.

Included with the pole wiring shall be fusing located in the handhole. Fusing shall be according to Article 1065.01 with the exception that fuses shall be 6 amperes.

Each luminaire and optical assembly shall be free of all dirt, smudges, etc. Should the optical assembly require cleaning, a luminaire manufacturer approved cleaning procedure shall be used.

Horizontal mount luminaires shall be installed in a level, horizontal plane, with adjustments as needed to insure the optics are set perpendicular to the traveled roadway.

When the pole is bridge mounted, a minimum size stainless steel 1/4-20NC set screw shall be provided to secure the luminaire to the mast arm tenon. A hole shall be drilled and tapped through the tenon and luminaire mounting bracket and then fitted with the screw.

Delivery. Two entire luminaire units shall be delivered to the Village of Oswego as directed by the Engineer. The luminaires shall be unloaded and turned over to the site manager. The delivery of the equipment shall be documented, with signed acknowledgement from the site manager. A copy of the delivery documentation shall be provided to the Engineer.

Warranty. The entire luminaire and all of its component parts shall be covered by a 10-year warranty. Failure is when one or more of the following occur:

1) Negligible light output from more than 10 percent of the discrete LEDs.
2) Significant moisture that deteriorates performance of the luminaire.
3) Driver that continues to operate at a reduced output due to overheating.

The warranty period shall begin on the date of luminaire delivery. The Contractor shall verify that the Resident Engineer has noted the delivery date in the daily diary. Copy of the shipment and delivery documentation shall be submitted.

The replacement luminaire shall be of the same manufacturer, model, and photometric distribution as the original.

Basis of Payment. This work shall be paid at the contract unit price per each for LUMINAIRE, LED, SPECIAL.

CAMERA POLE, 45 FT

This work shall be in accordance with Section 830 of the Standard Specifications, except as modified herein.

Description: The work is furnishing and construction of a ground-mounted galvanized steel CCTV support pole (light pole) structure with 40-foot mounting height at locations indicated on the plans.

Materials: The CCTV pole shall consist of a 45-foot galvanized steel pole that is structurally sound and adheres to Section 1069 of the IDOT Standard Specifications. The pole shall be painted bronze and shall match the color of the decorative light pole.

Submit design calculations and shop drawings for the support pole for approval by the Engineer. A total of 4 sets of design calculations and 4 sets of detailed construction drawings, signed and sealed by a Professional Engineer licensed in the State of Illinois, to the Engineer for approval. Do not begin fabrication and construction until receiving approval of the submission from the Engineer.

Pole foundation and equipment to be mounted on the pole will be paid for separately.

Installation: Submit detailed shop drawings for review and acceptance. Material and workmanship not previously inspected will be inspected on the work site. Remove rejected material from the work site. If a disturbance is made to the site during installation, restore the site to its original condition.

Fabricate the pole and arm for the CCTV cameras as indicated on the plan details. The Contractor shall install the pole and davit arm at the orientation as shown on the plans.

Clean threads of anchor bolts and nuts before column installation and lubricate as necessary. Clean, to the satisfaction of the Engineer, the top of the foundation to ensure it is free of dirt or other foreign materials. Install CCTV camera pole atop of base plate. Pole must fit freely on base plate. Do not force pole onto foundation. Make adjustments as necessary to firmly secure the pole to the foundation.

Pole shall provide hand hole access approximately 2 feet from the top and approximately 12” from the base of the foundation. Install the necessary hand holes if not available. Hand holes that are prefabricated with the pole, but do not meet these requirements, may be approved by the Engineer. The Contractor shall note any variance on the shop drawings that are sent for review.

Provide grounding rod, wire, etc. to provide the necessary grounding in accordance with the NEC.

All power, communication, and/or cables are to be installed inside the pole. Ensure that the CCTV camera pole is hollow enough to allow cables to pass through. Cables shall only be exposed at locations shown on the plans or approved by the Engineer. The opening in the metal foundation around the conduits shall be sealed with steel wool and spray foam sealant to prevent the intrusion of insects, rodents, pests, and debris.

Method of Measurement: This work will be measured in units of each camera pole furnished and installed.

Basis of Payment: This work will be paid for at the contract unit price each for CAMERA POLE, 45 FT, which price shall include materials, labor, mounting hardware, connections, fittings, etc. to installed as shown on the plans and as herein specified.

CELLULAR MODEM

Description: The Contractor shall furnish an industrial cellular router with an industrial power supply, and an externally mounted cellular antenna.

CONSTRUCTION REQUIREMENTS

General: The Contractor shall install the cellular router and industrial power supply inside the proposed roadway lighting equipment cabinet using DIN rail mounting or other approved methods. The Contractor shall furnish and install all wiring and hardware required to installing the cellular router, power supply, camera power supply, and external mounted cellular antenna.

The Contractor is fully responsible for all programming related to the cellular modem. The Contractor shall coordinate with CCTV supplier to get the modem configured for reliable operation. The 90-day burn-in period will not commence until communications are fully operational. The contractor will be required to provide per-paid cellular service for a term of 5 years as detailed in the special provision; "REMOTE-CONTROLLED VIDEO SYSTEM". Coverage starts when the Engineer has accepted this pay item and its intended function.

Materials: The cellular router shall be a RedLion FlexEdge DA50A Controller (part number DA50A0BNN0000010) with a Verizon Wireless cellular sled (part number DA-S00-CL9C4S-VZ-000). Cellular Modem 4G LTE/3G/2G shall meet or exceed the following minimum specifications:

FEATURES & BENEFITS

Cellular Connectivity:	4G LTE
Built-In Security & Routing:	Secure modbus data using IPSec VPN tunnels VPN tunnel: IP SEC, SSL Port forwarding Stateful Firewall Packet Filtering Access Control List (ACL)
Powerful Web-Based Management:	Provides remote monitoring and control Mass activation and device upgrades Remote diagnostics and troubleshooting Reporting of key metrics
Rugged, Compact Design:	-40 to +85º C operating temperature DIN-rail mounting or other approved method
Features:	Connect multiple devices to single WAN link Remote TCP/IP based capabilities Integrated switching/routing capabilities

Serial to IP conversion
Access IP and serial devices simultaneously

SPECIFICATIONS

Wireless Interface:	Verizon LTE with Fallback to EVDO
Ethernet Interface:	5x RJ45 Ethernet 10/100 auto-sensing
Serial Interface:	1x RS-232 Serial DB9 115200bps
USB Interface:	1x USB2.0 mini
LED Status Indicators:	Power, WAN, Signal, RS232, Ethernet Link and Activity
Dimensions:	Steel 120x96x51 mm (4.7”x3.77”x2.0”), 500g (1.1 lbs)
Power Input:	8 – 30 Vdc (12Vdc nominal)
Environmental:	Operating Temp: -40 to +85^C
	Shock: IEC60068-2-27
	Vibration: IEC60068-2-6
	Humidity: 5 to 95% non-condensing
Certification:	EMC:FCC, part 15 and Industry Canada, ICES-003
	Hazardous Locations: Class I, Div. 2, Groups A,B,C,D, UL 1604
	Electrical Safety: UL508/CSA22.2/14 (CUL
Routing Protocols:	OSPF, BGP, RIP
Encapsulation Protocols:	GRE and IPinIP
Tunneling:	VPN: IPSec, SSL, and GRE
Clustering:	VRRP
IP:	NAT, Port Forwarding, Dynamics DNS, DHCP
	Stateful Inspection Firewall, IP Transparency
Warranty:	3 years on design and manufacturing defects

The Contractor shall furnish an Aaxeon Model DR-4512 45 watt industrial DIN rail power supply that meets or exceeds the following specifications:

OUTPUT

DC Voltage:	12V
Rated Current:	3.5A
Current Range:	0-3.5A
Rated Power:	42W
Ripple & Noise (Max.):	200mVp-p
Voltage Adjustment Range:	10.8 – 13.2V
Voltage Tolerance:	+/- 1.0%
Line Regulation:	+/- 1.0%
Load Regulation:	+/- 1.0%
Setup, Rise Time:	800ms, 60ms/230VAC at full load
Hold Time (Typ.)	100ms/230VAC at full load

INPUT

Voltage Range:	85-265VAC, 120 – 370 VDC
Frequency Range:	47 – 63 Hz
Efficiency (Typ.):	77%
AC Current (Typ.):	1.5A/115VAC, 0.75A/230VAC

Inrush Current (Typ.):	Cold Start 28A/115VAC, 56A/230VAC
Leakage Current:	<1mA/240VAC

PROTECTION

Over Load:	105 -150% rated output power (Protection Type: Constant current limiting, recovers automatically after fault condition is removed
Over Voltage:	13.8 – 16.2V (Protection Type: Shut down o/p voltage, re-power on to recover)
Over Temperature:	135 degrees C (Protection Type: Shut down o/p voltage, Recovers automatically after temperature goes down)

ENVIRONMENT

Working Temperature:	-10 to 50 degrees ^C
Working Humidity	20 – 90% Non-condensing
Storage Temperature	-20 to 85 degrees ^C
Storage humidity:	10 to 95% Relative Humidity

SAFETY

Safety Standards:	UL 508
Withstand Voltage:	I/P-O/P:3KVAC, I/P-FG:1.5KVAC, O/P-FG:0.5KVAC
Isolation Resistance:	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC
Harmonic Current:	Compliance to EN61000-3-2-3
EMI Conduction and Radiation:	DIN Rail or approved alternative

The Contractor shall furnish and install a NEMA 15-R power cable (3 ft. length) and install the power supply in the proposed lighting cabinet and connect the cellular modem to it.

The cellular modem shall be equipped with an external antenna that shall be attached to the proposed aluminum light pole structure as indicated in the plans or as directed by the Engineer. The external antenna shall be installed at the highest height possible on the aluminum light pole. It shall be fully attached and aimed at the nearest Verizon cellular tower.

The cellular antenna shall be a Wilson Electronics 14 dBi Gain 1900 MHz Yagi Antenna (Product Number 301124) or approved equal that meets or exceeds the following specifications:

Features:	Supports 1900MHz PCS Frequency band, Compatible With all PCS providers, Built-in ground plane
Antenna Type:	Directional
Number of Elements:	9
Material:	Aluminum
Frequency Range:	1850 – 1990 MHz
Impedance:	50 Ohms
Antenna Gain:	14 dBi (1710 – 1880 MHz and 1850 – 1990 MHz)
Beam Width:	H 31 Degrees, V 31 Degrees

Polarization:	Vertical
Maximum Power:	25 Watts
Radiation:	Directional
Connector:	N Female
Dimensions:	Pole with U-Bolts
Mounting:	Mount onto proposed aluminum light pole. Consult manufacturer for proper mounting hardware and method.
Accessories:	RG-58 coax extension equipped with factory installed Connectors for Yagi and cellular modem, 200 Ft. Length or less as determined by field conditions

The Contractor shall furnish and install all cables, brackets, hardware required to install the antenna onto the proposed aluminum light pole. The Contractor shall not drill any holes into the top of the proposed lighting cabinet to mount the antenna.

Method of Measurement: This work will be measured for payment as EACH.

Basis of Payment: This work will be paid for at the contract unit price per Each for CELLULAR MODEM which cost shall be payment in full for all labor, materials, and equipment required to provide the cellular modem complete with all accessories described above, configure the modem for operation with the proposed CCTV camera, and install it in the proposed lighting cabinet.

CLOSED CIRCUIT TELEVISION DOME CAMERA, HD

Description: This work shall consist of furnishing and installing a multisensor camera with four camera heads, camera brackets, license, and all other items required for installation and operation onto a new camera pole indicated in the plans or as directed by the Engineer. This assembly shall contain all components identified in the Materials Section and shall be configured as indicated on the plan sheets.

Materials: The CCTV camera shall be a Verkada CH52-E multisensory camera for integration into the existing Village of Oswego network. The Contractor shall provide all materials required to install the proposed camera on the proposed pole as shown on the plan sheets. The Contractor shall submit catalog cut sheets to the for all items (mounting brackets, hardware, etc.) that will be utilized for review prior to commencing work.

License: The camera shall be provided with a 10-year license package to operate the camera in accordance with the manufacturer's requirements.

Data Source. The Contractor shall furnish and install a GC31 Outdoor Cellular Gateway modem. The power accessory shall be the ACC-POE-90W-E.

Environmental Enclosure/Housing: The environmental enclosure shall be designed to physically protect the integrated camera from the outdoor environment and moisture via a sealed enclosure. The enclosure shall be the WH-22 Hinged NEMA Enclosure.

Mounting Supports: The Contractor shall furnish and install an ACC-MNT-XLARM-1 Large Mount Arm for camera installation on a CCTV camera pole with pole mount

ACC-MNT-POLE-1 and stainless-steel banding as required. Mounting supports shall be configured as shown on the camera support detail plans and as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

General

The Contractor shall prepare a shop drawing detailing the complete Camera Assembly and installation of all components to be supplied for approval of the Engineer. Emphasis shall be given to the cabling and the interconnection of all the components.

The Contractor shall install the camera assembly at the locations indicated in the Plans or as directed by the Engineer. The Camera Assembly shall be mounted on a new camera pole.

Testing

The Contractor shall test each installed Camera Assembly. The test shall be conducted from the cabinet housing all camera related equipment using the standard communication protocol and a laptop computer. The Contractor shall verify that the camera can be fully exercised and moved through the entire limits of Pan, Tilt, Zoom, Focus and Iris adjustments, using both the manual control and presets. The Contractor shall maintain a log of all testing and the results. A representative of the Contractor and a representative of the Engineer shall sign the log as witnessing the results. Records of all tests shall be submitted to the Engineer prior to accepting the installation.

Method of Measurement: This work shall be measured at the contract unit per each for CLOSED CIRCUIT TELEVISION DOME CAMERA, HD. The actual number of camera assemblies furnished, installed, tested, and accepted will be measured for payment.

Basis of Payment: This work shall be paid at the contract unit price per each for CLOSED CIRCUIT TELEVISION DOME CAMERA, HD including all equipment, material, license, testing, documentation, and labor detailed in the contract documents for this bid item.

REMOTE-CONTROLLED VIDEO SYSTEM

Description. This work shall consist of furnishing and installing a Remote-Controlled Video System as specified herein that will integrate the proposed CCTV camera and cellular modem to allow video to be remotely viewed and the CCTV camera controlled from any computer, tablet or mobile smart phones with a compatible web browser or software application. If software application is required, unlimited licenses should be included with no cost to the department, with a capability to install on computers, tablets and or mobile smart phones. In addition, to other items as described below.

a) The Remote-Controlled Video System shall provide the cellular router secure internet connectivity for the CCTV camera devices in the lighting cabinet.

b) The Remote-Controlled Video System shall give remote viewing access to a minimum of five (5) users, via tablets, laptops, desktops or compatible smart

cellular phones. Each connection shall have its own unique username and password. In addition, there shall me an administrator username and password capable of controlling access to the software that can add and delete users.

c) The Remote-Controlled Video System shall have a five (5) year warranty and a five (5) year paid unlimited cellular data service plan which would be used for transmission and control of the CCTV camera. The Village of Oswego shall not have to pay for any cellular service plans or data until after the end of the five (5) year plan. The plan should have unlimited data, roaming charges, and minutes for all incoming and outgoing connections. The start date of the warranty and paid cellular service plan shall not begin until the Remote-Controlled Video System has been approved by the Engineer.

d) The Remote-Controlled Video System shall include two (2) new laptops to be used in a remote location to monitor and control the proposed CCTV camera. The laptops shall include the latest operating system, anti-virus, and software necessary to securely and remotely access and control the proposed CCTV camera. Each laptop shall have included with it an unlimited data mobile hot spot connection that allows remote internet connection, with a minimum of 4G LTE communication standard. The contractor shall provide these two five (5) years paid cellular mobile hotspot devices prepaid so The Village of Oswego shall not have to pay for any cellular service plans or data until after the end of the five (5) year plan. Each laptop shall also include documentation, rugged outdoor use cases, a battery charger, an extra battery, and a USB memory card for each of the two (2) laptops. The two (2) laptops shall also have a five (5) year warranty.

e) The contractor shall provide two (1) day of training by a factory representative on the software for up to ten (10) people. A five (5) year software maintenance and update shall be provided for all software applications.

Basis of Payment. This work shall be paid at the contract unit price per each for REMOTE CONTROLLED VIDEO SYSTEM, which price shall be payment in full for all labor and materials for all items described above for the REMOTE-CONTROLLED VIDEO SYSTEM.

ELECTRIC SERVICE INSTALLATION

In addition to the requirements of Section 804 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 changes, 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 lighting 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 lighting 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 ELECTRIC SERVICE INSTALLATION.

RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (COMPLETE)

Description: This work shall consist of furnishing and installing the Rectangular Rapid Flashing Beacon (RRFB) Assembly complete with RRFB; power supply; traffic signal post and powder coating the post; foundation; pedestrian push button; warning signs and plaques; controller and cabinet; and wireless communication equipment as shown on the plans and/or as specified by the Engineer. All equipment and hardware required to mount the RRFB and associated equipment to the assembly shall be included in the unit cost of this item.

Materials: All components shall be manufactured and assembled as a complete system and consist of the following:

Rectangular Rapid Flashing Beacon: Each RRFB assembly shall satisfy the FHWA *Manual on Uniform Traffic Control Devices, 11th Edition*, dated December 2023, including the unit size, mounting location, flash rate, and operational parameters unless modified herein by this special provision. The RRFB assembly shall be programmable to allow the Village to set the duration of the flashing beacon display based on the crossing time requirements established in the MUTCD. The Contractor shall furnish and install two direction RRFB units with far side indicator light mounted to the sign structure as indicated on the plans. The RRFB shall have an operating temperature meeting NEMA specifications.

Light Bar Housing and Indications: The Light Bar Housing shall be constructed of durable, corrosion resistant, powder-coated aluminum with stainless steel fasteners. Enclosed components shall be modular in design whereby any component can be easily replaced using common hand tools, without having to remove the housing from the pole. All mounting hardware required for mounting the Light Bar housing shall be provided and shall be stainless steel. Each of the vehicle RRFB LED indications shall be approximately 7.25” wide x 3” high. A pedestrian LED indication, approximately 0.5” wide x 2.5” high, shall be side-mounted in the Light Bar housing to be directed at and visible to pedestrians in the crosswalk. The LEDs used shall be rated for a minimum of a 15-year life span. The lights shall have the capability of variable dimming based on the input from an integrated photocell. The RRFB shall be able to be seen at lease 1,000 feet in advance of the crossing during the day.

Pedestrian Push Button: The pedestrian push button shall meet the requirements of the “Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way” adopted September 7, 2023 and Sections 801 and 888 of the Standard Specifications except as modified herein. Each pedestrian pushbutton shall include a speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, and mounting hardware.

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. 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 "Warning lights are flashing". The message shall be spoken twice. There shall be no percussive indication.

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.

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).

Signage. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall be standard MUTCD design R10- 25.

Tactile Arrow. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided either on the pushbutton or its sign. There shall be no vibrotactile indication.

Controller: The RRFB controller shall meet the requirements of Section 858 of the "Standard Specifications" except where modified herein:

A. Power Options: The controller unit shall be solar-powered.

B. Controller to Controller Communication: At each location all installed RRFB assemblies shall communicate wirelessly using an unlicensed radio band so as to simultaneously commence operation of their alternating rapid flashing indications and cease operation simultaneously. The communication equipment shall comply with FCC requirements and the vendor representative shall field test the equipment prior to placing the units in operation to demonstrate the RRFBs ability to achieve proper operation under the requirements of FHWA Memorandum IA-21 and all subsequent interpretation letters. Up to 10 optional RF channels shall be available to allow multiple RRFB Systems to operate within close proximity of each other.

C. Timing: The controller shall provide the full programmed timing upon all push button activations.

Power Supply: The installation shall be solar powered power supply.

A. Solar Power Supply: The solar power supply shall be easy to install, fully self-contained weather, corrosion, and vandal-resistant, with a UV-resistant solar panel. The solar power supply shall be power autonomous without need of an

external power supply. The batteries shall be sealed, maintenance free, and field-replaceable independently of other components. The battery pack shall have a minimum rated lifespan of three years. The power supply system shall have the capacity to operate the RRFB for 30 days at a normal use of 400 activations of 30 seconds per day without solar charging. The RRFB shall have an automatic light control to provide useful light during extreme conditions that prevent charging over an extended period of time. The manufacturer shall provide documentation for each installation consisting of solar power calculations to verify load, duty cycle and battery capacity based on location. The solar panel shall be installed at the highest point on the assembly structure, or as directed by the Engineer, and away from the travelled way. The solar panel shall be installed at an angle specified by the manufacturer facing the equator (due south) with a full unobstructed solar exposure for optimum performance of the system, or as recommended by the manufacturer and directed by the Engineer. If batteries are to be installed in a separate cabinet, the cabinet shall be a minimum of seven feet above the ground and located on the post as to be not over the sidewalk, bike path or trail.

Wireless Transceiver Radio: Radio control shall be utility powered, operating on an FCC approved 900 MHz or 2.4 GHz frequency, hopping spread spectrum network with a normal operating range of 900 feet. Radios shall provide wireless communication between the assemblies to integrate the pushbutton activation of indications. To ensure all integral indications consistently flash in unison, the radio shall synchronize the controllers to activation the indication within 120 msec of one other and remain synchronized through the duration of the flashing cycle. The Radio shall be, in the unlikely event of failure, replaceable independently of other components. The Radio shall have a minimum operating temperate range of -30˚F to 165˚F (-34.4˚C to 73.8˚C).

Signs and Plaques: All signs shall conform to MUTCD standards. Each RRFB assembly shall include two crossing signs (W11-2) 30 inch x 30 inch dimension, two diagonal downward pointing arrow (W16-7P) plaques 21 inch x 15 inch dimension, mounted back-to-back and a R10-25 9 inch x 12 inch dimension, mounted as part of or above the pedestrian push button. The W-series sign panels shall be manufactured with fluorescent yellow green type ZZ sheeting meeting the requirements of Section 1091of the “Standard Specifications”. The R-series signs shall be manufactured with type AP sheeting meeting the requirements of Section 1091 of the “Standard Specifications”. All sign assemblies shall use provided anti-vandal fasteners and tools to mount components to sign, and to sign fixtures.

Traffic Signal Post: The traffic signal post shall be stainless steel meeting the requirements of Section 875 of the “Standard Specifications”. Post shall be powder coated with black finish.

Foundation: The traffic signal post foundation may be either concrete or metal.

A. Concrete Foundation: If used the concrete foundation shall meet the requirements of Section 878 of the “Standard Specifications”.
B. Light Pole Foundation Metal: If used the metal foundation shall meet the requirements of Section 836 of the “Standard Specifications”.

Beacon Flashing Requirements: When actuated, the two yellow indications in each RRFB until shall flash in a rapidly flashing sequence. RRFBs shall provide 75 flashing sequences per minute. During each 800-millisecond flashing sequence, the left and right RRFB indications shall operate using the following sequence:

A. The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.

B. The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.

C. The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.

D. The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.

E. Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.

F. Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 250 milliseconds.

The flash rate of each individual RRFB indication, as applied over the full flashing sequence, shall not be between 5 and 30 flashes per second to avoid frequencies that might cause seizures. The RRFB shall be rated for Class I light intensity output according to the Society of Automotive Engineers (SAE) Standard J595 with a 15-year life expectancy. During the nighttime hours, the RRFB shall be equipped with an automatic dimming feature.

IDOT Requirements for Beacon Operation:

A. The RRFB shall be normally dark, shall initiate operation only upon pedestrian actuation, and shall cease operation at a predetermined time after the pedestrian actuation.

B. All RRFB units associated with a given crosswalk (including those with an advance crossing sign, if used) shall, when actuated, simultaneously commence operation of their rapid-flashing indications and shall cease operation simultaneously.

C. The duration of a predetermined period of operation of the RRFBs following each actuation should be based on procedures provided in the MUTCD for the timing of pedestrian clearance times for pedestrian signals.

D. The predetermined flash period shall be immediately initiated each time that a pedestrian is detected as a result of a pedestrian pressing a pushbutton

detector, including when pedestrians are detected while the RRFBs are already flashing and when pedestrians are detected immediately after the RRFBs have ceased flashing.

E. A small pilot light may be installed integral to the RRFB or pedestrian push button detector to give confirmation that the RRFB is in operation.

Warranty: All materials shall be warranted for three years from date of acceptance or turn on.

Installation: The RRFB Assembly (Complete) shall be installed strictly according to the manufacturer's recommendations, the applicable portions of the "Standard Specifications" as modified herein, as shown on the Plans, and/or as directed by the Engineer.

The final elevation and location of the beacons shall be approved by the Engineer prior to the Contractor beginning work.

Basis of Payment: This work will be paid at the contract unit price for each RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (COMPLETE). The unit price shall include all labor, equipment, materials and documentation required to furnish and install the RRFB assembly complete with power supply; traffic signal post and powder coating the post; foundation; pedestrian push button; warning signs and plaques; controller and cabinet; wireless communication equipment; and mounting hardware.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

Description. This work shall consist of the removal and disposal of regulated substances and uncontaminated soil according to Section 669 of the Standard Specifications.

Contract Specific Sites. The excavated soil and groundwater within the area listed below shall be managed as non-special waste. For stationing, the lateral distance is measured from proposed baseline (BL) of the Multi-Use Path and the farthest distance is the offset distance or construction limit, whichever is less.

Station 1099+00 & offset 18.00 feet LT to Station 1105+80 & offset 18.00 feet LT relative to Proposed BL of MUP. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(5) of the Standard Specifications, CCDD MAC Values sampling parameters: Arsenic.

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:

Village of Oswego

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 & 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	
☒	Cores
☐	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 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: Wolf's Crossing Office Phone Number, if available:

Physical Site Location (address, including number and street):
Wolf's Crossing Road, Bluegrass Parkway to Cardinal Avenue

City: Oswego State: IL Zip Code: 60543

County: Kendall Township: Oswego

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

Latitude: 41.6906 (Decimal Degrees) Longitude: - 88.3105 (-Decimal Degrees)

Identify how the lat/long data were determined:

◯ GPS ⊘ Map Interpolation ◯ Photo Interpolation ◯ Survey ◯ Other

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: Village of Oswego
Street Address: 100 Theodore Drive
PO Box:
City: Oswego State: IL
Zip Code: 60543 Phone: 630-554-3242
Contact: Jennifer Hughes
Email, if available: JHughes@oswegoil.org

Site Operator

Name: Village of Oswego
Street Address: 100 Theodore Drive
PO Box:
City: Oswego State: IL
Zip Code: 60543 Phone: 630-554-3242
Contact: Jennifer Hughes
Email, if available: JHughes@oswegoil.org

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.

Project Name: Wolf's Crossing Latitude: 41.69060 Longitude: - 88.31050

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)]:

Sample locations were selected in areas of proposed excavation. Based on the 2018 PESA, RECs were identified at two parcels, with no RECs identified at the remaining parcels. Sites with RECs were analyzed for Target Compound List parameters, and sites without RECs were analyzed for pH.

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]:

See attached analytical data

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

I, Thaddeus J. Cagney (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.

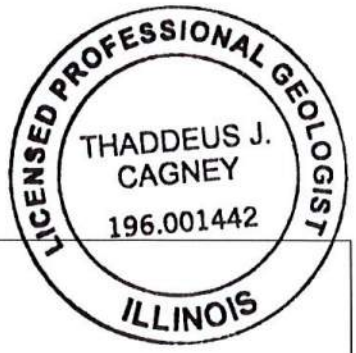
Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name:	GSG Consultants, Inc.
Street Address:	735 Remington Road
City:	Schaumburg State: IL Zip Code: 60173
Phone:	630-994-2600

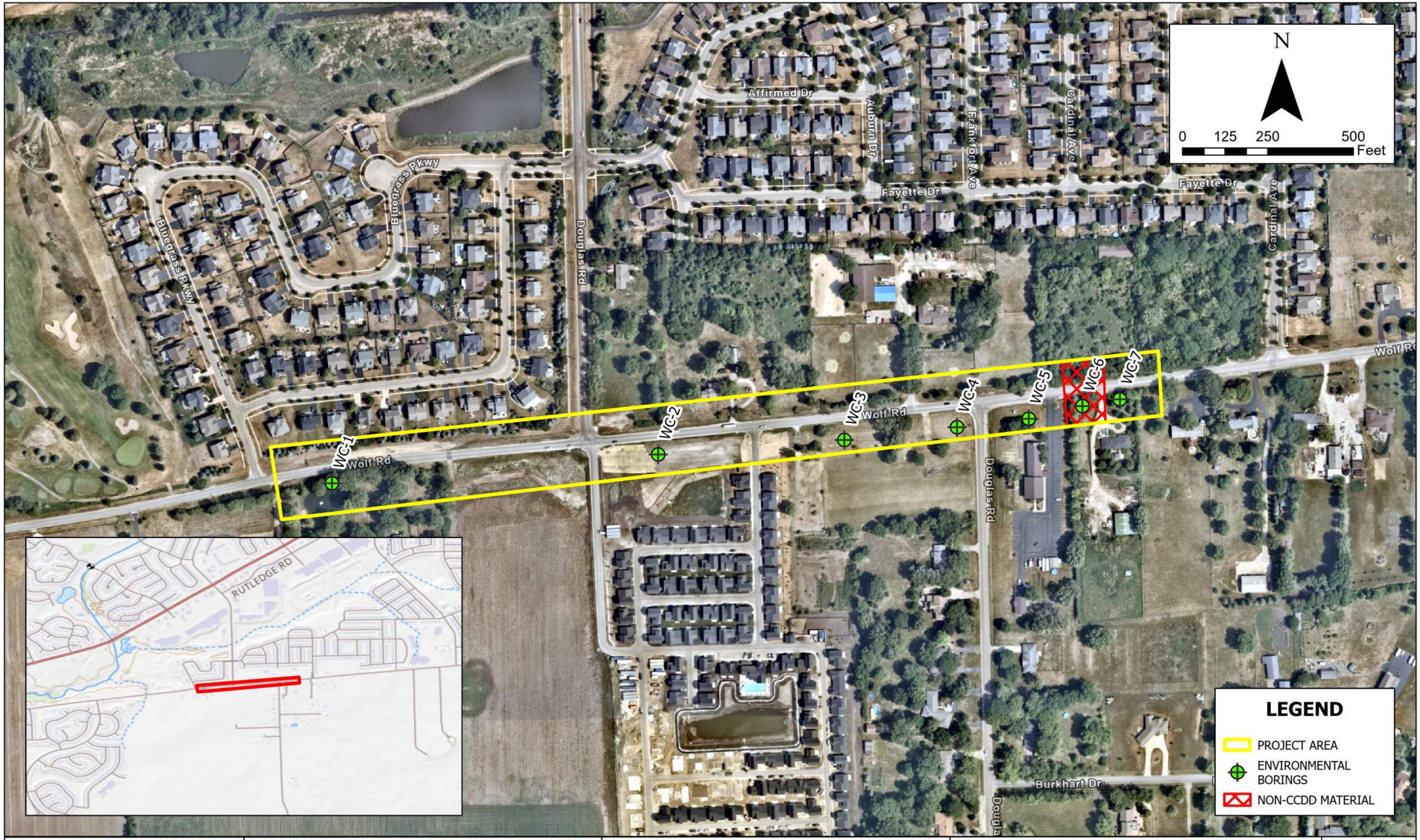
Thaddeus J. Cagney
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

May 8, 2024
Date:



P.E or L.P.G. Seal:



DRAWN BY	JC	DATE	5/8/2024	GSG CONSULTANTS, INC. 735 Remington Road, Schaumburg, IL 60173 Tel: 630.994.2600, www.gsg-consultants.com	WOLF'S CROSSING ROAD	SHEET NO. 1 OF 1
CHECKED BY	TC	DATE	5/8/2024	Illinois Department of Transportation benesch	EXHIBIT 1 SOIL MANAGEMENT PLAN	

T:\Benesch\Wolfs Crossing Road - Douglas Road\Environmental\PSI\Exhibits and Boring Logs\GIS\BoringLocationMap&SMP\BoringLocationMap&SMP.aprx, 5/8/2024 9:56 AM, jcagney

TABLE 2a
Soil Analytical Results
VOCs Compared to CCDD MAC Values

	CCDD MAC Values			Sample	WC-3	WC-4	WC-6	WC-7
	MSA County	*City of Chicago*	*Non-MSA County*	**Date**	9/22/2023	9/22/2023	9/22/2023	9/22/2023
				Depth (ft)	1-2	2-3	3-4	2-3
VOCs								
Acetone	25				< 0.11	< 0.11	< 0.12	< 0.12
Benzene	0.03				< 0.11	< 0.11	< 0.12	< 0.12
Bromodichloromethane	0.6				< 0.11	< 0.11	< 0.12	< 0.12
Bromoform	0.8				< 0.11	< 0.11	< 0.12	< 0.12
Bromomethane	0.2				< 0.11	< 0.11	< 0.12	< 0.12
2-Butanone (Methyl Ethyl Ketone)	17				< 0.11	< 0.11	< 0.12	< 0.12
Carbon disulfide	9				< 0.11	< 0.11	< 0.12	< 0.12
Carbon tetrachloride	0.07				< 0.11	< 0.11	< 0.12	< 0.12
Chlorobenzene	1				< 0.11	< 0.11	< 0.12	< 0.12
Chloroethane	NC				< 0.11	< 0.11	< 0.12	< 0.12
Chloroform	0.3				< 0.11	< 0.11	< 0.12	< 0.12
Chloromethane	NC				< 0.11	< 0.11	< 0.12	< 0.12
Dibromochloromethane	0.4				< 0.11	< 0.11	< 0.12	< 0.12
1,1-Dichloroethane	23				< 0.11	< 0.11	< 0.12	< 0.12
1,2-Dichloroethane	0.02				< 0.11	< 0.11	< 0.12	< 0.12
1,1-Dichloroethene	0.06				< 0.11	< 0.11	< 0.12	< 0.12
cis-1,2-Dichloroethene	0.4				< 0.11	< 0.11	< 0.12	< 0.12
trans-1,2-Dichloroethene	0.7				< 0.11	< 0.11	< 0.12	< 0.12
1,2-Dichloropropane	0.03				< 0.11	< 0.11	< 0.12	< 0.12
cis-1,3-Dichloropropene	0.005				< 0.11	< 0.11	< 0.12	< 0.12
trans-1,3-Dichloropropene	0.005				< 0.11	< 0.11	< 0.12	< 0.12
Ethylbenzene	13				< 0.11	< 0.11	< 0.12	< 0.12
2-Hexanone	NC				< 0.11	< 0.11	< 0.12	< 0.12
4-Methyl-2-pentanone	NC				< 0.11	< 0.11	< 0.12	< 0.12
Methylene chloride	0.02				< 0.11	< 0.11	< 0.12	< 0.12
Methyl tert-butyl ether	0.32				< 0.11	< 0.11	< 0.12	< 0.12
Styrene	4				< 0.11	< 0.11	< 0.12	< 0.12
1,1,2,2-Tetrachloroethane	NC				< 0.11	< 0.11	< 0.12	< 0.12
Tetrachloroethene	0.06				< 0.11	< 0.11	< 0.12	< 0.12
Toluene	12				< 0.11	< 0.11	< 0.12	< 0.12
1,1,1-Trichloroethane	2				< 0.11	< 0.11	< 0.12	< 0.12
1,1,2-Trichloroethane	0.02				< 0.11	< 0.11	< 0.12	< 0.12
Trichloroethene	0.06				< 0.11	< 0.11	< 0.12	< 0.12
Vinyl chloride	0.01				< 0.11	< 0.11	< 0.12	< 0.12
Xylenes, Total	5.6				< 0.11	< 0.11	< 0.12	< 0.12

NOTES

1. All results expressed in milligrams per kilogram (mg/kg)
2. NC = No toxicity criteria for this exposure route
3. NA = Not Analyzed
4. Metropolitan Statistical Areas (MSA) as defined in Board Note, 35 IAC 742. Appendix A, Table G)

Bold Italicized	Sample result above CCDD Metropolitan Statistical Areas (MSA) County MAC Values.
Bold	Sample result above CCDD City of Chicago MAC Values.
Bold Italicized	Sample result above CCDD Non-MSA County MAC Values.

TABLE 2b
Soil Analytical Results
SVOCs Compared to CCDD MAC Values

	CCDD MAC Values			Sample	WC-3	WC-4	WC-6	WC-7
	MSA County	*City of Chicago*	*Non-MSA County*	**Date**	9/22/2023	9/22/2023	9/22/2023	9/22/2023
				Depth (ft)	1-2	2-3	3-4	2-3
SVOCs								
Aniline	NC				< 0.40	< 0.41	< 0.40	< 0.40
Benzidine	NC				< 0.40	< 0.41	< 0.39	< 0.40
Benzoic acid	400				< 0.99	< 1.0	< 0.99	< 1.0
Benzyl alcohol	NC				< 0.20	< 0.21	< 0.20	< 0.21
Bis(2-chloroethoxy)methane	NC				< 0.20	< 0.21	< 0.20	< 0.21
Bis(2-chloroethyl)ether	0.66				< 0.20	< 0.21	< 0.20	< 0.21
Bis(2-ethylhexyl)phthalate	46				< 0.99	< 1.0	< 0.99	< 1.0
4-Bromophenyl phenyl ether	NC				< 0.20	< 0.21	< 0.20	< 0.21
Butyl benzyl phthalate	930				< 0.20	< 0.21	< 0.20	< 0.21
Carbazole	0.6				< 0.20	< 0.21	< 0.20	< 0.21
4-Chloroaniline	0.7				< 0.20	< 0.21	< 0.20	< 0.21
4-Chloro-3-methylphenol	NC				< 0.40	< 0.41	< 0.39	< 0.40
2-Chloronaphthalene	NC				< 0.20	< 0.21	< 0.20	< 0.21
2-Chlorophenol	1.5				< 0.20	< 0.21	< 0.20	< 0.21
4-Chlorophenyl phenyl ether	NC				< 0.20	< 0.21	< 0.20	< 0.21
Dibenzofuran	NC				< 0.20	< 0.21	< 0.20	< 0.21
1,2-Dichlorobenzene	17				< 0.20	< 0.21	< 0.20	< 0.21
1,3-Dichlorobenzene	NC				< 0.20	< 0.21	< 0.20	< 0.21
1,4-Dichlorobenzene	2				< 0.20	< 0.21	< 0.20	< 0.21
3,3´-Dichlorobenzidine	1.3				< 0.20	< 0.21	< 0.20	< 0.21
2,4-Dichlorophenol	0.48				< 0.20	< 0.21	< 0.20	< 0.21
Diethyl phthalate	470				< 0.20	< 0.21	< 0.20	< 0.21
2,4-Dimethylphenol	9				< 0.20	< 0.21	< 0.20	< 0.21
Dimethyl phthalate	NC				< 0.20	< 0.21	< 0.20	< 0.21
4,6-Dinitro-2-methylphenol	NC				< 0.20	< 0.21	< 0.20	< 0.21
2,4-Dinitrophenol	3.3				< 0.20	< 0.21	< 0.20	< 0.21
2,4-Dinitrotoluene	0.25				< 0.40	< 0.41	< 0.39	< 0.40
2,6-Dinitrotoluene	0.26				< 0.99	< 1.0	< 0.99	< 1.0
Di-n-butyl phthalate	2300				< 0.040	< 0.041	< 0.039	< 0.040
Di-n-octyl phthalate	1600				< 0.040	< 0.041	< 0.039	< 0.040
Hexachlorobenzene	0.4				< 0.20	< 0.21	< 0.20	< 0.21
Hexachlorobutadiene	NC				< 0.20	< 0.21	< 0.20	< 0.21
Hexachlorocyclopentadiene	1.1				< 0.20	< 0.21	< 0.20	< 0.21
Hexachloroethane	0.5				< 0.20	< 0.21	< 0.20	< 0.21
Isophorone	8				< 0.20	< 0.21	< 0.20	< 0.21
2-Methylnaphthalene	NC				< 0.20	< 0.21	< 0.20	< 0.21
2-Methylphenol	15				< 0.20	< 0.21	< 0.20	< 0.21
4-Methylphenol	NC				< 0.20	< 0.21	< 0.20	< 0.21
2-Nitroaniline	NC				< 0.20	< 0.21	< 0.20	< 0.21
3-Nitroaniline	NC				< 0.20	< 0.21	< 0.20	< 0.21
4-Nitroaniline	NC				< 0.20	< 0.21	< 0.20	< 0.21
2-Nitrophenol	NC				< 0.20	< 0.21	< 0.20	< 0.21
4-Nitrophenol	NC				< 0.040	< 0.041	< 0.039	< 0.040
Nitrobenzene	0.26				< 0.20	< 0.21	< 0.20	< 0.21
N-Nitrosodi-n-propylamine	0.0018				< 0.40	< 0.41	< 0.39	< 0.40
N-Nitrosodimethylamine	NC				< 0.20	< 0.21	< 0.20	< 0.21
N-Nitrosodiphenylamine	1				< 0.040	< 0.041	< 0.039	< 0.040
2, 2'-oxybis(1-Chloropropane)	NC				< 0.040	< 0.041	< 0.039	< 0.040
Pentachlorophenol	0.02				< 0.040	< 0.041	< 0.039	< 0.040
Phenol	100				< 0.20	< 0.21	< 0.20	< 0.21
Pyridine	NC				< 0.80	< 0.83	< 0.80	< 0.81
1,2,4-Trichlorobenzene	5				< 0.20	< 0.21	< 0.20	< 0.21
2,4,5-Trichlorophenol	26				< 0.20	< 0.21	< 0.20	< 0.21
2,4,6-Trichlorophenol	0.66				< 0.20	< 0.21	< 0.20	< 0.21

NOTES

1. All results expressed in milligrams per kilogram (mg/kg)
2. NC = No toxicity criteria for this exposure route
3. NA = Not Analyzed
4. Metropolitan Statistical Areas (MSA) as defined in Board Note, 35 IAC 742. Appendix A, Table G)

Bold Italicized	Sample result above CCDD Metropolitan Statistical Areas (MSA) County MAC Values.
Bold	Sample result above CCDD City of Chicago MAC Values.
Bold Italicized	Sample result above CCDD Non-MSA County MAC Values.

TABLE 2c
Soil Analytical Results
PNAs Compared to CCDD MAC Values

	CCDD MAC Values				Sample	WC-3	WC-4	WC-6	WC-7
	Populated MSA [4]	*City of Chicago* [5]	*Populated Non-MSA* [6]	*Non-Populated* [7]	**Date**	9/22/2023	9/22/2023	9/22/2023	9/22/2023
					Depth (ft)	1-2	2-3	3-4	2-3
PNAs									
Acenaphthene	570					< 0.040	< 0.041	< 0.039	< 0.040
Acenaphthylene	85					< 0.040	< 0.041	< 0.039	< 0.040
Anthracene	12,000					< 0.040	< 0.041	< 0.039	< 0.040
Benzo(a)anthracene	1.8	1.1	0.9			< 0.040	< 0.041	< 0.039	< 0.040
Benzo(a)pyrene	2.1	1.3	0.98	0.09		< 0.040	< 0.041	< 0.039	< 0.040
Benzo(b)fluoranthene	2.1	1.5	0.9			< 0.040	< 0.041	< 0.039	< 0.040
Benzo(g,h,i)perylene	2,300					< 0.040	< 0.041	< 0.039	< 0.040
Benzo(k)fluoranthene	9					< 0.040	< 0.041	< 0.039	< 0.040
Chrysene	88					< 0.040	< 0.041	< 0.039	< 0.040
Dibenzo(a,h)anthracene	0.42	0.2	0.15	0.09		< 0.040	< 0.041	< 0.039	< 0.040
Fluoranthene	3,100					< 0.040	< 0.041	< 0.039	< 0.040
Fluorene	560					< 0.040	< 0.041	< 0.039	< 0.040
Indeno(1,2,3-cd)pyrene	1.6	0.9				< 0.040	< 0.041	< 0.039	< 0.040
Naphthalene	1.8					< 0.040	< 0.041	< 0.039	< 0.040
Phenanthrene	210					< 0.040	< 0.041	< 0.039	< 0.040
Pyrene	2,300					< 0.040	< 0.041	< 0.039	< 0.040

NOTES

1. All results expressed in milligrams per kilogram (mg/kg)
2. NC = No toxicity criteria for this exposure route
3. NA = Not Analyzed
4. Populated MSA = populated area in a MSA excluding Chicago
5. City of Chicago = Chicago corporate limits
6. Populated Non-MSA = populated area in a non-MSA county
7. Non-Populated = outside a populated area
8. Metropolitan Statistical Areas (MSA) as defined in Board Note, 35 IAC 742. Appendix A, Table G)

Bold Italicized	Sample result above CCDD Populated Metropolitan Statistical Areas (MSA) County MAC Values.
Bold	Sample result above CCDD City of Chicago MAC Values.
Bold Italicized	Sample result above CCDD Populated Non-MSA County MAC Values.
Bold	Sample result above CCDD Non-Populated Area MAC Values.

TABLE 2d
Soil Analytical Results
Inorganics and pH Compared to CCDD MAC Values

	CCDD MAC Values			Sample	WC-1	WC-2	WC-3	WC-4	WC-5	WC-6	WC-7
	MSA County	*City of Chic*	*Non-MSA County*	**Date**	9/22/2023	9/22/2023	9/22/2023	9/22/2023	9/22/2023	9/22/2023	9/22/2023
				Depth (ft)	2-3	3-4	1-2	2-3	2-3	3-4	2-3
Inorganics (mg/kg)											
Aluminum	9,500		9,200		NA	NA	**18000***	**20000***	NA	**21000***	**23000***
Antimony	5				NA	NA	< 2.4	< 2.4	NA	< 2.2	< 2.3
Arsenic	13		11.3		NA	NA	8.3	11	NA	***14***	9.7
Barium	1,500				NA	NA	240	190	NA	210	290
Beryllium	22				NA	NA	1	1.1	NA	1.3	1.3
Cadmium	5.2				NA	NA	< 0.59	< 0.59	NA	< 0.54	< 0.58
Calcium	NC				NA	NA	8000	5700	NA	7800	8400
Chromium	21				NA	NA	**23***	**26***	NA	**30***	**29***
Cobalt	20				NA	NA	11	16	NA	17	8.1
Copper	2,900				NA	NA	15	23	NA	31	22
Cyanide	40				NA	NA	< 0.61	< 0.63	NA	< 0.60	< 0.61
Iron	15,900		15,000		NA	NA	**24000***	**28000***	NA	**34000***	**30000***
Lead	107				NA	NA	21	23	NA	24	24
Magnesium	325,000				NA	NA	5300	5400	NA	7200	6700
Manganese	636		630		NA	NA	**830***	**920***	NA	**1200***	380
Mercury (Total)	0.89				NA	NA	< 0.046	< 0.038	NA	< 0.045	< 0.043
Nickel	100				NA	NA	18	28	NA	48	21
Potassium	NC				NA	NA	1100	1200	NA	1200	980
Selenium	1.3				NA	NA	< 1.2	< 1.2	NA	< 1.1	< 1.2
Silver	4.4				NA	NA	< 1.2	< 1.2	NA	< 1.1	< 1.2
Sodium	NC				NA	NA	120	470	NA	230	160
Thallium	2.6				NA	NA	< 1.2	< 1.2	NA	< 1.1	< 1.2
Vanadium	550				NA	NA	43	44	NA	50	45
Zinc	5,100				NA	NA	65	68	NA	74	78
pH	6.25-9.0				7.36	7.57	7.90	7.77	7.74	7.75	7.75
TCLP (mg/L)											
Aluminum	3.5				NA	NA	NA	NA	NA	NA	<0.10
Chromium	0.1				NA	NA	NA	NA	NA	<0.010	NA
Iron	5				NA	NA	NA	NA	NA	<0.25	NA
Manganese	0.15				NA	NA	NA	NA	NA	<0.056	NA

NOTES
1. NC = No toxicity criteria for this exposure route
2. NA = Not Analyzed
3. **Bold*** = Excluded under footnote m of the MAC Table
4. Metropolitan Statistical Areas (MSA) as defined in Board Note, 35 IAC

Bold Italicized	Sample result above CCDD Metropolitan Statistical Areas (MSA) County MAC Values.
Bold	Sample result above CCDD City of Chicago MAC Values.
Bold Italicized	Sample result above CCDD Non-MSA County MAC Values.
	Sample result out of pH range for CCDD MAC Values.

TABLE 2e
Soil Analytical Results
Pesticides, Herbicides, and PCBs Compared to CCDD MAC Values

	CCDD MAC Values			Sample	WC-3	WC-4	WC-6	WC-7
	MSA County	*City of Chicago*	*Non-MSA County*	**Date**	9/22/2023	9/22/2023	9/22/2023	9/22/2023
				Depth (ft)	1-2	2-3	3-4	2-3
Pesticides								
4,4´-DDD	3				< 0.0019	< 0.0020	< 0.0019	< 0.0019
4,4´-DDE	2				< 0.0019	< 0.0020	< 0.0019	< 0.0019
4,4´-DDT	2				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Aldrin	0.94				< 0.0019	< 0.0020	< 0.0019	< 0.0019
alpha-BHC	0.0074				< 0.0019	< 0.0020	< 0.0019	< 0.0019
alpha-Chlordane	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
beta-BHC	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Chlordane	1.8				< 0.019	< 0.020	< 0.019	< 0.019
delta-BHC	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Dieldrin	0.603				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Endosulfan I	18				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Endosulfan II	18				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Endosulfan sulfate	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Endrin	1				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Endrin aldehyde	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Endrin ketone	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
gamma-BHC	0.009				< 0.0019	< 0.0020	< 0.0019	< 0.0019
gamma-Chlordane	NC				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Heptachlor	0.871				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Heptachlor epoxide	1.005				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Methoxychlor	160				< 0.0019	< 0.0020	< 0.0019	< 0.0019
Toxaphene	0.6				< 0.040	< 0.040	< 0.039	< 0.040
PCBs								
Aroclor 1016	NC				< 0.097	< 0.098	< 0.093	< 0.096
Aroclor 1221	NC				< 0.097	< 0.098	< 0.093	< 0.096
Aroclor 1232	NC				< 0.097	< 0.098	< 0.093	< 0.096
Aroclor 1242	NC				< 0.097	< 0.098	< 0.093	< 0.096
Aroclor 1248	NC				< 0.097	< 0.098	< 0.093	< 0.096
Aroclor 1254	NC				< 0.097	< 0.098	< 0.093	< 0.096
Aroclor 1260	NC				< 0.097	< 0.098	< 0.093	< 0.096
Total PCBs	1				ND	ND	ND	ND

NOTES

1. All results expressed in milligrams per kilogram (mg/kg)
2. NC = No toxicity criteria for this exposure route
3. NA = Not Analyzed
4. ND = Not Detected at the reporting limit
5. Metropolitan Statistical Areas (MSA) as defined in Board Note, 35 IAC 742. Appendix A, Table G)

Bold Italicized	Sample result above CCDD Metropolitan Statistical Areas (MSA) County MAC Values.
Bold	Sample result above CCDD City of Chicago MAC Values.
Bold Italicized	Sample result above CCDD Non-MSA County MAC Values.

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
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December 13, 2023

GSG Consultants, Inc.
735 Remington Road
Schaumburg, IL 60173
Telephone: (630) 994-2600
Fax: (630) 994-2699

Analytical Report for Work Order: 23090654 Revision 1

RE: 23-2008, Wolf's Crossing, Wolf's Crossing Road

Dear GSG Consultants, Inc.:

Sterling Labs received 7 samples for the referenced project on 9/22/2023 12:44:00 PM. The analytical results are presented in the following report.

This report is revised to reflect additional analysis requested after the last report revision.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / TNI standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Craig Chawla
Project Manager

Date: December 13, 2023

Customer: GSG Consultants, Inc.
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Work Order: 23090654 Revision 1

Work Order Sample Summary

Lab Sample ID	Customer Sample ID	Tag Number	Collection Date	Date Received
23090654-001A	WC-1		9/22/2023 9:00:00 AM	9/22/2023
23090654-002A	WC-2		9/22/2023 9:30:00 AM	9/22/2023
23090654-003A	WC-3		9/22/2023 9:45:00 AM	9/22/2023
23090654-003B	WC-3		9/22/2023 9:45:00 AM	9/22/2023
23090654-004A	WC-4		9/22/2023 10:00:00 AM	9/22/2023
23090654-004B	WC-4		9/22/2023 10:00:00 AM	9/22/2023
23090654-005A	WC-5		9/22/2023 10:30:00 AM	9/22/2023
23090654-006A	WC-6		9/22/2023 11:00:00 AM	9/22/2023
23090654-006B	WC-6		9/22/2023 11:00:00 AM	9/22/2023
23090654-007A	WC-7		9/22/2023 11:25:00 AM	9/22/2023
23090654-007B	WC-7		9/22/2023 11:25:00 AM	9/22/2023

sterling labs
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 Info@TheSterlingLab.com

Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-1
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 9:00:00 AM
Lab ID: 23090654-001A **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.36			pH Units	1	9/25/2023

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-2
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 9:30:00 AM
Lab ID: 23090654-002A
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.57			pH Units	1	9/25/2023

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-3
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 9:45:00 AM
Lab ID: 23090654-003A
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **9/22/2023**		Analyst: **EGH**
IEPA ELAP 100445						
Acetone	ND	0.11		mg/Kg-dry	1	9/27/2023
Benzene	ND	0.0075		mg/Kg-dry	1	9/27/2023
Bromodichloromethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
Bromoform	ND	0.0075		mg/Kg-dry	1	9/27/2023
Bromomethane	ND	0.015		mg/Kg-dry	1	9/27/2023
2-Butanone	ND	0.11		mg/Kg-dry	1	9/27/2023
Carbon disulfide	ND	0.075		mg/Kg-dry	1	9/27/2023
Carbon tetrachloride	ND	0.0075		mg/Kg-dry	1	9/27/2023
Chlorobenzene	ND	0.0075		mg/Kg-dry	1	9/27/2023
Chloroethane	ND	0.015		mg/Kg-dry	1	9/27/2023
Chloroform	ND	0.0075		mg/Kg-dry	1	9/27/2023
Chloromethane	ND	0.015		mg/Kg-dry	1	9/27/2023
Dibromochloromethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,2-Dichloroethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethene	ND	0.0075		mg/Kg-dry	1	9/27/2023
cis-1,2-Dichloroethene	ND	0.0075		mg/Kg-dry	1	9/27/2023
trans-1,2-Dichloroethene	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,2-Dichloropropane	ND	0.0075		mg/Kg-dry	1	9/27/2023
cis-1,3-Dichloropropene	ND	0.0030		mg/Kg-dry	1	9/27/2023
trans-1,3-Dichloropropene	ND	0.0030		mg/Kg-dry	1	9/27/2023
Ethylbenzene	ND	0.0075		mg/Kg-dry	1	9/27/2023
2-Hexanone	ND	0.030		mg/Kg-dry	1	9/27/2023
4-Methyl-2-pentanone	ND	0.030		mg/Kg-dry	1	9/27/2023
Methylene chloride	ND	0.015		mg/Kg-dry	1	9/27/2023
Methyl tert-butyl ether	ND	0.0075		mg/Kg-dry	1	9/27/2023
Styrene	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,1,2,2-Tetrachloroethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
Tetrachloroethene	ND	0.0075		mg/Kg-dry	1	9/27/2023
Toluene	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,1,1-Trichloroethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
1,1,2-Trichloroethane	ND	0.0075		mg/Kg-dry	1	9/27/2023
Trichloroethene	ND	0.0075		mg/Kg-dry	1	9/27/2023
Vinyl chloride	ND	0.0075		mg/Kg-dry	1	9/27/2023
Xylenes, Total	ND	0.023		mg/Kg-dry	1	9/27/2023

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-3
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 9:45:00 AM
Lab ID: 23090654-003B
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **TEM**
IEPA ELAP 100445						
Acenaphthene	ND	0.040		mg/Kg-dry	1	9/27/2023
Acenaphthylene	ND	0.040		mg/Kg-dry	1	9/27/2023
Aniline	ND	0.40		mg/Kg-dry	1	9/27/2023
Anthracene	ND	0.040		mg/Kg-dry	1	9/27/2023
Benz(a)anthracene	ND	0.040		mg/Kg-dry	1	9/27/2023
Benzidine	ND	0.40		mg/Kg-dry	1	9/27/2023
Benzo(a)pyrene	ND	0.040		mg/Kg-dry	1	9/27/2023
Benzo(b)fluoranthene	ND	0.040		mg/Kg-dry	1	9/27/2023
Benzo(g,h,i)perylene	ND	0.040		mg/Kg-dry	1	9/27/2023
Benzo(k)fluoranthene	ND	0.040		mg/Kg-dry	1	9/27/2023
Benzoic acid	ND	0.99		mg/Kg-dry	1	9/27/2023
Benzyl alcohol	ND	0.20		mg/Kg-dry	1	9/27/2023
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg-dry	1	9/27/2023
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg-dry	1	9/27/2023
Bis(2-ethylhexyl)phthalate	ND	0.99		mg/Kg-dry	1	9/27/2023
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	9/27/2023
Butyl benzyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
Carbazole	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Chloroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Chloro-3-methylphenol	ND	0.40		mg/Kg-dry	1	9/27/2023
2-Chloronaphthalene	ND	0.20		mg/Kg-dry	1	9/27/2023
2-Chlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	9/27/2023
2, 2'-oxybis(1-Chloropropane)	ND	0.20		mg/Kg-dry	1	9/27/2023
Chrysene	ND	0.040		mg/Kg-dry	1	9/27/2023
Dibenz(a,h)anthracene	ND	0.040		mg/Kg-dry	1	9/27/2023
Dibenzofuran	ND	0.20		mg/Kg-dry	1	9/27/2023
1,2-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
1,3-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
1,4-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
3,3´-Dichlorobenzidine	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4-Dichlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Diethyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
Dimethyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4-Dimethylphenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Di-n-butyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
4,6-Dinitro-2-methylphenol	ND	0.40		mg/Kg-dry	1	9/27/2023
2,4-Dinitrophenol	ND	0.99		mg/Kg-dry	1	9/27/2023
2,4-Dinitrotoluene	ND	0.040		mg/Kg-dry	1	9/27/2023
2,6-Dinitrotoluene	ND	0.040		mg/Kg-dry	1	9/27/2023

Qualifiers:
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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-3
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 9:45:00 AM
Lab ID: 23090654-003B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **TEM**
IEPA ELAP 100445						
Di-n-octyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
Fluoranthene	ND	0.040		mg/Kg-dry	1	9/27/2023
Fluorene	ND	0.040		mg/Kg-dry	1	9/27/2023
Hexachlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
Hexachlorobutadiene	ND	0.20		mg/Kg-dry	1	9/27/2023
Hexachlorocyclopentadiene	ND	0.20		mg/Kg-dry	1	9/27/2023
Hexachloroethane	ND	0.20		mg/Kg-dry	1	9/27/2023
Indeno(1,2,3-cd)pyrene	ND	0.040		mg/Kg-dry	1	9/27/2023
Isophorone	ND	0.20		mg/Kg-dry	1	9/27/2023
2-Methylnaphthalene	ND	0.20		mg/Kg-dry	1	9/27/2023
2-Methylphenol	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Methylphenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Naphthalene	ND	0.040		mg/Kg-dry	1	9/27/2023
2-Nitroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
3-Nitroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Nitroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
Nitrobenzene	ND	0.040		mg/Kg-dry	1	9/27/2023
2-Nitrophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Nitrophenol	ND	0.40		mg/Kg-dry	1	9/27/2023
N-Nitrosodimethylamine	ND	0.20		mg/Kg-dry	1	9/27/2023
N-Nitrosodi-n-propylamine	ND	0.040		mg/Kg-dry	1	9/27/2023
N-Nitrosodiphenylamine	ND	0.040		mg/Kg-dry	1	9/27/2023
Pentachlorophenol	ND	0.040		mg/Kg-dry	1	9/27/2023
Phenanthrene	ND	0.040		mg/Kg-dry	1	9/27/2023
Phenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Pyrene	ND	0.040		mg/Kg-dry	1	9/27/2023
Pyridine	ND	0.80		mg/Kg-dry	1	9/27/2023
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4,5-Trichlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4,6-Trichlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
PCBs	**SW8082A (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
Aroclor 1016	ND	0.097		mg/Kg-dry	1	9/28/2023
Aroclor 1221	ND	0.097		mg/Kg-dry	1	9/28/2023
Aroclor 1232	ND	0.097		mg/Kg-dry	1	9/28/2023
Aroclor 1242	ND	0.097		mg/Kg-dry	1	9/28/2023
Aroclor 1248	ND	0.097		mg/Kg-dry	1	9/28/2023
Aroclor 1254	ND	0.097		mg/Kg-dry	1	9/28/2023
Aroclor 1260	ND	0.097		mg/Kg-dry	1	9/28/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-3
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 9:45:00 AM
Lab ID: 23090654-003B
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides	**SW8081B (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
4,4´-DDD	ND	0.0019		mg/Kg-dry	1	9/28/2023
4,4´-DDE	ND	0.0019		mg/Kg-dry	1	9/28/2023
4,4´-DDT	ND	0.0019		mg/Kg-dry	1	9/28/2023
Aldrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
alpha-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
alpha-Chlordane	ND	0.0019		mg/Kg-dry	1	9/28/2023
beta-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
Chlordane	ND	0.019		mg/Kg-dry	1	9/28/2023
delta-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
Dieldrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan I	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan II	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan sulfate	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin aldehyde	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin ketone	ND	0.0019		mg/Kg-dry	1	9/28/2023
gamma-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
gamma-Chlordane	ND	0.0019		mg/Kg-dry	1	9/28/2023
Heptachlor	ND	0.0019		mg/Kg-dry	1	9/28/2023
Heptachlor epoxide	ND	0.0019		mg/Kg-dry	1	9/28/2023
Methoxychlor	ND	0.0019		mg/Kg-dry	1	9/28/2023
Toxaphene	ND	0.040		mg/Kg-dry	1	9/28/2023
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Aluminum	18000	24		mg/Kg-dry	10	9/28/2023
Antimony	ND	2.4		mg/Kg-dry	10	9/28/2023
Arsenic	8.3	1.2		mg/Kg-dry	10	9/28/2023
Barium	240	1.2		mg/Kg-dry	10	9/28/2023
Beryllium	1.0	0.59		mg/Kg-dry	10	9/28/2023
Cadmium	ND	0.59		mg/Kg-dry	10	9/28/2023
Calcium	8000	71		mg/Kg-dry	10	9/28/2023
Chromium	23	1.2		mg/Kg-dry	10	9/28/2023
Cobalt	11	1.2		mg/Kg-dry	10	9/28/2023
Copper	15	3.0		mg/Kg-dry	10	9/28/2023
Iron	24000	35		mg/Kg-dry	10	9/28/2023
Lead	21	0.59		mg/Kg-dry	10	9/28/2023
Magnesium	5300	35		mg/Kg-dry	10	9/28/2023
Manganese	830	1.2		mg/Kg-dry	10	9/28/2023
Nickel	18	1.2		mg/Kg-dry	10	9/28/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-3
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 9:45:00 AM
Lab ID: 23090654-003B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Potassium	1100	35		mg/Kg-dry	10	9/28/2023
Selenium	ND	1.2		mg/Kg-dry	10	9/28/2023
Silver	ND	1.2	*	mg/Kg-dry	10	9/28/2023
Sodium	120	71		mg/Kg-dry	10	9/28/2023
Thallium	ND	1.2		mg/Kg-dry	10	9/28/2023
Vanadium	43	1.2		mg/Kg-dry	10	9/28/2023
Zinc	65	5.9		mg/Kg-dry	10	9/28/2023
Mercury	**SW7471B**			Prep Date: **9/25/2023**		Analyst: **SH**
IEPA ELAP 100445						
Mercury	ND	0.046		mg/Kg-dry	1	9/25/2023
Cyanide, Total	**SW9012A**			Prep Date: **9/25/2023**		Analyst: **MD**
IEPA ELAP 100445						
Cyanide	ND	0.61		mg/Kg-dry	1	9/25/2023
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.90			pH Units	1	9/25/2023
Percent Moisture	**D2974**			Prep Date: **9/25/2023**		Analyst: **EPD**
Percent Moisture	17.7	0.2	*	wt%	1	9/26/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-4
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 10:00:00 AM
Lab ID: 23090654-004A
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **9/22/2023**		Analyst: **EGH**
IEPA ELAP 100445						
Acetone	ND	0.11		mg/Kg-dry	1	9/27/2023
Benzene	ND	0.0073		mg/Kg-dry	1	9/27/2023
Bromodichloromethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
Bromoform	ND	0.0073		mg/Kg-dry	1	9/27/2023
Bromomethane	ND	0.015		mg/Kg-dry	1	9/27/2023
2-Butanone	ND	0.11		mg/Kg-dry	1	9/27/2023
Carbon disulfide	ND	0.073		mg/Kg-dry	1	9/27/2023
Carbon tetrachloride	ND	0.0073		mg/Kg-dry	1	9/27/2023
Chlorobenzene	ND	0.0073		mg/Kg-dry	1	9/27/2023
Chloroethane	ND	0.015		mg/Kg-dry	1	9/27/2023
Chloroform	ND	0.0073		mg/Kg-dry	1	9/27/2023
Chloromethane	ND	0.015		mg/Kg-dry	1	9/27/2023
Dibromochloromethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,2-Dichloroethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethene	ND	0.0073		mg/Kg-dry	1	9/27/2023
cis-1,2-Dichloroethene	ND	0.0073		mg/Kg-dry	1	9/27/2023
trans-1,2-Dichloroethene	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,2-Dichloropropane	ND	0.0073		mg/Kg-dry	1	9/27/2023
cis-1,3-Dichloropropene	ND	0.0029		mg/Kg-dry	1	9/27/2023
trans-1,3-Dichloropropene	ND	0.0029		mg/Kg-dry	1	9/27/2023
Ethylbenzene	ND	0.0073		mg/Kg-dry	1	9/27/2023
2-Hexanone	ND	0.029		mg/Kg-dry	1	9/27/2023
4-Methyl-2-pentanone	ND	0.029		mg/Kg-dry	1	9/27/2023
Methylene chloride	ND	0.015		mg/Kg-dry	1	9/27/2023
Methyl tert-butyl ether	ND	0.0073		mg/Kg-dry	1	9/27/2023
Styrene	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,1,2,2-Tetrachloroethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
Tetrachloroethene	ND	0.0073		mg/Kg-dry	1	9/27/2023
Toluene	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,1,1-Trichloroethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
1,1,2-Trichloroethane	ND	0.0073		mg/Kg-dry	1	9/27/2023
Trichloroethene	ND	0.0073		mg/Kg-dry	1	9/27/2023
Vinyl chloride	ND	0.0073		mg/Kg-dry	1	9/27/2023
Xylenes, Total	ND	0.022		mg/Kg-dry	1	9/27/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-4
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 10:00:00 AM
Lab ID: 23090654-004B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **9/27/2023**		Analyst: **TEM**	
IEPA ELAP 100445						
Acenaphthene	ND	0.041		mg/Kg-dry	1	9/27/2023
Acenaphthylene	ND	0.041		mg/Kg-dry	1	9/27/2023
Aniline	ND	0.41		mg/Kg-dry	1	9/27/2023
Anthracene	ND	0.041		mg/Kg-dry	1	9/27/2023
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	9/27/2023
Benzidine	ND	0.41		mg/Kg-dry	1	9/27/2023
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	9/27/2023
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	9/27/2023
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	9/27/2023
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	9/27/2023
Benzoic acid	ND	1.0		mg/Kg-dry	1	9/27/2023
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	9/27/2023
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	9/27/2023
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	9/27/2023
Bis(2-ethylhexyl)phthalate	ND	1.0		mg/Kg-dry	1	9/27/2023
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	9/27/2023
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	9/27/2023
Carbazole	ND	0.21		mg/Kg-dry	1	9/27/2023
4-Chloroaniline	ND	0.21		mg/Kg-dry	1	9/27/2023
4-Chloro-3-methylphenol	ND	0.41		mg/Kg-dry	1	9/27/2023
2-Chloronaphthalene	ND	0.21		mg/Kg-dry	1	9/27/2023
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	9/27/2023
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	9/27/2023
2, 2'-oxybis(1-Chloropropane)	ND	0.21		mg/Kg-dry	1	9/27/2023
Chrysene	ND	0.041		mg/Kg-dry	1	9/27/2023
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	9/27/2023
Dibenzofuran	ND	0.21		mg/Kg-dry	1	9/27/2023
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	9/27/2023
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	9/27/2023
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	9/27/2023
3,3´-Dichlorobenzidine	ND	0.21		mg/Kg-dry	1	9/27/2023
2,4-Dichlorophenol	ND	0.21		mg/Kg-dry	1	9/27/2023
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	9/27/2023
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	9/27/2023
2,4-Dimethylphenol	ND	0.21		mg/Kg-dry	1	9/27/2023
Di-n-butyl phthalate	ND	0.21		mg/Kg-dry	1	9/27/2023
4,6-Dinitro-2-methylphenol	ND	0.41		mg/Kg-dry	1	9/27/2023
2,4-Dinitrophenol	ND	1.0		mg/Kg-dry	1	9/27/2023
2,4-Dinitrotoluene	ND	0.041		mg/Kg-dry	1	9/27/2023
2,6-Dinitrotoluene	ND	0.041		mg/Kg-dry	1	9/27/2023

Qualifiers:
ND - Not Detected at the Reporting Limit
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Report Date: December 13, 2023
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Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-4
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 10:00:00 AM
Lab ID: 23090654-004B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **TEM**
IEPA ELAP 100445						
Di-n-octyl phthalate	ND	0.21		mg/Kg-dry	1	9/27/2023
Fluoranthene	ND	0.041		mg/Kg-dry	1	9/27/2023
Fluorene	ND	0.041		mg/Kg-dry	1	9/27/2023
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	9/27/2023
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	9/27/2023
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	9/27/2023
Hexachloroethane	ND	0.21		mg/Kg-dry	1	9/27/2023
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	9/27/2023
Isophorone	ND	0.21		mg/Kg-dry	1	9/27/2023
2-Methylnaphthalene	ND	0.21		mg/Kg-dry	1	9/27/2023
2-Methylphenol	ND	0.21		mg/Kg-dry	1	9/27/2023
4-Methylphenol	ND	0.21		mg/Kg-dry	1	9/27/2023
Naphthalene	ND	0.041		mg/Kg-dry	1	9/27/2023
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	9/27/2023
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	9/27/2023
4-Nitroaniline	ND	0.21		mg/Kg-dry	1	9/27/2023
Nitrobenzene	ND	0.041		mg/Kg-dry	1	9/27/2023
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	9/27/2023
4-Nitrophenol	ND	0.41		mg/Kg-dry	1	9/27/2023
N-Nitrosodimethylamine	ND	0.21		mg/Kg-dry	1	9/27/2023
N-Nitrosodi-n-propylamine	ND	0.041		mg/Kg-dry	1	9/27/2023
N-Nitrosodiphenylamine	ND	0.041		mg/Kg-dry	1	9/27/2023
Pentachlorophenol	ND	0.041		mg/Kg-dry	1	9/27/2023
Phenanthrene	ND	0.041		mg/Kg-dry	1	9/27/2023
Phenol	ND	0.21		mg/Kg-dry	1	9/27/2023
Pyrene	ND	0.041		mg/Kg-dry	1	9/27/2023
Pyridine	ND	0.83		mg/Kg-dry	1	9/27/2023
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	9/27/2023
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	9/27/2023
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	9/27/2023
PCBs	**SW8082A (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
Aroclor 1016	ND	0.098		mg/Kg-dry	1	9/28/2023
Aroclor 1221	ND	0.098		mg/Kg-dry	1	9/28/2023
Aroclor 1232	ND	0.098		mg/Kg-dry	1	9/28/2023
Aroclor 1242	ND	0.098		mg/Kg-dry	1	9/28/2023
Aroclor 1248	ND	0.098		mg/Kg-dry	1	9/28/2023
Aroclor 1254	ND	0.098		mg/Kg-dry	1	9/28/2023
Aroclor 1260	ND	0.098		mg/Kg-dry	1	9/28/2023

Qualifiers:
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2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 Info@TheSterlingLab.com

Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-4
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 10:00:00 AM
Lab ID: 23090654-004B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides	**SW8081B (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
4,4´-DDD	ND	0.0020		mg/Kg-dry	1	9/28/2023
4,4´-DDE	ND	0.0020		mg/Kg-dry	1	9/28/2023
4,4´-DDT	ND	0.0020		mg/Kg-dry	1	9/28/2023
Aldrin	ND	0.0020		mg/Kg-dry	1	9/28/2023
alpha-BHC	ND	0.0020		mg/Kg-dry	1	9/28/2023
alpha-Chlordane	ND	0.0020		mg/Kg-dry	1	9/28/2023
beta-BHC	ND	0.0020		mg/Kg-dry	1	9/28/2023
Chlordane	ND	0.020		mg/Kg-dry	1	9/28/2023
delta-BHC	ND	0.0020		mg/Kg-dry	1	9/28/2023
Dieldrin	ND	0.0020		mg/Kg-dry	1	9/28/2023
Endosulfan I	ND	0.0020		mg/Kg-dry	1	9/28/2023
Endosulfan II	ND	0.0020		mg/Kg-dry	1	9/28/2023
Endosulfan sulfate	ND	0.0020		mg/Kg-dry	1	9/28/2023
Endrin	ND	0.0020		mg/Kg-dry	1	9/28/2023
Endrin aldehyde	ND	0.0020		mg/Kg-dry	1	9/28/2023
Endrin ketone	ND	0.0020		mg/Kg-dry	1	9/28/2023
gamma-BHC	ND	0.0020		mg/Kg-dry	1	9/28/2023
gamma-Chlordane	ND	0.0020		mg/Kg-dry	1	9/28/2023
Heptachlor	ND	0.0020		mg/Kg-dry	1	9/28/2023
Heptachlor epoxide	ND	0.0020		mg/Kg-dry	1	9/28/2023
Methoxychlor	ND	0.0020		mg/Kg-dry	1	9/28/2023
Toxaphene	ND	0.040		mg/Kg-dry	1	9/28/2023
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Aluminum	20000	24		mg/Kg-dry	10	9/28/2023
Antimony	ND	2.4		mg/Kg-dry	10	9/28/2023
Arsenic	11	1.2		mg/Kg-dry	10	9/28/2023
Barium	190	1.2		mg/Kg-dry	10	9/28/2023
Beryllium	1.1	0.59		mg/Kg-dry	10	9/28/2023
Cadmium	ND	0.59		mg/Kg-dry	10	9/28/2023
Calcium	5700	71		mg/Kg-dry	10	9/28/2023
Chromium	26	1.2		mg/Kg-dry	10	9/28/2023
Cobalt	16	1.2		mg/Kg-dry	10	9/28/2023
Copper	23	3.0		mg/Kg-dry	10	9/28/2023
Iron	28000	35		mg/Kg-dry	10	9/28/2023
Lead	23	0.59		mg/Kg-dry	10	9/28/2023
Magnesium	5400	35		mg/Kg-dry	10	9/28/2023
Manganese	920	1.2		mg/Kg-dry	10	9/28/2023
Nickel	28	1.2		mg/Kg-dry	10	9/28/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-4
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 10:00:00 AM
Lab ID: 23090654-004B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Potassium	1200	35		mg/Kg-dry	10	9/28/2023
Selenium	ND	1.2		mg/Kg-dry	10	9/28/2023
Silver	ND	1.2	*	mg/Kg-dry	10	9/28/2023
Sodium	470	71		mg/Kg-dry	10	9/28/2023
Thallium	ND	1.2		mg/Kg-dry	10	9/28/2023
Vanadium	44	1.2		mg/Kg-dry	10	9/28/2023
Zinc	68	5.9		mg/Kg-dry	10	9/28/2023
Mercury	**SW7471B**			Prep Date: **9/25/2023**		Analyst: **SH**
IEPA ELAP 100445						
Mercury	ND	0.038		mg/Kg-dry	1	9/25/2023
Cyanide, Total	**SW9012A**			Prep Date: **9/25/2023**		Analyst: **MD**
IEPA ELAP 100445						
Cyanide	ND	0.63		mg/Kg-dry	1	9/25/2023
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.77			pH Units	1	9/25/2023
Percent Moisture	**D2974**			Prep Date: **9/25/2023**		Analyst: **EPD**
Percent Moisture	20.1	0.2	*	wt%	1	9/26/2023

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Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-5
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 10:30:00 AM
Lab ID: 23090654-005A
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.74			pH Units	1	9/25/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-6
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 11:00:00 AM
Lab ID: 23090654-006A
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **9/22/2023**		Analyst: **EGH**
IEPA ELAP 100445						
Acetone	ND	0.12		mg/Kg-dry	1	9/27/2023
Benzene	ND	0.0081		mg/Kg-dry	1	9/27/2023
Bromodichloromethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
Bromoform	ND	0.0081		mg/Kg-dry	1	9/27/2023
Bromomethane	ND	0.016		mg/Kg-dry	1	9/27/2023
2-Butanone	ND	0.12		mg/Kg-dry	1	9/27/2023
Carbon disulfide	ND	0.081		mg/Kg-dry	1	9/27/2023
Carbon tetrachloride	ND	0.0081		mg/Kg-dry	1	9/27/2023
Chlorobenzene	ND	0.0081		mg/Kg-dry	1	9/27/2023
Chloroethane	ND	0.016		mg/Kg-dry	1	9/27/2023
Chloroform	ND	0.0081		mg/Kg-dry	1	9/27/2023
Chloromethane	ND	0.016		mg/Kg-dry	1	9/27/2023
Dibromochloromethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,2-Dichloroethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethene	ND	0.0081		mg/Kg-dry	1	9/27/2023
cis-1,2-Dichloroethene	ND	0.0081		mg/Kg-dry	1	9/27/2023
trans-1,2-Dichloroethene	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,2-Dichloropropane	ND	0.0081		mg/Kg-dry	1	9/27/2023
cis-1,3-Dichloropropene	ND	0.0032		mg/Kg-dry	1	9/27/2023
trans-1,3-Dichloropropene	ND	0.0032		mg/Kg-dry	1	9/27/2023
Ethylbenzene	ND	0.0081		mg/Kg-dry	1	9/27/2023
2-Hexanone	ND	0.032		mg/Kg-dry	1	9/27/2023
4-Methyl-2-pentanone	ND	0.032		mg/Kg-dry	1	9/27/2023
Methylene chloride	ND	0.016		mg/Kg-dry	1	9/27/2023
Methyl tert-butyl ether	ND	0.0081		mg/Kg-dry	1	9/27/2023
Styrene	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,1,2,2-Tetrachloroethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
Tetrachloroethene	ND	0.0081		mg/Kg-dry	1	9/27/2023
Toluene	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,1,1-Trichloroethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
1,1,2-Trichloroethane	ND	0.0081		mg/Kg-dry	1	9/27/2023
Trichloroethene	ND	0.0081		mg/Kg-dry	1	9/27/2023
Vinyl chloride	ND	0.0081		mg/Kg-dry	1	9/27/2023
Xylenes, Total	ND	0.024		mg/Kg-dry	1	9/27/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-6
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 11:00:00 AM
Lab ID: 23090654-006B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **9/27/2023**		Analyst: **TEM**	
IEPA ELAP 100445						
Acenaphthene	ND	0.039		mg/Kg-dry	1	9/27/2023
Acenaphthylene	ND	0.039		mg/Kg-dry	1	9/27/2023
Aniline	ND	0.40		mg/Kg-dry	1	9/27/2023
Anthracene	ND	0.039		mg/Kg-dry	1	9/27/2023
Benz(a)anthracene	ND	0.039		mg/Kg-dry	1	9/27/2023
Benzidine	ND	0.39		mg/Kg-dry	1	9/27/2023
Benzo(a)pyrene	ND	0.039		mg/Kg-dry	1	9/27/2023
Benzo(b)fluoranthene	ND	0.039		mg/Kg-dry	1	9/27/2023
Benzo(g,h,i)perylene	ND	0.039		mg/Kg-dry	1	9/27/2023
Benzo(k)fluoranthene	ND	0.039		mg/Kg-dry	1	9/27/2023
Benzoic acid	ND	0.99		mg/Kg-dry	1	9/27/2023
Benzyl alcohol	ND	0.20		mg/Kg-dry	1	9/27/2023
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg-dry	1	9/27/2023
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg-dry	1	9/27/2023
Bis(2-ethylhexyl)phthalate	ND	0.99		mg/Kg-dry	1	9/27/2023
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	9/27/2023
Butyl benzyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
Carbazole	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Chloroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Chloro-3-methylphenol	ND	0.39		mg/Kg-dry	1	9/27/2023
2-Chloronaphthalene	ND	0.20		mg/Kg-dry	1	9/27/2023
2-Chlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	9/27/2023
2, 2'-oxybis(1-Chloropropane)	ND	0.20		mg/Kg-dry	1	9/27/2023
Chrysene	ND	0.039		mg/Kg-dry	1	9/27/2023
Dibenz(a,h)anthracene	ND	0.039		mg/Kg-dry	1	9/27/2023
Dibenzofuran	ND	0.20		mg/Kg-dry	1	9/27/2023
1,2-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
1,3-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
1,4-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
3,3´-Dichlorobenzidine	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4-Dichlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Diethyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
Dimethyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4-Dimethylphenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Di-n-butyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
4,6-Dinitro-2-methylphenol	ND	0.39		mg/Kg-dry	1	9/27/2023
2,4-Dinitrophenol	ND	0.99		mg/Kg-dry	1	9/27/2023
2,4-Dinitrotoluene	ND	0.039		mg/Kg-dry	1	9/27/2023
2,6-Dinitrotoluene	ND	0.039		mg/Kg-dry	1	9/27/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-6
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 11:00:00 AM
Lab ID: 23090654-006B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **TEM**
IEPA ELAP 100445						
Di-n-octyl phthalate	ND	0.20		mg/Kg-dry	1	9/27/2023
Fluoranthene	ND	0.039		mg/Kg-dry	1	9/27/2023
Fluorene	ND	0.039		mg/Kg-dry	1	9/27/2023
Hexachlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
Hexachlorobutadiene	ND	0.20		mg/Kg-dry	1	9/27/2023
Hexachlorocyclopentadiene	ND	0.20		mg/Kg-dry	1	9/27/2023
Hexachloroethane	ND	0.20		mg/Kg-dry	1	9/27/2023
Indeno(1,2,3-cd)pyrene	ND	0.039		mg/Kg-dry	1	9/27/2023
Isophorone	ND	0.20		mg/Kg-dry	1	9/27/2023
2-Methylnaphthalene	ND	0.20		mg/Kg-dry	1	9/27/2023
2-Methylphenol	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Methylphenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Naphthalene	ND	0.039		mg/Kg-dry	1	9/27/2023
2-Nitroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
3-Nitroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Nitroaniline	ND	0.20		mg/Kg-dry	1	9/27/2023
Nitrobenzene	ND	0.039		mg/Kg-dry	1	9/27/2023
2-Nitrophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
4-Nitrophenol	ND	0.39		mg/Kg-dry	1	9/27/2023
N-Nitrosodimethylamine	ND	0.20		mg/Kg-dry	1	9/27/2023
N-Nitrosodi-n-propylamine	ND	0.039		mg/Kg-dry	1	9/27/2023
N-Nitrosodiphenylamine	ND	0.039		mg/Kg-dry	1	9/27/2023
Pentachlorophenol	ND	0.039		mg/Kg-dry	1	9/27/2023
Phenanthrene	ND	0.039		mg/Kg-dry	1	9/27/2023
Phenol	ND	0.20		mg/Kg-dry	1	9/27/2023
Pyrene	ND	0.039		mg/Kg-dry	1	9/27/2023
Pyridine	ND	0.80		mg/Kg-dry	1	9/27/2023
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4,5-Trichlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
2,4,6-Trichlorophenol	ND	0.20		mg/Kg-dry	1	9/27/2023
PCBs	**SW8082A (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
Aroclor 1016	ND	0.093		mg/Kg-dry	1	9/28/2023
Aroclor 1221	ND	0.093		mg/Kg-dry	1	9/28/2023
Aroclor 1232	ND	0.093		mg/Kg-dry	1	9/28/2023
Aroclor 1242	ND	0.093		mg/Kg-dry	1	9/28/2023
Aroclor 1248	ND	0.093		mg/Kg-dry	1	9/28/2023
Aroclor 1254	ND	0.093		mg/Kg-dry	1	9/28/2023
Aroclor 1260	ND	0.093		mg/Kg-dry	1	9/28/2023

Qualifiers:
ND - Not Detected at the Reporting Limit
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Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-6
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 11:00:00 AM
Lab ID: 23090654-006B
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides	**SW8081B (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
4,4´-DDD	ND	0.0019		mg/Kg-dry	1	9/28/2023
4,4´-DDE	ND	0.0019		mg/Kg-dry	1	9/28/2023
4,4´-DDT	ND	0.0019		mg/Kg-dry	1	9/28/2023
Aldrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
alpha-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
alpha-Chlordane	ND	0.0019		mg/Kg-dry	1	9/28/2023
beta-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
Chlordane	ND	0.019		mg/Kg-dry	1	9/28/2023
delta-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
Dieldrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan I	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan II	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan sulfate	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin aldehyde	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin ketone	ND	0.0019		mg/Kg-dry	1	9/28/2023
gamma-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
gamma-Chlordane	ND	0.0019		mg/Kg-dry	1	9/28/2023
Heptachlor	ND	0.0019		mg/Kg-dry	1	9/28/2023
Heptachlor epoxide	ND	0.0019		mg/Kg-dry	1	9/28/2023
Methoxychlor	ND	0.0019		mg/Kg-dry	1	9/28/2023
Toxaphene	ND	0.039		mg/Kg-dry	1	9/28/2023
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Aluminum	21000	22		mg/Kg-dry	10	9/28/2023
Antimony	ND	2.2		mg/Kg-dry	10	9/28/2023
Arsenic	14	1.1		mg/Kg-dry	10	9/28/2023
Barium	210	1.1		mg/Kg-dry	10	9/28/2023
Beryllium	1.3	0.54		mg/Kg-dry	10	9/28/2023
Cadmium	ND	0.54		mg/Kg-dry	10	9/28/2023
Calcium	7800	65		mg/Kg-dry	10	9/28/2023
Chromium	30	1.1		mg/Kg-dry	10	9/28/2023
Cobalt	17	1.1		mg/Kg-dry	10	9/28/2023
Copper	31	2.7		mg/Kg-dry	10	9/28/2023
Iron	34000	33		mg/Kg-dry	10	9/28/2023
Lead	24	0.54		mg/Kg-dry	10	9/28/2023
Magnesium	7200	33		mg/Kg-dry	10	9/28/2023
Manganese	1200	1.1		mg/Kg-dry	10	9/28/2023
Nickel	48	1.1		mg/Kg-dry	10	9/28/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-6
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 11:00:00 AM
Lab ID: 23090654-006B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Potassium	1200	33		mg/Kg-dry	10	9/28/2023
Selenium	ND	1.1		mg/Kg-dry	10	9/28/2023
Silver	ND	1.1	*	mg/Kg-dry	10	9/28/2023
Sodium	230	65		mg/Kg-dry	10	9/28/2023
Thallium	ND	1.1		mg/Kg-dry	10	9/28/2023
Vanadium	50	1.1		mg/Kg-dry	10	9/28/2023
Zinc	74	5.4		mg/Kg-dry	10	9/28/2023
SPLP Metals by ICP/MS	**SW1312/6020A (SW3005A)**			Prep Date: **12/8/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Manganese	0.056	0.0040		mg/L	2	12/9/2023
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **12/8/2023**		Analyst: **JG**
IEPA ELAP 100445						
Chromium	ND	0.010		mg/L	5	12/10/2023
Iron	ND	0.25	*	mg/L	5	12/10/2023
Mercury	**SW7471B**			Prep Date: **9/25/2023**		Analyst: **SH**
IEPA ELAP 100445						
Mercury	ND	0.045		mg/Kg-dry	1	9/25/2023
Cyanide, Total	**SW9012A**			Prep Date: **9/25/2023**		Analyst: **MD**
IEPA ELAP 100445						
Cyanide	ND	0.60		mg/Kg-dry	1	9/25/2023
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.75			pH Units	1	9/25/2023
Percent Moisture	**D2974**			Prep Date: **9/25/2023**		Analyst: **EPD**
Percent Moisture	16.2	0.2	*	wt%	1	9/26/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-7
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 11:25:00 AM
Lab ID: 23090654-007A
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **9/22/2023**		Analyst: **EGH**
IEPA ELAP 100445						
Acetone	ND	0.12		mg/Kg-dry	1	9/27/2023
Benzene	ND	0.0077		mg/Kg-dry	1	9/27/2023
Bromodichloromethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
Bromoform	ND	0.0077		mg/Kg-dry	1	9/27/2023
Bromomethane	ND	0.015		mg/Kg-dry	1	9/27/2023
2-Butanone	ND	0.12		mg/Kg-dry	1	9/27/2023
Carbon disulfide	ND	0.077		mg/Kg-dry	1	9/27/2023
Carbon tetrachloride	ND	0.0077		mg/Kg-dry	1	9/27/2023
Chlorobenzene	ND	0.0077		mg/Kg-dry	1	9/27/2023
Chloroethane	ND	0.015		mg/Kg-dry	1	9/27/2023
Chloroform	ND	0.0077		mg/Kg-dry	1	9/27/2023
Chloromethane	ND	0.015		mg/Kg-dry	1	9/27/2023
Dibromochloromethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,2-Dichloroethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,1-Dichloroethene	ND	0.0077		mg/Kg-dry	1	9/27/2023
cis-1,2-Dichloroethene	ND	0.0077		mg/Kg-dry	1	9/27/2023
trans-1,2-Dichloroethene	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,2-Dichloropropane	ND	0.0077		mg/Kg-dry	1	9/27/2023
cis-1,3-Dichloropropene	ND	0.0031		mg/Kg-dry	1	9/27/2023
trans-1,3-Dichloropropene	ND	0.0031		mg/Kg-dry	1	9/27/2023
Ethylbenzene	ND	0.0077		mg/Kg-dry	1	9/27/2023
2-Hexanone	ND	0.031		mg/Kg-dry	1	9/27/2023
4-Methyl-2-pentanone	ND	0.031		mg/Kg-dry	1	9/27/2023
Methylene chloride	ND	0.015		mg/Kg-dry	1	9/27/2023
Methyl tert-butyl ether	ND	0.0077		mg/Kg-dry	1	9/27/2023
Styrene	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,1,2,2-Tetrachloroethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
Tetrachloroethene	ND	0.0077		mg/Kg-dry	1	9/27/2023
Toluene	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,1,1-Trichloroethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
1,1,2-Trichloroethane	ND	0.0077		mg/Kg-dry	1	9/27/2023
Trichloroethene	ND	0.0077		mg/Kg-dry	1	9/27/2023
Vinyl chloride	ND	0.0077		mg/Kg-dry	1	9/27/2023
Xylenes, Total	ND	0.023		mg/Kg-dry	1	9/27/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-7
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 11:25:00 AM
Lab ID: 23090654-007B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **9/27/2023**		Analyst: **TEM**	
IEPA ELAP 100445						
Acenaphthene	ND	0.040		mg/Kg-dry	1	9/28/2023
Acenaphthylene	ND	0.040		mg/Kg-dry	1	9/28/2023
Aniline	ND	0.40		mg/Kg-dry	1	9/28/2023
Anthracene	ND	0.040		mg/Kg-dry	1	9/28/2023
Benz(a)anthracene	ND	0.040		mg/Kg-dry	1	9/28/2023
Benzidine	ND	0.40		mg/Kg-dry	1	9/28/2023
Benzo(a)pyrene	ND	0.040		mg/Kg-dry	1	9/28/2023
Benzo(b)fluoranthene	ND	0.040		mg/Kg-dry	1	9/28/2023
Benzo(g,h,i)perylene	ND	0.040		mg/Kg-dry	1	9/28/2023
Benzo(k)fluoranthene	ND	0.040		mg/Kg-dry	1	9/28/2023
Benzoic acid	ND	1.0		mg/Kg-dry	1	9/28/2023
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	9/28/2023
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	9/28/2023
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	9/28/2023
Bis(2-ethylhexyl)phthalate	ND	1.0		mg/Kg-dry	1	9/28/2023
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	9/28/2023
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	9/28/2023
Carbazole	ND	0.21		mg/Kg-dry	1	9/28/2023
4-Chloroaniline	ND	0.21		mg/Kg-dry	1	9/28/2023
4-Chloro-3-methylphenol	ND	0.40		mg/Kg-dry	1	9/28/2023
2-Chloronaphthalene	ND	0.21		mg/Kg-dry	1	9/28/2023
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	9/28/2023
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	9/28/2023
2, 2'-oxybis(1-Chloropropane)	ND	0.21		mg/Kg-dry	1	9/28/2023
Chrysene	ND	0.040		mg/Kg-dry	1	9/28/2023
Dibenz(a,h)anthracene	ND	0.040		mg/Kg-dry	1	9/28/2023
Dibenzofuran	ND	0.21		mg/Kg-dry	1	9/28/2023
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	9/28/2023
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	9/28/2023
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	9/28/2023
3,3´-Dichlorobenzidine	ND	0.21		mg/Kg-dry	1	9/28/2023
2,4-Dichlorophenol	ND	0.21		mg/Kg-dry	1	9/28/2023
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	9/28/2023
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	9/28/2023
2,4-Dimethylphenol	ND	0.21		mg/Kg-dry	1	9/28/2023
Di-n-butyl phthalate	ND	0.21		mg/Kg-dry	1	9/28/2023
4,6-Dinitro-2-methylphenol	ND	0.40		mg/Kg-dry	1	9/28/2023
2,4-Dinitrophenol	ND	1.0		mg/Kg-dry	1	9/28/2023
2,4-Dinitrotoluene	ND	0.040		mg/Kg-dry	1	9/28/2023
2,6-Dinitrotoluene	ND	0.040		mg/Kg-dry	1	9/28/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-7
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 11:25:00 AM
Lab ID: 23090654-007B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **TEM**
IEPA ELAP 100445						
Di-n-octyl phthalate	ND	0.21		mg/Kg-dry	1	9/28/2023
Fluoranthene	ND	0.040		mg/Kg-dry	1	9/28/2023
Fluorene	ND	0.040		mg/Kg-dry	1	9/28/2023
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	9/28/2023
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	9/28/2023
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	9/28/2023
Hexachloroethane	ND	0.21		mg/Kg-dry	1	9/28/2023
Indeno(1,2,3-cd)pyrene	ND	0.040		mg/Kg-dry	1	9/28/2023
Isophorone	ND	0.21		mg/Kg-dry	1	9/28/2023
2-Methylnaphthalene	ND	0.21		mg/Kg-dry	1	9/28/2023
2-Methylphenol	ND	0.21		mg/Kg-dry	1	9/28/2023
4-Methylphenol	ND	0.21		mg/Kg-dry	1	9/28/2023
Naphthalene	ND	0.040		mg/Kg-dry	1	9/28/2023
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	9/28/2023
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	9/28/2023
4-Nitroaniline	ND	0.21		mg/Kg-dry	1	9/28/2023
Nitrobenzene	ND	0.040		mg/Kg-dry	1	9/28/2023
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	9/28/2023
4-Nitrophenol	ND	0.40		mg/Kg-dry	1	9/28/2023
N-Nitrosodimethylamine	ND	0.21		mg/Kg-dry	1	9/28/2023
N-Nitrosodi-n-propylamine	ND	0.040		mg/Kg-dry	1	9/28/2023
N-Nitrosodiphenylamine	ND	0.040		mg/Kg-dry	1	9/28/2023
Pentachlorophenol	ND	0.040		mg/Kg-dry	1	9/28/2023
Phenanthrene	ND	0.040		mg/Kg-dry	1	9/28/2023
Phenol	ND	0.21		mg/Kg-dry	1	9/28/2023
Pyrene	ND	0.040		mg/Kg-dry	1	9/28/2023
Pyridine	ND	0.81		mg/Kg-dry	1	9/28/2023
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	9/28/2023
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	9/28/2023
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	9/28/2023
PCBs	**SW8082A (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
Aroclor 1016	ND	0.096		mg/Kg-dry	1	9/28/2023
Aroclor 1221	ND	0.096		mg/Kg-dry	1	9/28/2023
Aroclor 1232	ND	0.096		mg/Kg-dry	1	9/28/2023
Aroclor 1242	ND	0.096		mg/Kg-dry	1	9/28/2023
Aroclor 1248	ND	0.096		mg/Kg-dry	1	9/28/2023
Aroclor 1254	ND	0.096		mg/Kg-dry	1	9/28/2023
Aroclor 1260	ND	0.096		mg/Kg-dry	1	9/28/2023

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Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc.
Customer Sample ID: WC-7
Work Order: 23090654 Revision 1
Tag Number:
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road
Collection Date: 9/22/2023 11:25:00 AM
Lab ID: 23090654-007B
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides	**SW8081B (SW3550B)**			Prep Date: **9/27/2023**		Analyst: **GVC**
IEPA ELAP 100445						
4,4´-DDD	ND	0.0019		mg/Kg-dry	1	9/28/2023
4,4´-DDE	ND	0.0019		mg/Kg-dry	1	9/28/2023
4,4´-DDT	ND	0.0019		mg/Kg-dry	1	9/28/2023
Aldrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
alpha-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
alpha-Chlordane	ND	0.0019		mg/Kg-dry	1	9/28/2023
beta-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
Chlordane	ND	0.019		mg/Kg-dry	1	9/28/2023
delta-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
Dieldrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan I	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan II	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endosulfan sulfate	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin aldehyde	ND	0.0019		mg/Kg-dry	1	9/28/2023
Endrin ketone	ND	0.0019		mg/Kg-dry	1	9/28/2023
gamma-BHC	ND	0.0019		mg/Kg-dry	1	9/28/2023
gamma-Chlordane	ND	0.0019		mg/Kg-dry	1	9/28/2023
Heptachlor	ND	0.0019		mg/Kg-dry	1	9/28/2023
Heptachlor epoxide	ND	0.0019		mg/Kg-dry	1	9/28/2023
Methoxychlor	ND	0.0019		mg/Kg-dry	1	9/28/2023
Toxaphene	ND	0.040		mg/Kg-dry	1	9/28/2023
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Aluminum	23000	23		mg/Kg-dry	10	9/28/2023
Antimony	ND	2.3		mg/Kg-dry	10	9/28/2023
Arsenic	9.7	1.2		mg/Kg-dry	10	9/28/2023
Barium	290	1.2		mg/Kg-dry	10	9/28/2023
Beryllium	1.3	0.58		mg/Kg-dry	10	9/28/2023
Cadmium	ND	0.58		mg/Kg-dry	10	9/28/2023
Calcium	8400	70		mg/Kg-dry	10	9/28/2023
Chromium	29	1.2		mg/Kg-dry	10	9/28/2023
Cobalt	8.1	1.2		mg/Kg-dry	10	9/28/2023
Copper	22	2.9		mg/Kg-dry	10	9/28/2023
Iron	30000	35		mg/Kg-dry	10	9/28/2023
Lead	24	0.58		mg/Kg-dry	10	9/28/2023
Magnesium	6700	35		mg/Kg-dry	10	9/28/2023
Manganese	380	1.2		mg/Kg-dry	10	9/28/2023
Nickel	21	1.2		mg/Kg-dry	10	9/28/2023

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

sterling labs
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 Info@TheSterlingLab.com

Report Date: December 13, 2023
Print Date: December 13, 2023

Analytical Results

Customer: GSG Consultants, Inc. **Customer Sample ID:** WC-7
Work Order: 23090654 Revision 1 **Tag Number:**
Project: 23-2008, Wolf's Crossing, Wolf's Crossing Road **Collection Date:** 9/22/2023 11:25:00 AM
Lab ID: 23090654-007B **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **9/28/2023**		Analyst: **MDS**
IEPA ELAP 100445						
Potassium	980	35		mg/Kg-dry	10	9/28/2023
Selenium	ND	1.2		mg/Kg-dry	10	9/28/2023
Silver	ND	1.2	*	mg/Kg-dry	10	9/28/2023
Sodium	160	70		mg/Kg-dry	10	9/28/2023
Thallium	ND	1.2		mg/Kg-dry	10	9/28/2023
Vanadium	45	1.2		mg/Kg-dry	10	9/28/2023
Zinc	78	5.8		mg/Kg-dry	10	9/28/2023
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **12/8/2023**		Analyst: **JG**
IEPA ELAP 100445						
Aluminum	ND	0.10		mg/L	5	12/10/2023
Mercury	**SW7471B**			Prep Date: **9/25/2023**		Analyst: **SH**
IEPA ELAP 100445						
Mercury	ND	0.043		mg/Kg-dry	1	9/25/2023
Cyanide, Total	**SW9012A**			Prep Date: **9/27/2023**		Analyst: **MD**
IEPA ELAP 100445						
Cyanide	ND	0.61		mg/Kg-dry	1	9/27/2023
pH (25 °C)	**SW9045C**			Prep Date: **9/25/2023**		Analyst: **LJ1**
IEPA ELAP 100445						
pH	7.75			pH Units	1	9/25/2023
Percent Moisture	**D2974**			Prep Date: **9/25/2023**		Analyst: **EPD**
Percent Moisture	18.2	0.2	*	wt%	1	9/26/2023

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis

2242 W. Harrison Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com

CHAIN OF CUSTODY RECORD

Nº: 93649 **Page :** 1 of 1

Company: GSG Consultants Inc.
Project Number: 23-2008 Client Tracking No.:
Project Name: Wolf's Crossing
Project Location: Wolf's Crossing Road
Sampler(s): EB / EA
Report To: ebarfield@gsg-consultants.com Phone: 630-940-7770 Fax:
QC Level: 1 ___ 2 ___ 3 ___ 4 ___ e-mail:

Quote No.:
P.O. No.:
Turn Around Time (Days): 1 2 3 4 5-7 10
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	pH	TCL	Additional Information:	Lab No.:
WC-1	9.22.23	9:00					1	X			001
WC-2		9:30					1	X			002
WC-3		9:45					4	X	X		003
WC-4		10:00					4	X	X		004
WC-5		10:30					1	X			005
WC-6		11:00					4	X	X		006
WC-7		11:25					4	X	X		007

Relinquished by: (Signature) Date/Time: 9.22.23
Received by: (Signature) Date/Time: 9-22-2023 12:44
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments:

Laboratory Work Order No.: 23090654

Received on Ice: Yes ☑ No ☐

Temperature: On Ice °C

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

sterling labs

Sample Receipt Checklist

Customer: GSG

Date and Time Received: 9/22/2023 12:44:00 PM

Work Order Number 23090654

Received by: JMH

Checklist completed by: _____ 9.22.2023 (Signature / Date)

Reviewed by: _____ 9/22/2023 (Initials / Date)

Matrix:

Carrier name: Client Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature On Ice °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☒	No ☒
Water - Samples pH checked?	Yes ☒	No ☒	Checked by: _____
Water - Samples properly preserved?	Yes ☒	No ☒	pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments: _____

Customer / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

FW: Work Order 23090654

Thaddeus Cagney <tcagney@gsg-consultants.com>
Wed 12/6/2023 11:16 AM
To:Craig Chawla <cchawla@TheSterlingLab.com>

Ted Cagney, LPG | **Project Manager**
Direct: 630.994.2608 Mobile: 708.712.6826
GSG Consultants, Inc.
735 Remington Road
Schaumburg, IL 60173

From: Heather Fitzgerald <hfitzgerald@gsg-consultants.com>
Sent: Tuesday, December 5, 2023 11:03 AM
To: Justice Kwateng <jkwateng@TheSterlingLab.com>
Cc: Thaddeus Cagney <tcagney@gsg-consultants.com>
Subject: RE: Work Order 23090654

Hello,

Just sending an email regarding the status of this inquiry that I sent last week. Wondering if we have any updates on this additional testing.

Thank you,

From: Heather Fitzgerald
Sent: Tuesday, November 28, 2023 2:40 PM
To: Justice Kwateng <jkwateng@TheSterlingLab.com>
Cc: Thaddeus Cagney <tcagney@gsg-consultants.com>
Subject: Work Order 23090654

Hello,

I would like to order additional testing for Work Order 23090654, For TCLP Aluminum for sample WC-07, and TCLP Chromium, Iron and Manganese for sample WC-06.

Thank you,

Heather Fitzgerald | Enviromental Scientist
Direct: 630.994.2634.Mobile: 630.825.8713
GSG Consultants, Inc.
Office: 630.994.2600

735 Remington Road

Schaumburg, IL 60173

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section Number
FAU 1577	Wolfs Crossing Road	23-00052-02-PV
Project Number	**County**	**Contract Number**
JS0S(749)	Kendall	87846

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

Joann Majewski 06/03/2025

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.

The project is located on Wolf's Crossing Road in Oswego, IL. Section 15, Township 37N, Range 8E. 41.690363N, -88.314023W

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

The construction activity consists of 2 construction stages and includes removal of current pavement, sidewalk, curb & guter, trees, and storm sewers. The proposed work consists of a new shared use path, new sidewalk, and new pavement- including roadway widening, a roundabout at the intersection of Wolf's Crossing Road and Douglas Road, medians, curb & gutter, and new storm sewers and structures.

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).

There will be clearing, grubbing, and excavation during the removals portion of the project. There will be grading throughout the project with temporary seeding and blanket placed to minimize erosion. When construction is complete, final seeding and blanket will be placed in landscaped areas.

4. The total area of the construction site is estimated to be 22.65 acres.

5. The total area of the site estimated to be disturbed by excavation, grading or other activities is 22.65 acres.

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

0.60

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

N/A

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.

Drummer silty clay loam, 0 to 2 percent slopes
Dresden silt loam, 2 to 4 percent slopes
Mundelein silt loam, 0 to 2 percent slopes
Barrington silt loam, 0 to 2 percent slopes

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

Village of Oswego

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.

Waubonsie Creek

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

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

N/A

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: _____

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) _____

☐ Other (Specify) _____

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)

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

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):

- ☐ Mulch
- ☒ Erosion Control Blanket
- ☐ Turf Reinforcement Mat
- ☐ Sodding
- ☐ Geotextile fabric
- ☐ Preservation of existing vegetation
- ☐ Temporary Turf Cover Mixture (Class 7)
- ☐ Permanent seeding (Class 1-6)
- ☒ Other (Specify) Erosion Control Seeding
- ☒ Other (Specify) Tree Trunk Protection
- ☐ Other (Specify) _____

2. Sediment Control:

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

- ☒ Ditch Checks
- ☒ Inlet and Pipe protection
- ☐ Hay or Straw bales
- ☒ Perimeter Erosion Barrier
- ☐ Rolled Excelsior
- ☐ 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:

- ☐ Aggregate Ditch
- ☐ Articulated Block Revetment Mat
- ☐ Barrier (Permanent)
- ☐ Concrete Revetment Mats
- ☐ Dewatering Filtering
- ☐ Gabions
- ☐ In-Stream or Wetland Work
- ☐ Level Spreaders
- ☐ Paved Ditch
- ☐ Permanent Check Dams
- ☐ Precast Block Revetment Mat
- ☐ Rock Outlet Protection
- ☒ Stabilized Construction Exits
- ☐ Stabilized Trench Flow
- ☐ Sediment Basin
- ☐ Retaining Walls
- ☒ Riprap
- ☐ Strom Drain Inlet Protection
- ☐ Slope Walls
- ☐ Sediment Trap
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ 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

Permanent seeding and erosion control blanket will be added after construction is complete within landscaped areas.

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 and grade the work area to eliminate concentration of runoff an maintain or replace erosion and sediment control devices in a timely manner. Perimeter erosion barriers shall have the sediment removed and replace the barrier if necessary as directed by the engineer. All maintenance of erosion control systems will be the responsibility of the Contractor.

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.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
2420 West Iles Avenue; Post Office Box 19276; Springfield, IL 62794-9276

Division of Public Water Supplies Telephone 217/782-1724

PUBLIC WATER SUPPLY CONSTRUCTION PERMIT

SUBJECT: OSWEGO (IL0930150)

Permit Issued to:
Village of Oswego
100 Parkers Mill
Oswego, IL 60543

PERMIT NUMBER: 1133-FY2025

DATE ISSUED: April 25, 2025
PERMIT TYPE: Water Main Extension

The issuance of this permit is based on plans and specifications prepared by the engineers/architects indicated, and are identified as follows. This permit is issued for the construction and/or installation of the public water supply improvements described in this document, in accordance with the provisions of the "Environmental Protection Act", Title IV, Sections 14 through 17, and Title X, Sections 39 and 40, and is subject to the conditions printed on the last page of this permit and the ADDITIONAL CONDITIONS listed below.

FIRM: Benesch
NUMBER OF PLAN SHEETS: 14
TITLE OF PLANS: "Wolf's Crossing at Douglas Road Intersection Improvements"
APPLICATION RECEIVED DATE: April 4, 2025

PROPOSED IMPROVEMENTS:

Install approximately 2,815 feet of 8-inch water main.

ADDITIONAL CONDITIONS:

1. All water mains shall be satisfactorily disinfected prior to use pursuant to Ill. Adm. Code, Title 35, Subtitle F, Section 602.310. Two consecutive sets of samples collected at least 24 hours apart must show the absence of coliform bacteria. The samples must be collected from every 1,200 feet of new water main along each branch and from the end of the line. An operating permit must be obtained before the project is placed in service. The application for operating permit and supporting documents can either be mailed to this office or emailed to EPA.PWSPermits@illinois.gov. Use of the email address is preferred.
2. The permit approval is for the Application, Schedule B, and 4 plan sheets received on April 4, 2025.

CJ:GAZ

cc: Benesch
Elgin Regional Office

Chris Johnston/TAR

Chris Johnston, P.E.
Manager Permit Section
Division of Public Water Supplies

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Agency Act (Illinois Compiled Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

These standard conditions shall apply to all permits which the Agency issues for construction or development projects which require permits under the Division of Water Pollution Control, Air Pollution Control, Public Water Supplies and Land Pollution Control. Special conditions may also be imposed by the separate divisions in addition to these standard conditions.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year after this date of issuance unless construction or development on this project has started on or prior to that date.

2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:

   a. to enter at reasonable times the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit.

   b. to have access to and copy at reasonable times any records required be kept under the terms and conditions of this permit.

   c. to inspect at reasonable times, including during any hours or operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.

   d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.

   e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the permits upon which the permitted facilities are to be located;

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;

   c. does not release the permittee from compliance with the other applicable statues and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;

   d. does not take into consideration or attest to the structural stability of any units or parts of the project;

   e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability directly or indirectly for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. These standard conditions shall prevail unless modified by special conditions.

7. The Agency may file a complaint with Board of modification, suspension or revocation of a permit:

   a. upon discovery that the permit application misrepresentation or false statements or that all relevant facts were not disclosed; or

   b. upon finding that any standard or special conditions have been violated; or

   c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

8. Division of Public Water Supply Construction Permits expire one year from date of issuance or renewal, unless construction has started. If construction commences within one year from date of issuance or renewal, the permit expires five years from the date of permit issuance or renewal. A request for extension shall be filed prior to the permit expiration date.

Illinois Environmental Protection Agency

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

Division of Public Water Supplies, Permit Section
Application for Operating Permit

*This form may be completed online, a copy saved locally and printed before it is signed. You may also complete a printed copy manually. Submit the completed and signed form to the **Illinois EPA, Division of Public Water Supplies, Permit Section** at the address listed above.*

Facility Name: OSWEGO
Facility ID: IL0930150
Address 1: Village of Oswego
Construction Permit No.: 1133-FY2025
Address 2: 100 Parkers Mill
Permit Type: Water Main
City: Oswego State: IL Zip Code: 60543
Date Permit Issued: Apr 25, 2025
County: Kendall
Project Title: Wolf's Crossing at Douglas Road Intersection Improvements
Firm Name: Benesch

Project Status: ◯ Final ◯ Partial

_____
Partial A, B, C, etc.

Application Requirements (check when complete):

☐ Permit Number, Facility Number, and Facility Name identified on the Lab Report(s).
☐ Sample results attached to the Application.
(If a new well was constructed, provide a copy of the sample results as required by Section II, Part g of the C-I application).
☐ For water main projects subject to Section 17.12 of the Act (415 ILCS 5/17.12), attach a statement on lead service lines and a copy of the lead informational notice (if one was distributed). See the instructions page for additional information.

If you select Partial, you must *also* submit the following items:

☐ Cover letter describing which sections were completed.
☐ General project layout plans.
☐ For water main projects, identify the length the Partial: _____ LF

Date of Project Completion: _____ (Provide the date construction was completed on the project or partial)

Certified Operator in Responsible Charge:

Name: _____ Classification: _____ Number: _____
Telephone: _____ Email (optional): _____

Owner of the Completed Project:

Name: _____ Title: _____ Telephone: _____
Address: _____ City: _____ State: ____ Zip Code: _____

The Owner hereby certifies that the project named and described has been constructed in accordance with plans and specifications approved by the Illinois EPA. See instructions for further information. For Verbal Approvals, please call 217-782-1724.

_____ _____
Owner/Authorized Personnel Signature Date

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))

FOR IEPA USE ONLY

This operating permit 1133-FY2025 issued on _____ is valid until revoked.
This permit is valid only for the work completed under the Construction Permit of the same number.

_____
Jaime Rabins, P.E.
Unit A Working Supervisor, Permit Section
Division of Public Water Supplies

Instructions for Operating Permit Application

The Operating Permit Application must be submitted for all Public Water Supply projects that required a construction permit. The Operating Permit *must* be obtained before the project is placed in service.

Fill out the top section using the corresponding Construction Permit for reference.

- **Facility Name** is the name of the village, city or entity distributing community water supplies.
- **Facility ID Number** can be found on the Construction Permit. This number is specific to your facility.
- **Address** is the same as the address on the Construction Permit.
- **Construction Permit Number** is the assigned permit number of the corresponding Construction Permit. The Operating Permit and the corresponding Construction Permit will have the same permit number.
- **Permit Type** identifies whether the project involved is a Water Main, a Plant Improvement or Both.
- **Date Permit Issued** is the date the Construction Permit was granted.
- **Date of Project Completion** is the date construction was completed for the section of project you are requesting the Operating Permit for. If you are requesting an Operating Permit for a Partial project, the Date of Project Completion is the date construction was completed on that partial section. The Date of Project Completion will never be a date in the future, and must be a date *after* the issue date of the Construction Permit.
- **Title of Project** is the same title of project listed on the corresponding Construction Permit. The Operating Permit and the Construction Permit will have the same Title of Project.
- **Firm Name** is the engineering entity that designed the project.

Project Status will either be Final or Partial.

- **Final:** If construction on the project is complete, you will select **Final**.
- **Partial:** If construction on the total project is only *partially* complete, but you want to operate the completed section, you will select **Partial**. If this is the first partial, you will identify it as "Partial A", if this is the second partial, you will identify it as "Partial B" and so forth. Once the last partial section has been completed, identify it as such and also select Final in the Project Status.

The **Certified Operator in Responsible Charge** and **Owner of the Completed Project** should fill out his/her respective section. Please print your name legibly and sign where appropriate. By signing the application, the owner hereby certifies that the project named and described has been constructed in accordance with plans and specifications approved by the Illinois EPA, including specifications for bacteriological samples, and that bacteriological samples (if required) were taken under the supervision of a representative from the Public Water Supply. The owner also certifies that the project will be operated in accordance with the provisions of the Illinois Environmental Protection Act and the Rules and Regulations adopted by the Illinois Pollution Control Board pursuant to provisions of the Act.

Requests for **Verbal Approval** and questions can be addressed at (217) 782-1724.

Disinfection and bacteriological analysis must be performed for the completed project in accordance with the requirements of AWWA C651, C652, C653 or C654. For projects requiring these procedures, the sample results must be attached to the application. The construction permit number should be clearly visible on the sample results. Two consecutive sets of samples collected at least 24 hours apart must show the absence of coliform bacteria and the presence of a 0.5 mg/L minimum free chlorine residual or a 1.0 mg/L minimum combined chlorine residual. Samples must be collected every 1,200 feet of new water main along each branch and from the end of the line unless otherwise approved by the Illinois EPA.

All operating permit applications for water main construction permits that have additional conditions for lead service line inventory, replacement, and notification must include a statement indicating either that no full or partial lead service lines were identified or that they were replaced in accordance with Section 17.12 of the Act, 415 ILCS 5/17.12. A copy of the **Lead Informational Notice** satisfying the requirements of Section 17.12(jj) of the Act, 415 ILCS 5/17.12(jj) must also be attached. The notice must contain the following statement translated in the Spanish, Polish, Chinese, Tagalog, Arabic, Korean, German, Urdu, and Gujarati languages: "This notice contains important information about your water service and may affect your rights. We encourage you to have this notice translated in full into a language you understand and before you make any decisions that may be required under this notice."

This form may be completed online, a copy saved locally and printed before it is signed. You may also complete a printed copy manually. Submit the completed form to the Illinois EPA, Bureau of Water, Permit Section at the following address:

Illinois Environmental Protection Agency
Division of Public Water Supplies, Permit Section #13
1021 North Grand Avenue East, PO Box 19276
Springfield, IL 62794-9276

Illinois Department of Transportation

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 Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route	Marked Route	Section Number
FAU 1577	Wolfs Crossing Road	23-00052-02-PV

Project Number	County	Contract Number
JS0S(749)	Kendall	87846

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

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 **8**.

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.

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 ± 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_P = Bituminous Price Index, as published by the Department for the month the work is performed, $/ton ($/metric ton).
BPI_L = 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).
$\%AC_V$ = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V 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_V and undiluted emulsified asphalt will be considered to be 65% AC_V.
Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: Q, tons = A x D x (G_{mb} x 46.8) / 2000. For HMA mixtures measured in square meters: Q, metric tons = A x D x (G_{mb} x 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_V.

For bituminous materials measured in gallons: Q, tons = V x 8.33 lb/gal x SG / 2000
For bituminous materials measured in liters: Q, metric tons = V x 1.0 kg/L x SG / 1000

Where: A = Area of the HMA mixture, sq yd (sq m).
D = Depth of the HMA mixture, in. (mm).
G_{mb} = 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_L and BPI_P in excess of five percent, as calculated by:

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

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 Note 2/ in Article 1003.01(b) of the Standard Specifications to read:

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"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 ($Na_2O + 0.658K_2O$) 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 ($Na_2O + 0.658K_2O$) 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 ($Na_2O + 0.658K_2O$) of 0.90 percent or greater."

Revise Article 1017.01 of the Standard Specifications to read:

"**1017.01 Requirements.** 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 by the Department according to Illinois Modified AASHTO T 161 or AASHTO T 161 when tested by an independent lab. The high-strength mortar shall have a water-soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the high-strength mortar shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. Mixing of the high-strength mortar shall be according to the manufacturer's specifications. The Department will maintain a qualified product list."

Revise the fourth sentence of Article 1018.01 of the Standard Specifications to read:

"The ASTM C 1218 test shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department."

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. Prior to approval, a CLSM air-entraining admixture will be evaluated by the Department. The admixture shall be able to meet the air content requirements of Mix 2. The Department will maintain a qualified product list."

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 ºF, 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 ºC, the Type III portland cement may be replaced with Type I, IL, or II portland cement."

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 the third sentence of the second paragraph of Article 1020.05(b)(5) of the Standard Specifications to read:

"The qualified product lists of concrete admixtures shall not apply."

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."

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 Illinois Modified ASTM C 1107.

The nonshrink grout shall have a water-soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the grout shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. Mixing of the nonshrink grout shall be according to the manufacturer's specifications. The Department will maintain a qualified product list."

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 the first two sections of Check Sheet #11 of the Supplemental Specifications and 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 of Division 1000 - Materials 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 third paragraph of Materials Note 2 of Check Sheet #28 of the Supplemental Specifications and Recurring Special Provisions to read:

"The Department will maintain a qualified product list of synthetic fibers, which will include the minimum required dosage rate. For the minimum required fiber dosage rate based on the Illinois Modified ASTM C 1609 test, a report prepared by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete shall be provided. The report shall show results of tests conducted no more than five years prior to the time of submittal."

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

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010
Revised: January 1, 2025

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

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted according to the table below.

Horsepower Range	Model Year and Older
50-99	2003
100-299	2002
300-599	2000
600-749	2001
750 and up	2005

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

a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel), or verified by the California Air Resources Board (CARB) (http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm); or

b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

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

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

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

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

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

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

Diesel Retrofit Deficiency Deduction

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

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

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000
Revised: January 2, 2025

1. OVERVIEW AND GENERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory. Award of the contract is conditioned on meeting the requirements of 49 CFR Part 26, and failure by the Contractor to carry out the requirements of Part 26 is a material breach of the contract and may result in the termination of the contract or such other remedies as the Department deems appropriate.

2. CONTRACTOR ASSURANCE. All assurances set forth in FHWA 1273 are hereby incorporated by reference and will be physically attached to the final contract and all subcontracts.

3. CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. The Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies and that, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform **7**% of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work in accordance with the requirements of 49 CFR 26.53 and SBE Memorandum No. 24-02.

4. IDENTIFICATION OF CERTIFIED DBE. Information about certified DBE Contractors can be found in the Illinois UCP Directory. Bidders can obtain additional information and assistance with identifying DBE-certified companies at the Department's website or by contacting the Department's Bureau of Small Business Enterprises at (217) 785-4611.

5. BIDDING PROCEDURES. Compliance with this Special Provision and SBE Policy Memorandum 24-02 is a material bidding requirement. The following shall be included with the bid.

   (a) DBE Utilization Plan (form SBE 2026) documenting enough DBE participation has been obtained to meet the goal, or a good faith effort has been made to meet the goal even though the efforts did not succeed in obtaining enough DBE participation to meet the goal.

(b) Applicable DBE Participation Statement (form SBE 2023, 2024, and/or 2025) for each DBE firm the bidder has committed to perform the work to achieve the contract goal.

The required forms and documentation shall be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a bid if it does not meet the bidding procedures set forth herein and the bid will be declared non-responsive. A bidder declared non-responsive for failure to meet the bidding procedures will not give rise to an administrative reconsideration. In the event the bid is declared non-responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

6. UTILZATION PLAN EVALUATION. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate, and adequately document the bidder has committed to DBE participation sufficient to meet the goal, or that the bidder has made good faith efforts to do so, in the event the bidder cannot meet the goal, in order for the Department to commit to the performance of the contract by the bidder.

   The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the Department determines, based upon the documentation submitted, that the bidder has made a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A and the requirements of SBE 2026.

   If the Department determines that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan of that determination in accordance with SBE Policy Memorandum 24-02.

7. CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work the bidder commits to have performed by the specified DBEs and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE firms. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific guidelines for counting goal credit are provided in 49 CFR Part 26.55. In evaluating Utilization Plans for award the Department will count goal credit as set forth in Part 26 and in accordance with SBE Policy Memorandum 24-02.

8. CONTRACT COMPLIANCE. The Contractor must utilize the specific DBEs listed to perform the work and supply the materials for which each DBE is listed in the Contractor's approved Utilization Plan, unless the Contractor obtains the Department's written consent to

terminate the DBE or any portion of its work. The DBE Utilization Plan approved by SBE is a condition-of-award, and any deviation to that Utilization Plan, the work set forth therein to be performed by DBE firms, or the DBE firms specified to perform that work, must be approved, in writing, by the Department in accordance with federal regulatory requirements. Deviation from the DBE Utilization Plan condition-of-award without such written approval is a violation of the contract and may result in termination of the contract or such other remedy the Department deems appropriate. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan.

(a) NOTICE OF DBE PERFORMANCE. The Contractor shall provide the Engineer with at least three days advance notice of when all DBE firms are expected to perform the work committed under the Contractor's Utilization Plan.

(b) SUBCONTRACT. If awarded the contract, the Contractor is required to enter into written subcontracts with all DBE firms indicated in the approved Utilization Plan and must provide copies of fully executed DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.

(c) PAYMENT TO DBE FIRMS. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goal has been paid to the DBE. The Contractor shall document and report all payments for work performed by DBE certified firms in accordance with Article 109.11 of the Standard Specifications. All records of payment for work performed by DBE certified firms shall be made available to the Department upon request.

(d) FINAL PAYMENT. After the performance of the final item of work or trucking, or delivery of material by a DBE and final payment to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement (form SBE 2115) to the Engineer. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.

(g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

80029

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) 1/	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_P = Fuel Price Index, as published by the Department for the month the work is performed, $/gal ($/liter)
FPI_L = 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_L and FPI_P in excess of five percent, as calculated by:

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: January 1, 2025

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."

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 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)."

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."

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."

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 ± 0.5 lb/sq yd (0.75 ± 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 ± 1 in. (225 ± 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) [1/]			
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)
¾ (19)	0.44 (0.66)		
1 (25)	0.58 (0.86)		
1 ¼ (32)	0.66 (0.98)	0.44 (0.66)	
1 ½ (38)	0.74 (1.10)	0.48 (0.71)	0.63 (0.94)
1 ¾ (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)
≥ 2 ¼ (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

PAVEMENT MARKING INSPECTION (BDE)

Effective: April 1, 2025

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

Revise Article 1032.05 of the Standard Specifications to read:

"**1032.05 Performance Graded Asphalt Binder.** These materials will be accepted according to the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure." The Department will maintain a qualified producer list. These materials shall be free from water and shall not foam when heated to any temperature below the actual flash point. Air blown asphalt, recycle engine oil bottoms (ReOB), and polyphosphoric acid (PPA) modification shall not be used.

When requested, producers shall provide the Engineer with viscosity/temperature relationships for the performance graded asphalt binders delivered and incorporated in the work.

(a) Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans and the following.

Test	Parameter
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5 °C min.

(b) Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans.

Asphalt binder modification shall be performed at the source, as defined in the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure."

Modified asphalt binder shall be safe to handle at asphalt binder production and storage temperatures or HMA construction temperatures. Safety Data Sheets (SDS) shall be provided for all asphalt modifiers.

(1) Polymer Modification (SB/SBS or SBR). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be either a styrene-butadiene diblock, triblock copolymer without oil extension, or a styrene-butadiene rubber. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in Table 1 or 2 for the grade shown on the plans.

Table 1 - Requirements for Styrene-Butadiene Copolymer (SB/SBS) Modified Asphalt Binders		
Test	Asphalt Grade SB/SBS PG 64-28 SB/SBS PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SB/SBS PG 76-22 SB/SBS PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

Table 2 - Requirements for Styrene-Butadiene Rubber (SBR) Modified Asphalt Binders		
Test	Asphalt Grade SBR PG 64-28 SBR PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SBR PG 76-22 SBR PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
Toughness ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	110 (12.5) min.	110 (12.5) min.
Tenacity ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	75 (8.5) min.	75 (8.5) min.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	40 min.	50 min.

(2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient

grinding method or micronizing through a cryogenic process. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall not contain free metal particles, moisture that would cause foaming of the asphalt, or other foreign materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois Modified AASHTO T 27 "Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates" or AASHTO PP 74 "Standard Practice for Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method", a 50 g sample of the GTR shall conform to the following gradation requirements.

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

GTR modified asphalt binder shall be tested for rotational viscosity according to AASHTO T 316 using spindle S27. GTR modified asphalt binder shall be tested for original dynamic shear and RTFO dynamic shear according to AASHTO T 315 using a gap of 2 mm.

The GTR modified asphalt binder shall meet the requirements of Table 3.

Table 3 - Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
Test	Asphalt Grade GTR PG 64-28 GTR PG 70-22	Asphalt Grade GTR PG 76-22 GTR PG 76-28 GTR PG 70-28
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

(3) Softener Modification (SM). Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, glycol amines, and fatty acid derivatives, to the base asphalt binder to achieve the specified performance grade. Softeners shall be dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder with no separation. Softeners shall not be added to modified PG asphalt binder as defined in Articles 1032.05(b)(1) or 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified

asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged softener modified binder, and 40-hour PAV aged softener modified binder. The ATR-FTIR shall be collected in accordance with Illinois Test Procedure 601. The electronic files spectral files (in one of the following extensions or equivalent: *.SPA, *.SPG, *.IRD, *.IFG, *.CSV, *.SP, *.IRS, *.GAML, *.[0-9], *.IGM, *.ABS, *.DRT, *.SBM, *.RAS) shall be submitted to the Central Bureau of Materials.

Softener modified asphalt binders shall meet the requirements in Table 4.

Table 4 - Requirements for Softener Modified Asphalt Binders	
Test	Asphalt Grade SM PG 46-28 SM PG 46-34 SM PG 52-28 SM PG 52-34 SM PG 58-22 SM PG 58-28 SM PG 64-22
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5°C min.
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, Δ|G*|peak τ, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	≥ 54 %

The following grades may be specified as tack coats.

Asphalt Grade	Use
PG 58-22, PG 58-28, PG 64-22	Tack Coat”

Revise Article 1031.06(c)(1) and 1031.06(c)(2) of the Standard Specifications to read:

“(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin ABR shall not exceed the amounts listed in the following table.

HMA Mixtures - RAP/RAS Maximum ABR % 1/ 2/			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface 3/
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.

(2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % 1/ 2/			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface 3/
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	- -	- -	25
IL-4.75	- -	- -	35

1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes."

Add the following to the end of Note 2 of Article 1030.03 of the Standard Specifications.

"A dedicated storage tank for the ground tire rubber (GTR) modified asphalt binder shall be provided. This tank shall be capable of providing continuous mechanical mixing throughout and/or recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ±0.40 percent."

80441

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024
Revised: April 1, 2024

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

80455

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)
		Festuca rubra ssp. r*ubra* (Creeping Red Fescue)	40 (50)
1A	Salt Tolerant Lawn Mixture 1/	Kentucky Bluegrass	60 (70)
		Perennial Ryegrass	20 (20)
		Festuca rubra ssp. *rubra* (Creeping Red Fescue)	20 (20)
		Festuca brevipilla (Hard Fescue)	20 (20)
		Puccinellia distans (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)
		Festuca rubra ssp. *rubra* (Creeping Red Fescue)	20 (20)
2	Roadside Mixture 1/	*Lolium arundinaceum* (Tall Fescue)	100 (110)
		Perennial Ryegrass	50 (55)
		Festuca rubra ssp. r*ubra* (Creeping Red Fescue)	40 (50)
		Red Top	10 (10)
2A	Salt Tolerant Roadside Mixture 1/	*Lolium arundinaceum* (Tall Fescue)	60 (70)
		Perennial Ryegrass	20 (20)
		Festuca rubra ssp. *rubra* (Creeping Red Fescue)	30 (20)
		Festuca brevipila (Hard Fescue)	30 (20)
		Puccinellia distans (Fults Saltgrass or Salty Alkaligrass)	60 (70)
3	Northern Illinois Slope Mixture 1/	*Elymus canadensis* (Canada Wild Rye) 5/	5 (5)
		Perennial Ryegrass	20 (20)
		Alsike Clover 4/	5 (5)
		Desmanthus illinoensis (Illinois Bundleflower) 4/ 5/	2 (2)
		Schizachyrium scoparium (Little Bluestem) 5/	12 (12)
		Bouteloua curtipendula (Side-Oats Grama) 5/	10 (10)
		Puccinellia distans (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	20 (20)
		Elymus canadensis (Canada Wild Rye) 5/	20 (20)
		Panicum virgatum (Switchgrass) 5/	10 (10)
		Schizachyrium scoparium (Little Blue Stem) 5/	12 (12)
		Bouteloua curtipendula (Side-Oats Grama) 5/	10 (10)
		Dalea candida (White Prairie Clover) 4/ 5/	5 (5)
		Rudbeckia hirta (Black-Eyed Susan) 5/	5 (5)
		Oats, Spring	50 (55)

Class – Type		Seeds	lb/acre (kg/hectare)
4	Native Grass 2/ 6/	*Andropogon gerardi* (Big Blue Stem) 5/	4 (4)
		Schizachyrium scoparium (Little Blue Stem) 5/	5 (5)
		Bouteloua curtipendula (Side-Oats Grama) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	1 (1)
		Panicum virgatum (Switch Grass) 5/	1 (1)
		Sorghastrum nutans (Indian Grass) 5/	2 (2)
		Annual Ryegrass	25 (25)
		Oats, Spring	25 (25)
		Perennial Ryegrass	15 (15)
4A	Low Profile Native Grass 2/ 6/	*Schizachyrium scoparium* (Little Blue Stem) 5/	5 (5)
		Bouteloua curtipendula (Side-Oats Grama) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	1 (1)
		Sporobolus heterolepis (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)

Species:	% By Weight
Calamagrostis canadensis (Blue Joint Grass)	12
Carex lacustris (Lake-Bank Sedge)	6
Carex slipata (Awl-Fruited Sedge)	6
Carex stricta (Tussock Sedge)	6
Carex vulpinoidea (Fox Sedge)	6
Eleocharis acicularis (Needle Spike Rush)	3
Eleocharis obtusa (Blunt Spike Rush)	3
Glyceria striata (Fowl Manna Grass)	14
Juncus effusus (Common Rush)	6
Juncus tenuis (Slender Rush)	6
Juncus torreyi (Torrey's Rush)	6
Leersia oryzoides (Rice Cut Grass)	10
Scirpus acutus (Hard-Stemmed Bulrush)	3
Scirpus atrovirens (Dark Green Rush)	3
Bolboschoenus fluviatilis (River Bulrush)	3
Schoenoplectus tabernaemontani (Softstem Bulrush)	3
Spartina pectinata (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:

Coreopsis lanceolata (Sand Coreopsis)
Leucanthemum maximum (Shasta Daisy)
Gaillardia pulchella (Blanket Flower)
Ratibida columnifera (Prairie Coneflower)
Rudbeckia hirta (Black-Eyed Susan)

Forb Mixture - Mixture not exceeding 5 % by weight PLS of any one species, of the following:

Amorpha canescens (Lead Plant) 4/
Anemone cylindrica (Thimble Weed)
Asclepias tuberosa (Butterfly Weed)
Aster azureus (Sky Blue Aster)
Symphyotrichum leave (Smooth Aster)
Aster novae-angliae (New England Aster)
Baptisia leucantha (White Wild Indigo) 4/
Coreopsis palmata (Prairie Coreopsis)
Echinacea pallida (Pale Purple Coneflower)
Eryngium yuccifolium (Rattlesnake Master)
Helianthus mollis (Downy Sunflower)
Heliopsis helianthoides (Ox-Eye)
Liatris aspera (Rough Blazing Star)
Liatris pycnostachya (Prairie Blazing Star)
Monarda fistulosa (Prairie Bergamot)
Parthenium integrifolium (Wild Quinine)
Dalea candida (White Prairie Clover) 4/
Dalea purpurea (Purple Prairie Clover) 4/
Physostegia virginiana (False Dragonhead)
Potentilla arguta (Prairie Cinquefoil)
Ratibida pinnata (Yellow Coneflower)
Rudbeckia subtomentosa (Fragrant Coneflower)
Silphium laciniatum (Compass Plant)
Silphium terebinthinaceum (Prairie Dock)
Oligoneuron rigidum (Rigid Goldenrod)
Tradescantia ohiensis (Spiderwort)
Veronicastrum virginicum (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)
		Species:	% By Weight
		Aster novae-angliae (New England Aster)	5
		Echinacea pallida (Pale Purple Coneflower)	10
		Helianthus mollis (Downy Sunflower)	10
		Heliopsis helianthoides (Ox-Eye)	10
		Liatris pycnostachya (Prairie Blazing Star)	10
		Ratibida pinnata (Yellow Coneflower)	5
		Rudbeckia hirta (Black-Eyed Susan)	10
		Silphium laciniatum (Compass Plant)	10
		Silphium terebinthinaceum (Prairie Dock)	20
		Oligoneuron rigidum (Rigid Goldenrod)	10
5B	Wetland Forb 2/ 5/ 6/	Forb Mixture (see below)	2 (2)
		Species:	% By Weight
		Acorus calamus (Sweet Flag)	3
		Angelica atropurpurea (Angelica)	6
		Asclepias incarnata (Swamp Milkweed)	2
		Aster puniceus (Purple Stemmed Aster)	10
		Bidens cernua (Beggarticks)	7
		Eutrochium maculatum (Spotted Joe Pye Weed)	7
		Eupatorium perfoliatum (Boneset)	7
		Helenium autumnale (Autumn Sneeze Weed)	2
		Iris virginica shrevei (Blue Flag Iris)	2
		Lobelia cardinalis (Cardinal Flower)	5
		Lobelia siphilitica (Great Blue Lobelia)	5
		Lythrum alatum (Winged Loosestrife)	2
		Physostegia virginiana (False Dragonhead)	5
		Persicaria pensylvanica (Pennsylvania Smartweed)	10
		Persicaria lapathifolia (Curlytop Knotweed)	10
		Pychanthemum virginianum (Mountain Mint)	5
		Rudbeckia laciniata (Cut-leaf Coneflower)	5
		Oligoneuron riddellii (Riddell Goldenrod)	2
		Sparganium eurycarpum (Giant Burreed)	5
6	Conservation Mixture 2/ 6/	*Schizachyrium scoparium* (Little Blue Stem) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	2 (2)
		Buffalo Grass 5/ 7/	5 (5)
		Vernal Alfalfa 4/	15 (15)
		Oats, Spring	48 (55)
6A	Salt Tolerant Conservation Mixture 2/ 6/	*Schizachyrium scoparium* (Little Blue Stem) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	2 (2)
		Buffalo Grass 5/ 7/	5 (5)
		Vernal Alfalfa 4/	15 (15)
		Oats, Spring	48 (55)
		Puccinellia distans (Fults Saltgrass or Salty Alkaligrass)	20 (20)
7	Temporary Turf Cover Mixture	Perennial Ryegrass	50 (55)
		Oats, Spring	64 (70)

Notes:

1/ Seeding shall be performed when the ambient temperature has been between 45 ºF (7 ºC) and 80 ºF (27 ºC) 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 ºF (7 ºC) for a minimum of seven (7) consecutive days and ending when the ambient temperature exceeds 80 ºF (27 ºC) 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 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) 1/ 20 (0.51) 2/	65 (1.65) 1/ 20 (0.51) 2/
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: April 1, 2025

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."

80462

SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)

Effective: January 2, 2023

Add the following to Article 106.01 of the Standard Specifications:

"The final manufacturing process for construction materials and the immediately preceding manufacturing stage for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply that is or consists primarily of the following.

(a) Non-ferrous metals;

(b) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);

(c) Glass (including optic glass);

(d) Lumber;

(e) Drywall.

Items consisting of two or more of the listed construction materials that have been combined through a manufacturing process, and items including at least one of the listed materials combined with a material that is not listed through a manufacturing process shall be exempt."

80448

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 (BDE)

Effective: April 1, 2021
Revised: November 2, 2023

FEDERAL AID CONTRACTS. 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."

STATE CONTRACTS. Revise Item 3 of Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

"3. Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15th day of each calendar month, file a certified payroll for the immediately preceding month to the Illinois Department of Labor (IDOL) through the Illinois Prevailing Wage Portal in compliance with the State Prevailing Wage Act (820 ILCS 130). The portal can be found on the IDOL website at https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Prevailing-Wage-Portal.aspx. 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.”

80437

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

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 **8**. 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

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012
Revised: January 2, 2025

The following applies to all Disadvantaged Business Enterprise (DBE) trucks on the project, whether they are utilized for DBE goal credit or not.

The Contractor shall notify the Engineer at least three days prior to DBE trucking activity.

The Contractor shall submit a weekly report of DBE trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Sunday through Saturday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

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, 2025

Add the following to Article 701.03 of the Standard Specifications:

"(q) Temporary Sign Supports .....1106.02"

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

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

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

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

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

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

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices 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 Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

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

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

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

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

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

80427

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:

Physical Properties	
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^2 (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 will 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

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*. 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*, 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 reprocurement 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/WHD/legacy/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 reprocurement 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.

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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.