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Letting January 20, 2023

Notice to Bidders, Specifications and Proposal

Illinois Department of Transportation

Contract No. 87783
KENDALL County
Section 20-00052-01-PV (Oswego)
Route FAU 1577 (Wolfs Crossing Road)
Project VW0F-977 ()
District 3 Construction Funds

Prepared by	F
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. January 20, 2023 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. 87783
   KENDALL County
   Section 20-00052-01-PV (Oswego)
   Project VW0F-977 ()
   Route FAU 1577 (Wolfs Crossing Road)
   District 3 Construction Funds

Convert 4-way intersection to HMA roundabout with drainage improvements, lighting and a multi-use path with ADA ramps.

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

Omer Osman,
Secretary

CONTRACT 87783

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2023

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 1-1-23)

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

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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		☐	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
	80192		☐	Automated Flagger Assistance Device	Jan. 1, 2008	
	80173	90	☒	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
	80426		☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
	80436	92	☒	Blended Finely Divided Minerals	April 1, 2021	
	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
	80384	93	☒	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	
	80261	97	☒	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
	80434		☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
	80029	100	☒	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
	80229	110	☒	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
*	80447		☐	Grading and Shaping Ditches	Jan 1, 2023	
	80433		☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
	80443		☐	High Tension Cable Median Barrier Removal	April 1, 2022	
	80446	113	☒	Hot-Mix Asphalt – Longitudinal Joint Sealant	Nov. 1, 2022	
	80438		☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
	80045	114	☒	Material Transfer Device	June 15, 1999	Jan. 1, 2022
*	80441	116	☒	Performance Graded Asphalt Binder	Jan 1, 2023	
	3426I		☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
	80445	121	☒	Seeding	Nov. 1, 2022	
*	80448	127	☒	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, 2014	Jan. 1, 2022
	80397	128	☒	Subcontractor and DBE Payment Reporting	April 2, 2018	
	80391	129	☒	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
	80437	130	☒	Submission of Payroll Records	April 1, 2021	Nov. 1, 2022
*	80435	132	☒	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
	80410		☐	Traffic Spotters	Jan. 1, 2019	
	20338	138	☒	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
	80429		☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
	80439	141	☒	Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
	80440		☐	Waterproofing Membrane System	Nov. 1, 2021	
	80302	142	☒	Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
	80427	143	☒	Work Zone Traffic Control Devices	Mar. 2, 2020	
	80071		☐	Working Days	Jan. 1, 2002	

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 20-00052-01-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 20-00052-01-PV
Project VWOF(977)
KENDALL County
Contract 87783

LOCATION OF PROJECT

This project is located at the intersection of Wolfs Crossing Road (F.A.U. Route 1577) and Harvey Road, approximately 0.5 mile west of US 30 (Lincoln Highway), T37N, R8E, sections 12, 13 and 14 in Oswego Township, in Kendall County, IL.

DESCRIPTION OF PROJECT

This project consists of reconstructing the existing 4-way stop-controlled intersections as an HMA roundabout under road closures utilizing detours. The work includes earthwork, paving, drainage improvements, detention pond grading, traffic control, pavement marking, lighting, watermain improvements (with limits from Fifth Street to Devoe Drive), construction of a multi-use path, sidewalk and ADA ramps, and other associated items.

STATUS OF UTILITIES TO BE ADJUSTED:
(Effective January 1, 2007; Revised January 24, 2011)

Name & Address of Utility	Type	Location	Estimated Date Relocation Complete
AT&T Steven Pesola Legal Mandate Project Manager 1000 Commerce Drive Oak Brook, IL 60523 (630) 573-5703	Aerial and underground		
Comcast Robert Stoll 688 Industrial Drive Elmhurst, IL 60126 (224) 229-5849	Aerial cable and aerial fiber on ComEd poles Underground cable in front of Wellspring Methodist Church	Fifth Street to Harvey Road	
ComEd Mark Saccomonto 1-Lincoln Center 6th Floor-SE-007 Oakbrook Terrace, IL 60181 Anthony Lioce Sr. Project Manager, Facility Relocation 1 Lincoln Center Oakbrook Terrace, IL 60181 C: (630) 854-4399	Aerial and underground – relocation of 14 poles, 6,800 feet of underground conduit and 4-splice boxes	Proposed intersection improvement and vicinity of PRV/Booster Pump Station	
Nicor Sakibul Forah (630) 388-2903 (224) 242-4043	Underground		
Metronet Dale Smith OSP Special Projects Manager 20 S. Dugan Road Sugar Grove, IL 60554 (224) 619-0678			

Verizon Kathleen Eilertsen Jason Jarvis (219) 314-6926	Possibly one power connection within limits Underground fiber	WC/Prescot Mills subdivision North side of Wolfs Crossing, Fifth Street to Roth Rd North side of Wolfs Crossing, Harvey Rd to east of Devoe Drive	

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

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

ROAD CLOSURE REQUIREMENTS AND COMPLETION DATE
(Effective January 1, 2016)

The Contractor will be allowed to close Wolfs Crossing Road and Harvey Road as shown on the plans for the reconstruction of this intersection. Road closure requirements include:

1) Closure of Devoe Drive at Wolfs Crossing Road and Wolfs Crossing Road, east of Devoe Drive to west of Devoe Drive, will only be allowed between April 1, 2023 and May 26, 2023. Liquidated damages for failure to open the road to two-way traffic by May 26, 2023 will be deducted according to Article 108.09.
2) Open Devoe Drive prior to completing the proposed median from Sta 400+00 to Sta 401+50 by Emblem Drive. Closure of Emblem Drive is prohibited during the duration of the Devoe Drive closure.
3) Closure of Wolfs Crossing Road, west of Devoe Drive to west of Oswego East High School entrance, will only be allowed between May 30, 2023 and November 22, 2023. Liquidated damages for failure to open the road(s) to two-way traffic by November 22, 2023, will be deducted according to Article 108.09.
4) The Contractor shall notify the Engineer at least 21 days in advance of the road closure. The Engineer must then notify the permit office in Springfield by email at DOT.Roadinfo@Illinois.gov.
5) The Contractor shall provide the traffic control devices used to close the road as shown on the plan detail.
6) The closure shall begin as approved by the Engineer and only after the Engineer has notified the local emergency services, school system, postal service, etc. of the closure. This notification must come at least one week in advance of the closure.
7) After the roundabout has been constructed, the road closure shall be removed, and the road(s) shall be opened to two-lane, two-way traffic.
8) During the time of any road closure, local access to existing driveways must be maintained at all times.

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 22, 2023.

The Contractor will be allowed to complete landscaping items, pavement marking, and other punch list items as approved by the Engineer within 20 working days. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

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. This work includes the detour signing.

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, 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 driveway access at all times.

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.

Additional traffic control required for work outside the detour durations and detour work zones will not be measured for payment. This includes use of Standards 701001, 701006 and 701801 for watermain construction between the Oswego East High School Drive and Fifth Street 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.

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.

AGGREGATE SUBGRADE IMPROVEMENT (DISTRICT 3)
(Effective April 1, 2012; Revised July 8, 2019)

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.

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2, and 3)	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradations CS 01 or CS 02 but shall not exceed 40 percent of the total product. The top size of the RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in. (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradations CS 01 or CS 02 are used in lower lifts. The RAP shall not be gap graded, single sized, or have a maximum size of less than 3/4 in. (19 mm).

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.

303.03 Equipment. The vibratory machine shall be according to Article 1101.01 or as approved by the Engineer.

303.04 Soil Preparation. The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

303.05 Placing Aggregate. The maximum nominal lift thickness of aggregate gradations CS 01 and CS 02 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 inches (75 mm) of aggregate gradations CA 06 or CA 10.

303.07 Compaction. All aggregate lifts 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.

303.08 Finishing and Maintenance of Aggregate Subgrade Improvement. 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.

303.09 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.10 Basis of Payment. This work will be paid for at the contract unit price per square yard for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified, or per cubic yard for AGGREGATE SUBGRADE IMPROVEMENT.

Add the following to Section 1004 of the Standard Specifications:

"**1004.07 Coarse Aggregate for Aggregate Subgrade Improvement.** 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.

(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 subgrade thickness less than or equal to 12 inches (300 mm) shall be CS 02.

The coarse aggregate gradation for total subgrade thickness more than 12 inches (300 mm) shall be CS 01 or CS 02.

	COARSE AGGREGATE SUBGRADE GRADATIONS				
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

CS 02		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 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

(2) The 3 inch (75 mm) capping aggregate shall be gradation CA 6 or CA 10."

TEMPORARY PAVEMENT

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

Construction. Temporary pavement shall abut existing pavement and shall be constructed using the same requirements for Hot-Mix Asphalt Pavement (Full Depth), 11” and Aggregate Subgrade Improvement, 12”.

Temporary pavement will remain in place at the end of the contract.

Method of Measurement. Temporary pavement will be measured in place in Square Yards. Aggregate Subgrade Improvement for temporary pavement will be measured in place in Square Yards and included in the cost of Temporary Pavement. Excavation will be measured according to Article 202.07. 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.

Bituminous materials (prime and tack coat) will not be paid for separately but shall be included in the cost of Temporary Pavement.

Aggregate Subgrade Improvement 12” will not be paid for separately but shall be included in the cost of Temporary Pavement.

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.

BUILDING REMOVAL

Description: This work shall consist of the removal and disposal of various buildings of various sizes, types of construction and ages, together with all retaining walls and piers, down to a plane of the building slabs or floor level of the basements or to the surrounding existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. The work shall include the removal of all items on each building site but not be limited to structures, sheds, utilities, interior and exterior equipment associated with the buildings, interior and exterior equipment within the designated perimeter of buildings, garages, generators and concrete pads, air condition units and concrete pads, lighting units, stairs, porches, canopies, decks, fences, driveway pavements, sidewalks, gas meters, splice boxes, stumps, planters, and vegetation. The work also includes all permit applications. Tree removal on each site will shall be completed according to Section 201 of the Standard Specifications. The material shall be removed off-site and disposed of by the Contractor according to Article 202.03 of the Standard Specifications.

Site inspections prior to contract award shall be confined to public Rights of Way only. The parcels are privately owned and there must be NO contact, relative to these Proposal Documents, between the contractor and parcel owners and/or tenants.
The building(s) are identified as follows:

Plan No.	Kendall County PIN	Parcel ID	Property Address	Village/ City/ County	Approx. building/ garage/ shed areas (SF)
1	**03-12-452-001 03-13-200-001**	**0053**	**500 Wolf Road**	**Oswego Kendall**	**2,144 above ground 436 garage**
2	**03-12-452-002 03-13-200-002**	**0052**	**460 Wolf Road**	**Oswego Kendall**	**1,424 above ground 1,424 basement 624 garage**
3	**03-12-452-003 03-12-200-003**	**0051**	**340 Wolf Road**	**Oswego Kendall**	**1,629 above ground 1,629 basement 575 garage +/- 2,100 metal barn +/- 1,100 wood barn**
4	**03-13-100-003**	**0002**	**809 Wolf Road**	**Oswego Kendall**	**1,291 above ground 972 basement 441 garage**

Sequence of Work and Site Schedule Determination

The following is an anticipated sequence of work and timeline for each individual parcel.

1. Permits. The contractor has 30 calendar days to acquire all necessary permits for building demolition.

2. Site Security and perimeter fencing. The Contractor shall secure the site with temporary chain link fence approximately 20-ft. from the building structure to be removed or as directed by the Engineer. Refer to Removal section below for fencing requirements.

3. Board up. Upon written notification from the Engineer, the Contractor shall board up and secure identified buildings using emergency board up techniques generally used by the insurance industry. Refer to Board Up section below for requirements.
4. Signs. Immediately upon written notification of ownership and prior to the wrecking of any structure's signs shall be painted on the structure. Refer to Signs section below for requirements.

5. Environmental Testing. The Contractor shall immediately order the Environmental Inspection of the buildings on the parcel(s). Field inspections and sampling must be completed within 7 calendar days of receiving permits. Environmental reports, if environmental issues are discovered, shall include an abatement plan with the report. Environmental reports must be received within 21 calendar days following the date of the Environmental Field Inspection.

6. Utility disconnects. The Contractor shall order and coordinate the disconnection of utilities from the building(s). This includes but is not limited to all utilities that served the building(s) consisting of water, sprinkler system, sanitary, storm, downspout, gas, oil, HVAC, and electrical as described under Site Removals. Permits required from a local jurisdictional agency required for utility cutoffs shall be obtained within 30 days. See Discontinuance of Utilities description below for additional details.

7. Environmental Remediation (if required). Upon completion of Environmental Testing, the Contractor will forward the Environmental Report to the Engineer. The Engineer will review the results of the Environmental reports within 14 calendar days and provide written authorization to commence with work. The remediation of any environmental issues shall be completed within 30 calendar days after written notification by the Engineer unless a separate detailed schedule is determined by the Engineer. The "Removal/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed at least ten days prior to commencement of any asbestos removal or removal activity. Separate notices shall be sent for the asbestos removal work and the building removal if they are done as separate operations.

8. Demolition Permit Application. The Contractor shall submit required environmental clearances and complete the demolition permit application within the 30-day time period for Environmental Remediation. If Environmental Remediation is not required, the Contractor shall submit the Demolition Permit Application within 7 days of the completion of the Environmental Report.

9. Building Removal. The Engineer will confirm limits of removal and construction. The Contractor shall remove any and all buildings and structures from the parcel within 14 calendar days of completion of environmental remediation or after receipt of written notification from the Engineer to commence if no environmental remediation is required with the work as specified above. The work shall include mobilization, permit applications, and the removal of all items on the building site and ancillary to the building but not be limited to structures, sheds, porches, canopies, connected stairs or steps, air conditioning units and concrete pads, generators and concrete pads, gas meters, signs, fences, concrete blocks, splice boxes, stumps, planters, and vegetation as approved by the Engineer.

Items of Work

Environmental Inspection

The Contractor must employ the services of a consulting firm licensed by the Illinois Department of Public Health (IDPH) and prequalified by the Capital Development Board to perform an asbestos survey in accordance with the National Emission Standard for Hazardous Air Pollutants (NESHAP) and develop a comprehensive report for review by the Engineer. Upon completion of the review the contractor shall employ an asbestos abatement contractor licensed by the IDPH to completely remove all asbestos containing materials (ACM) prior to building removal.

Asbestos Inspection & Report

The following criteria specifies how Preliminary Asbestos Inspection and reports shall be formatted and what information should be presented within.
All NESHAP preliminary asbestos assessments shall be performed by a Licensed Asbestos Inspector and laboratory analysis of suspect asbestos containing building materials shall be performed by a laboratory that successfully participates in the AIHA Bulk Asbestos Proficiency Analytical Testing (BAPAT) Program and the National Voluntary Laboratory Accreditation Program (NVLAP). The AIHA BAPAT participant directory can be accessed here: https://online.aihapat.org/patssa/f?p=AIHASSA:17800. Representative samples of each homogenous suspect material shall be conducted in all physically accessible/visible areas of the Site. All representative samples of a homogenous type of material do not have to be sampled if the first sample demonstrates that the material contains greater than 1 % asbestos according to OSHA 29 CFR 1910.120. At least the minimum number of samples specified by NESHAP and Asbestos Hazard Emergency Response Act (AHERA) requirements must be taken of each

homogenous material based on quantity to insure sampling compliance. If a positive result is achieved duplicate samples do not need to be analyzed.

All preliminary asbestos assessment reports should be submitted as a single pdf and bound copy and include the following:

1. Site photographs containing a representative image of the Site along with a description of where the picture was taken and what is shown in the image.
2. Inspector name(s) and license number(s)
3. Laboratory name and address
4. Laboratory testing methods used (polarized light microscopy, point count analysis)
5. Sample ID's with descriptions of what testing methods were performed on which samples
6. All analytical data including a percentage and type of asbestos present
7. Photographs of sampling locations with a description of the sampled material
8. All Chain of Custodies
9. Measured quantities of the material that has been sampled throughout the Site. If measurements cannot be taken, educated estimates shall be accepted. All estimates and any reasoning for estimate values should be noted
10. A breakdown of the condition of the material, applicable regulations, and the intended scope of work at the time of the inspection report preparation.
11. Data shall be broken down stating which material is "Category I Non-Friable, Category II Non-Friable, Friable, and/or Non Asbestos Containing"

The report shall be submitted to the Engineer for acceptance and concurrence. The cost of the inspection and report preparation shall be included in the cost of BUILDING REMOVAL.

Asbestos Abatement & Air Clearance Monitoring

Should the Environmental Report show positive testing for asbestos or other material, the contractor shall enlist an IDPH Licensed Asbestos Abatement contractor to remove all Asbestos Containing Materials (ACM) from the building prior to building removal. The abatement contractor shall be responsible for all notifications and fees as required by state and local agencies.
Removal of ACM shall be conducted in accordance with NESHAP regulations 40 CFR 61, Subpart M, and OSHA regulations 29 CFR 1926.1101. At the conclusion of the abatement project, all ACM shall be removed from the work area and transported to a regulated landfill location approved for disposal of asbestos-containing waste.

The Contractor shall provide a shipping manifest to the Engineer for the disposal of all ACM wastes.
Permits: The Contractor shall apply for permit(s) in compliance with applicable regulations of the Illinois Environmental Protection Agency. Any and all other permits required by other federal, state, or local agencies for carrying on the work shall be the responsibility of the Contractor. Copies of these permits shall be sent to the Engineer. All permits, including but not limited to removal, statewide asbestos, roadways, and 7460 airspace, the costs for each permit are included in the BUILDING REMOVAL.

Notifications: The "Removal/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least ten days prior to commencement of any asbestos removal or removal activity. Separate notices shall be sent for the asbestos removal work and the building removal if they are done as separate operations.

Asbestos Removal/Renovation Coordinator
Illinois Environmental Protection Agency

Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

A. All submittals and notices shall be made to the Engineer, except where otherwise specified herein.

B. Submittals that shall be made prior to start of work:

1. Submittals required under Asbestos Abatement Experience.

2. Submit documentation indicating that all employees have had medical examinations and instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures as specified in Worker Protection Procedures.

3. Submit manufacturer's certification stating that vacuums, ventilation equipment, and other equipment required to contain airborne fibers conform to ANSI 29.2.

4. Submit to the Engineer the brand name, manufacturer, and specification of all sealants or surfactants to be used. Testing under existing conditions will be required at the direction of the Engineer.

5. Submit proof that all required permits, site locations, and arrangements for transport and disposal of asbestos-containing or asbestos-contaminated materials, supplies, and the like have been obtained (i.e., a letter of authorization to utilize designated landfill).

6. Submit a list of penalties, including liquidated damages, incurred through noncompliance with asbestos abatement project specifications.

7. Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination units, the sequencing of work, the respiratory protection plan to be used during this work, a site safety plan, a disposal plan including the location of an approved disposal site, and a detailed description of the methods to be used to control pollution. The plan shall be submitted to the Engineer prior to the start of work.

8. Submit proof of written notification and compliance with Paragraph "Notifications".

C. Submittals that shall be made upon completion of abatement work:

1. Submit original trip tickets, and disposal receipts for all asbestos waste materials removed from the work area, and copies of all waste chain-of-custodies;

2. Submit daily copies of work site entry logbooks with information on worker and visitor access;

3. Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls; and

4. Submit results of any bulk material analysis and air sampling data collected during the course of the abatement including results of any on-site testing by any federal, state, or local agency.

Certificate of Insurance:

A. The Contractor shall document general liability insurance for personal injury, occupational disease and sickness or death, and property damage.

B. The Contractor shall document current Workmen's Compensation Insurance coverage.

C. The Contractor shall supply insurance certificates as specified by the contract documents.

Asbestos Abatement Experience:

A. Company Experience: Prior to starting work, the Contractor shall supply evidence that he/she has been prequalified with the Illinois Capital Development Board and that he/she has been included on the Illinois Department of Public Health's list of approved Contractors.

B. Personnel Experience:
    1. For Superintendent, the Contractor shall supply:
        a. Evidence of knowledge of applicable regulations in safety and environmental protection is required as well as training in asbestos abatement as evidenced by the successful completion of a training course in supervision of asbestos abatement as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to the Engineer prior to the start of work.
        b. Documentation of experience with abatement work in a supervisory position as evidenced through supervising at least two asbestos abatement projects; provide names, contact, phone number, and locations of two projects in which the individual(s) has worked in a supervisory capacity.

    2. For workers involved in the removal of friable and non-friable asbestos, the Contractor shall provide training as evidenced by the participation and successful completion of an accredited training course for asbestos abatement workers as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to all employees who will be working on this project.

After the completion of the final clean and when all surfaces in the critical barriers are dry, the contractor, and the Engineer shall inspect the area inside the critical barriers for visible residue. If the area is clear of residue, the contractor and the Engineer shall notify an air sampling professional that the contained area is ready for clearance air monitoring.

Abatement Air Monitoring:

The Contractor shall comply with the following:

A. Personal Monitoring: All personal monitoring shall be conducted per specifications listed in OSHA regulation, Title 29, Code of Federal Regulation 1926.58. All area sampling shall be conducted according to 40 CFR Part 763.90. All air monitoring equipment shall be calibrated and maintained in proper operating condition. Excursion limits shall be monitored daily. Personal monitoring is the responsibility of the Contractor. Additional personal samples may be required by the Engineer at any time during the project.

B. Contained Work Areas for Removal of Friable Asbestos: Area samples shall be collected within the work area daily. A minimum of one sample shall be taken outside of the abatement area removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.

C. Interior Non-Friable Asbestos-Containing Materials: The Contractor shall perform personal air monitoring during removal of all nonfriable Transite and floor tile removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.

D. Exterior Non-Friable Asbestos-Containing Materials: The Contractor shall perform personal air monitoring during removal of all nonfriable cementitious panels, piping, roofing felts, and built up roofing materials that contain asbestos.

E. The Contractor shall conduct down wind area sampling to monitor airborne fiber levels at a frequency of no less than three per day.

F. Air Monitoring Professional
    1. All air sampling shall be conducted by a qualified Air Sampling Professional supplied by the Contractor. The Air Sampling Professional shall submit documentation of successful completion of the National Institute for Occupational Safety and Health (NIOSH) course #582 - "Sampling and Evaluating Airborne Asbestos Dust".
    2. Air sampling shall be conducted according to NIOSH Method 7400. The results of these tests shall be provided to the Engineer within 24 hours of the collection of air samples.

Upon completion of the abatement and clearance air monitoring the contractor shall provide all air monitoring results and waste disposal chain-of-custody to the Engineer. These records shall be maintained for a period not less than 3 years.
Upon satisfaction of the Engineer that the requirements above have been met the building will be released for removal.
Containers containing substances such as paint, cleaners, oil, and other similar materials that manner consistent with the legal definition of hazardous waste are required to be treated and/or disposed of in a manner consistent with the federal or state requirements for hazardous waste and will not be paid for separately but will be included in the pay item for BUILDING REMOVAL.
The volume and cost of the abatement (Asbestos & Air Monitoring) shall be determined through the Inspection and Report and will not be paid for separately but will be included in the pay item for BUILDING REMOVAL.

<u>Lead Inspection and Report:</u>

- Identify building materials such as painted surfaces and pipes that may contain lead. Test materials as necessary

- Based on test results, perform a worker exposure assessment of the planned activities, that includes air monitoring and/or objective data, to determine if lead dust or fume may be generated at or above OSHA's action level (0.03 milligrams of lead per cubic meter of air (mg/m3))
- If so, then the activities must be done in compliance with 29 CFR 1926.62. This would include:
    - Establishing a written lead compliance program
    - Having a competent person conduct frequent and regular inspections of the jobsite, materials, and equipment
    - Sampling worker exposures
    - Using special equipment or methods to decrease lead-dust generation such as local exhaust ventilation, dust collection systems (on power tools), and good housekeeping practices
    - Providing respiratory protection and protective work clothing
    - Providing medical exams and blood tests before work begins and every six months, as necessary
    - Ensuring that workers wash their hands and face before eating, drinking, and smoking
    - Setting up and ensuring use of change areas and eating facilities that are separate from the work area
    - Limiting the wearing of lead-contaminated clothing in eating areas or away from the job site
- During certain tasks, workers must be treated as if they are exposed above the OSHA PEL (0.05 mg/m3) until an exposure assessment, which includes air sampling, is performed. For each of these tasks, OSHA has identified an exposure level on which to base decisions until an exposure assessment is complete. If planned activities include any of the tasks below, you must provide the following items while the exposure assessment is being performed: respiratory protection and PPE identified in 29 CFR 1926.62(d)(2), change areas, hand washing facilities, training, and biological monitoring. These tasks include:

  Where lead coatings or paint are present: manual demolition, scraping, and sanding; heat gun applications; power tool cleaning (with or without dust collection systems); cleanup activities where dry expandable abrasives are used; rivet busting; abrasive blasting (including enclosure movement or removal); welding; cutting; and torch burning.

Removal
Work includes:

- Board up and securing of identified structures to be demolished
- Utility disconnections
- Removal of all identified structures on property parcels at the above indicated locations
- Traffic Control
- Proper disposal of all demolition debris off site
- Application for and acquisition of all permits, licenses, certifications and associated fee payments.

Board up. Upon written notification from the Engineer, the Contractor shall board up and secure identified buildings using emergency board up techniques generally used by the insurance industry. Board up and secure services shall be performed within 48 hours of written notification from the Engineer. Board up includes but is not limited to covering windows, doors and other openings into the structure. The Contractor must provide temporary secured access to the

building interior if determined by the Engineer to be necessary for inspection or environmental remediation.

Signs: Immediately upon written notification of ownership and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:
PROPERTY ACQUIRED FOR
ROAD CONSTRUCTION
TO BE DEMOLISHED BY THE
(NAME OF COMPANY)
(ADDRESS)
VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing.

Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services that serve the building(s) according to the respective requirements and regulations of the Village, City, County, or utility companies involved. The Contractor shall disconnect and remove all service outlets and utility cable and/or conduits from the site up to the property line, as directed by the jurisdictional agency or as directed by the Engineer, in an approved manner. Utilities beyond the property line that serve any building the Contractor is to remove, shall be sealed in an approved manner.

The Contractor shall take reasonable action to determine the location of any underground utility facilities in and near the area for which such excavation operation is to be conducted; and shall plan the excavation or removal to avoid or minimize interference with underground utility facilities within the tolerance zone by utilizing such precautions that include, but are not limited to, hand excavation, vacuum excavation methods, and visually inspecting the excavation while in progress until clear of the existing marked facility;

During and following excavation and/or removal, the Contractor shall protect existing underground utility facilities in and near the excavation or removal area as required to avoid damage to the facility.

The Contractor shall backfill all excavations in such manner and with such materials as may be reasonably necessary for the protection of existing underground utility facilities in and near the excavation or removal area.

In addition to establishing the approximate location of the facility, the Contractor shall be required to fully expose the facility to verify its horizontal and vertical location, if underground operations are contemplated within the Tolerance Zone, which is defined to mean the approximate location of underground utility facilities defined as a strip of land at least 3 feet wide, but not wider than the width of the underground facility plus 2.0 feet on either side of the outside edge of such facility based upon the markings made by the Engineer or operator of the facility. Excavation within the tolerance zone requires extra care and precaution. This work is included as part of this Special Provision.

Building Removal. It shall be the responsibility of the Contractor to determine the limitations imposed by local ordinances with respect to construction operations, equipment noise, dust and

working time restrictions. The Contractor shall prosecute the work without delays or extended time intervals between activities.

The Contractor shall provide continued on-going inspections by a competent person as the demolition work progresses to detect hazards resulting from weakened or deteriorated floors or walls, or loosened material. No worker shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

Prior to and during demolition activities, the building structures shall be secured with Temporary Chain Link Fence (Portable) and provide such barricades as is necessary to prevent unauthorized access to the site and structures. The temporary chain link fence shall be a minimum of 6 feet high mounted and on stands or other such devices as approved by the Engineer so that the fence is portable and easily relocated as conditions change during construction. The individual fence panels shall be securely fastened together, and the stands or other mounting devices shall be weighted with sandbags as necessary to prevent movement.

The Contractor shall submit a catalog cut or details of the fence, gates, mounting stands, hardware, and other appurtenances for acceptance by the Engineer. The furnishing, installation, relocation of temporary chain link fences shall not be paid for separately but shall be included in the cost of BUILDING REMOVAL.

The Contractor is responsible for any damage to adjacent properties and facilities and shall promptly repair any damages to the satisfaction of the Engineer and the property owner at no additional cost. The use of explosives is prohibited.

Open burning of any type is not allowed. Haul routes for debris and access shall be maintained and kept free of dust and debris.

Building removals process shall occur as soon as receipt of permits from the permitting Authorities, as well as of building board up or when released by the Engineer from asbestos abatement activities. Structure removals shall occur within 14 calendar days of completion of environmental remediation or after receipt of written notification from the Engineer to commence if no environmental remediation is required with the work as specified above. All asbestos and other regulated materials shall be removed from the building(s) prior to building demolition.

Any holes, such as basements, shall be filled with Porous Granular Embankment, gradation per Article 1004.05 of the Standard Specifications. The procedures for placing and compacting of the backfill shall be in accordance with Articles 205.04, 205.05, and 205.06 of the Standard Specifications or approved by the Engineer. Basement floors shall be broken up into pieces not to exceed 3 sq ft in surface area prior to backfilling. At the option of the contractor, the broken basement floors may stay in place unless otherwise directed by the engineer. Foundations that are left in place shall be surveyed by the Contractor and the information provided to the Engineer. The cost of the Porous Granular Embankment shall be included in the cost of BUILDING REMOVAL.

Traffic Control. If the Contractor removes the building prior to the detour(s), the Contractor shall provide traffic control according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the “Illinois Manual on Uniform Traffic Control Devices for Street and Highways”, any special details and Highway Standards contained in the plans. The cost of Traffic Control shall be included in the cost of BUILDING REMOVAL.

Best Management Practices. The Village of Oswego is committed to the reduction of solid and construction waste from landfills and in the recycling of excess material generated by construction activities. It is strongly recommended that the Contractor seek every opportunity to properly recycle all construction material removed from the project sites.

The Contractor will be required to submit a Construction and Demolition Debris Recycling Plan for each demolition site based on the use of Best Management Practices (BMP's) prior to the start of the project to show a good faith effort in recycling material and reducing excess material sent to landfills. This plan shall be submitted at the release of any building to be removed. This plan must also include any recycling efforts of any subcontractor.

The following materials should be considered for recycling efforts:

- Asphalt material (bituminous concrete surfaces/driveways, asphalt shingles, tar paper)
- Portland Cement Concrete material (pavement, curb and gutter, foundations, floors, sidewalks, driveways, barrier walls)
- Metal material (piping, duct work, door/window frames, roof joints, poles and posts, support columns)
- Aluminum materials (siding, wiring, door/window frames)
- Brick (decorative, face, paving)
- Copper material (wire and cable)
- Landscape material (trees, chips, topsoil, plants, sod)
- Site material (aggregate, natural clean sands or soils, topsoil)
- Building components (cabinets, finished wood trim/millwork, windows, doors, window/doorframes, plumbing fixtures, heating and cooling equipment, wood flooring, carpeting, lighting fixtures, insulation)

The form at the end of this Special Provision shall be used as a guideline for Construction and Removal Debris Recycling Plan to document the type of material and volume to be recycled and the location or final disposal of material. This form shall be completed for each building removal site.

Site Removals. Ancillary buildings, structures, and pavements removed, including but not limited to: garages, sheds, pavements, driveways, patios, decks, sidewalks, poles, posts, walls, block, swings, play toys, fence, flag poles, and lighting units, as indicated on the plans, shall not be paid for separately.

Contractor to coordinate with the responsible utility companies or agencies before removing any public or private utility boxes, poles, posts, pedestals, manholes, valves, signs or other items within the demolition sites. All existing underground utility lines within the demolition sites shall be protected from being damaged. If any existing utility were to be disturbed, it is Contractor's responsibility to restore the infrastructure to its existing at no additional cost to the Village of Oswego.

Liquidated Damages: Failure by the Contractor to comply with the requirements and timeframes specified herein shall be grounds for liquidated damages of $700.00 for each and every occurrence, to be deducted from next pay estimate due Contractor.

Method of Measurement: This work will not be measured for payment.

Basis of Payment: BUILDING REMOVAL will be measured and paid for on a lump sum basis and payment will be in accordance with the following schedule:

(a) Upon completion of site security, board-up services and perimeter fencing installation, 10% of this item will be paid.

(b) The remaining 90% will be pro-rated over the remaining period for demolition and associated work required by this special provision and paid on monthly installments.

Pay Item Number	Designation	Unit of Measure
Z0007601	BUILDING REMOVAL NO. 1	LUMP SUM
Z0007602	BUILDING REMOVAL NO. 2	LUMP SUM
Z0007603	BUILDING REMOVAL NO. 3	LUMP SUM
Z0007604	BUILDING REMOVAL NO. 4	LUMP SUM

Construction and Removal Debris Recycling Plan

Site Location Number:_____

Site Address:_____

MATERIAL TO BE RECYCLED	VOLUME (Cu. yd. sf, ton, etc.)	DISPOSITION	DATE

We certify that the materials listed above were recycled as listed. Other miscellaneous debris was properly disposed of at an approved site. Proof of proper disposal will be provided upon request.

Company:_____

Submitted by:_____

Title:_____

FENCE REMOVAL

Description: This work shall consist of the removal and disposal of an existing fence 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.

FENCE REMOVAL AND REINSTALLATION

Description: This work shall consist of the satisfactory removal and reinstallation of portions of existing fence and its appurtenances at locations shown in the plans or as directed by the Engineer. This work shall be completed according to the applicable portions of Section 201, Section 664, and Section 665 of the Standards Specifications and as noted herein.

Posts shall be set vertical and true in alignment and post spacing shall match existing fence spacing as closely as possible. Surplus material will be offered to the property owner before disposal.

Prior to beginning work, the Contractor shall report an existing fence damage to the Engineer. Any fence, posts, railing, etc. damaged during removal, storage, or reinstallation shall be repaired or replaced by the Contractor as directed by the Engineer. No additional compensation will be provided for repair or replacement of fence damaged during removal, storage, or reinstallation.

There are animals within this fenced area; therefore, this work will need to be coordinated with the Engineer and the property owner.

Method of Measurement: This work will be measured in place in units of feet, along the base of the existing fence to be removed.

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

FILLING EXISTING WELLS

Description: This work shall be done according to Section 440, 501, and 672 of the Standard Specifications and this Special Provision. This work shall consist of the removal and satisfactory disposal of a concrete slab over the well, all the well pump and piping system, and shall fill and seal the well.
The Contractor shall remove the concrete slab and all associated structural elements, shortwalls

or foundations, both above ground and below grade down to a plane a minimum of 1 ft. below the bottom of the concrete slab. It shall be the responsibility of the Contractor to determine the thickness and volume of the concrete to be removed and the extent to which it is reinforced. No additional compensation will be allowed because of variations in the amount of reinforcement. Any reinforcement encountered shall be removed and disposed of properly without any additional compensation. Holes or voids created in the earth due to concrete removal shall be filled with aggregate, gradation CA6. The method of backfill and compaction must be approved by the Engineer.

The Contractor shall note any such existing utilities which conflict with the concrete to be removed, and request direction from the Engineer prior to removal activities at these locations. Any damage to existing utilities by the Contractor shall be repaired by the Contractor at his own expense to the satisfaction of 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 FILLING EXISTING WELLS which price shall include all labor, materials, and equipment necessary to complete the work.

REMOVING EXISTING SEPTIC TANK

Description: This work shall consist of the complete removal and disposal of existing underground septic tank including inlet and outlet pipes, chlorination chamber and leech field if applicable.

The septic tank and its contents shall be removed according to the methods approved by the Kendall County Health Department and the Engineer. The Contractor shall also comply with applicable provisions of the Private Sewage Disposal Code 905.4(f). The Contractor shall notify the Kendall County Health Department at least five business days prior to removal. Any fees associated in removal shall be included in the unit price of the removal. The tank shall be disposed of by a professional licensed septic tank removal company/contractor at a location approved by the Engineer.

Method of Measurement: This work will be measured for payment as each septic tank to be removed.

Basis of Payment: This work will be paid for at the contract unit price per each for REMOVING EXISTING SEPTIC TANK. The unit price shall include all equipment, materials and labor required to remove each existing septic tank.

REMOVE & RE-INSTALL PIPE CULVERTS

Description. This work shall consist of the removal of 3-36” RCP pipe culverts at the specified location shown on the plans. These pipe culverts will be used at the specified location(s) shown on the plans.

General Requirements. This work shall be completed in accordance with Section 551 of the Standard Specifications.

The removal and reinstallation of the pipe culverts shall be included in this work.

Where existing pipe culverts have been removed, the remaining voids shall be replaced with the construction of the proposed 5'x3' precast box culvert.

The basis of payment does not differentiate between removal and reinstallation of the storm sewers.

The Contractor shall dispose of any existing pipe culverts that are not reused within the project limits.

Method of Measurement. This work will be measured for payment according to Article 551.05 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per foot for REMOVE & RE-INSTALL PIPE CULVERTS (FOOT).

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.

STAMPED COLORED PORTLAND CEMENT CONCRETE

Description: This work shall consist of constructing integrally colored portland cement concrete pavement with an imprinted pattern, surface hardener, and cure/sealer. The concrete median shall be four inches thick and pavement ten inches thick.

Submittals: Manufacturer's data sheets shall be submitted on each product to be used, including preparation instructions, storage and handling requirements, and installation methods.

Quality Assurance: The installer shall provide a qualified foreman or supervisor who has a minimum of three years' experience with imprinted and textured concrete, and who has successfully completed at least five imprinted concrete installations of high quality and similar in scope to that required. The concrete shall be cast-in-place on the job site by trained and experienced workers. Materials shall be obtained from the same source for all the colored and imprinted work.

Mock-Up: Prior to beginning work the Contractor shall provide field samples of integrally colored portland cement concrete with an imprinted pattern, surface hardener, and cure/sealer. The samples shall be 48 inches by 48 inches in size with the surface colors and patterns specified. The Contractor shall not proceed with the work until the workmanship, pattern, color, and sheen are approved by the Village of Oswego. The Contractor shall refinish the mock-ups or provide additional samples as required to obtain the Village's approval.

Materials: The contractor shall furnish all materials according to Section 606 of the "Standard Specifications" and the following:

The Integral Coloring admixture shall be a non-fading synthetic oxide pigment meeting ASTM C979 at a 6% minimum percent loading and a maximum 8% loading by weight of the cementitious materials in the mix. The Contractor shall add the integral color according to manufacturer's instructions.

The Color Hardener shall be applied to the surface of the concrete according to the manufacturer's instructions and recommended application techniques.

The form release agent shall be provided in clear liquid form and shall be applied to the surface of the concrete according to the manufacturer's instructions and recommended application techniques.

The curing agent shall be a liquid membrane-forming clear curing compound conforming to AASHTO M148, Type 1. The Contractor shall apply the curing compound for integrally colored concrete according to the manufacturer's instructions and recommended application techniques. The curing compound shall be applied at a uniform interval after each pour to maintain consistency in finished coloration.

The Contractor shall use admixtures designed for use and compatibility with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides. The Contractor shall use the same admixtures for colored concrete pavement throughout the project.

Joint fillers shall be selected to match the integral colors selected for the project.

Equipment: Imprinting tools shall be used for texturing freshly placed concrete in a pattern/texture as approved by Engineer. The tools shall be used according to the manufacturer's instructions.

General: This work shall be performed according to Section 606 of the "Standard Specifications" and the following:

The colored concrete mixes for the entire project are to be consistent. If the Contractor chooses to provide mixes with High Early Strength, then all colored concrete will be provided with the same mix.

If additional water is added to the colored concrete once a truck is on site, this concrete will be rejected.

If the Engineer allows, minimal amounts of water may be applied to the surface of the colored concrete to complete the final surface finishing operations. If too much water is added to the surface of the colored concrete during final surface finishing operations such that the colored concrete no longer conforms to the approved color, the colored concrete may be rejected and replaced at the direction of the Engineer.

The Contractor shall cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of the colored concrete. The Contractor shall remove and replace discolored concrete as the Engineer directs.

The Contractor shall uniformly apply the liquid release agent onto the colored, still plastic state concrete, to provide a clean release of imprinting tools from the concrete surface without lifting imprint or rearing concrete.

The Contractor shall monitor the setting up of the concrete. Once the concrete is ready for imprinting, the Contractor shall accurately align and place the imprinting stamps uniformly pressing or pounding the imprint tools to produce the required pattern and depth of imprint on the concrete surface. The Contractor shall:

- Remove the platform tools immediately.
- Hand texture and stamp edges and surfaces unable to be imprinted with the stamping mats.
- Touch up imperfections such as broken corners, double imprints, and surface cracks.

Do not cure colored concrete using plastic sheeting unless necessary due to weather conditions. Plastic sheeting shall not be laid directly on top of the concrete, as discoloration will occur. Plastic shall be suspended above the concrete.

All completed areas of colored concrete shall be of consistent color and appearance and shall meet the approval of the Engineer. Any finished areas that are rejected by the Engineer shall be removed and replaced by the Contractor at no additional cost to the Village.

Method of Measurement: Stamped Colored Portland Cement Concrete Pavement 10" (Jointed) will be measured for payment in place and the area computed in square yards. Stamped Colored Portland Cement Concrete Median Surface 4 Inch (Special) will be measured for payment in place and the area computed in square feet. The concrete curb and gutter around the median and pavement will be measured for payment separately.

Basis of Payment: This work will be paid for at the contract unit price per square yard for STAMPED COLORED PORTLAND CEMENT CONCRETE PAVEMENT 10" (JOINTED) and per square foot for STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE 4 INCH (SPECIAL). The unit price shall include all labor, equipment and materials necessary to construct the stamped concrete.

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.

TRENCH BACKFILL, SPECIAL

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: Each lift shall be placed and compacted in accordance with Method 3 or Article 550.07 of the Standard Specifications, unless otherwise approved by the Engineer.
>
> Use of native soil for backfill shall be incidental to the cost of the sewer 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 sewer installation unless otherwise approved in advance by the Engineer.

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

> Storm Sewer
> Bedding (4" below bottom of pipe) – Coarse Aggregate
> Trench backfill (bottom of pipe to springline of pipe) – Fine Aggregate

Method of Measurement. This work shall be measured in cubic yards of Trench Backfill, Special 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, SPECIAL.

STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 12"

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.

General Requirements. 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.

Method of Measurement. This work will be measured for payment according to Article 550.10 of the Standard Specifications.

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, TYPE 1, WATER MAIN QUALITY PIPE, 12".

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.

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.

Trenches shall be backfilled with fine aggregate meeting the requirements of Article 1003.4 of the Standard Specifications or native subsoils the same requirements up to the proposed base course of the pavement structure within the standard trench width.

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.

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.

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.

FIRE HYDRANT

Description. This section includes requirements for supplying materials for and the installation of fire hydrants, 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 valve opening, two 2-1/2 inch hose nozzles and one pumper nozzle. 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.

CONCRETE FOUNDATIONS (SPECIAL)

Description: The work shall consist of constructing the foundation and floor slab for a prefabricated PRV/BOOSTER PUMP building in accordance with the plans.

Materials shall be according to the following.

Item	Article/Section
Portland Cement Concrete (Class SI)…	1020
Reinforcement Bars……	1006.10
Conduit……	1088.10

Structural Steel…… 1006.04
Structural Fill…… 586, 1003.04, 1004.05

Construction Requirements: The foundation shall be considered in accordance with the drawings. For the foundation, the horizontal limits for structure excavation shall be a vertical plane 2 ft from the edge of the footing foundation. The depth of excavation shall be to the top of the original ground surface or to the top of the foundation, whichever is less. Disposal of soil excavated outside the limited specified above will not be measured for payment.

All required reinforcement shall be firmly secured in place in the forms prior to placement of concrete. Conduits and cable duct sleeves shall be capped to prevent the entry of concrete or other foreign material during placement and finishing operations. Anchor bolts will be provided and installed by the contractor during installation of the PRV/BOOSTER PUMP building.

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

Basis of Payment: This work shall be paid for at the Contract price per each for CONCRETE FOUNDATIONS (SPECIAL) in accordance with the plans, which payment shall be full compensation for furnishing all labor, equipment, supplies and materials, and performing all operation necessary to complete this work as shown and specified herein.

Excavation and backfill required will not be measured separately for payment but will be considered as included in the contract unit price for CONCRETE FOUNDATIONS (SPECIAL). The disposal of the surplus excavated material will not be measured separately for payment but will be considered as included in the contract unit price for CONCRETE FOUNDATIONS (SPECIAL).

PRESSURE REDUCING VALVE VAULT

1.1 RELATED DOCUMENTS

1. Contract drawings for watermain layout and foundation
2. IDOT Standard Specifications for Road and Bridge Construction, Latest Edition

1.2 SCOPE OF WORK

The station manufacturer shall design, furnish, and deliver the specified factory-built station, with all the necessary piping, controls, and appurtenances as shown on the plans and as specified herein. The completed station shall be one (1) piece when delivered and require only off loading, installation on the foundation, pipeline, and drain line hook up, and electrical hook up by the site contractor to complete the installation on the Contractor provided foundation. The station shall be complete when delivered and will not require internal Contractor construction.

The manufacturer of the factory-built station shall have the complete design, manufacturing, and delivery responsibility for the aforementioned equipment. The station manufacturer shall be responsible for all sections of this specification. All work shall be completely coordinated with that of all other trades.

Approval to bid does not exempt the station manufacturer from meeting all requirements of the Contract Documents nor does it give any prior acceptance of any equipment or services.

Nor does it exempt the station manufacturer from providing the required contract design with bid submittals described hereinafter. The Contract Documents are the final authority for acceptance of the work provided.

The station manufacturer shall be Engineered Fluid, Inc., Centralia, IL or Metropolitan Industries, Inc., Romeoville, IL.

1.3 REFERENCES

1. American Water Works Association (AWWA)
2. Electrical Testing Laboratory (ETL)
3. American National Standards Institute (ANSI)
4. American Society for Testing and Materials (ASTM)
5. American Welding Society (AWS)
6. American Society of Mechanical Engineers (ASME)
7. Society For Protective Coatings (SSPC)
   (formally Steel Structures Painting Council)
8. National Sanitation Foundation (NSF)
9. Ten States Standard

2.1 PRE-BID SUBMITTAL

A. General:

1. Pre-Bid approval does not exempt the Contractor from meeting all the requirements of the Contract Documents nor does it give any prior acceptance of any equipment, software or services. The Contract Documents are the final authority for acceptance of the work provided. The Pre-Bid Submittal is not a part of the contract documents and as such does not exempt the Contractor from the requirements of contract submittals described hereinafter.

2. Information contained in the Pre-Bid Submittal shall be considered public information. All data submitted will become and remain the property of the Owner; none will be returned.

3. It is intended that the Owner shall receive the full benefit of any savings in cost involved in materials substitution as a result of a reduction of the contract price should they decide to accept an alternate.

4. The Engineer’s decision as to pre-bid approval shall be final. The Consulting Engineer shall be considered the sole judge of the merits of the alternate system and shall indicate pre-approval of the alternate system via a written addendum to the specifications prior to the actual bid date.

5. The right is reserved to reject any and all proposals, to waive any informality, irregularity, mistake, error or omission in any proposals received and to accept the proposal, as determined by the Engineer or Owner, deemed most favorable to the Owner's interests.

6. Final design will be completed through coordination with the Village and Contractor during the shop drawing review period.

7. Specific component manufacturers:

(a) Aurora pumps
(b) Cla-Val valves
(c) Allen Bradley PLC Equipment
(d) System Integrator – Concentric Engineering

B. Contents:

1. Include a complete Table of Conformance to each and every paragraph or part of the specifications. Use a chart format with specification part identified, indicate whether each part is in compliance, a deviation or an exception to the specific part. If an exception or deviation, include a narrative description as to how the deviation or exception can benefit the end-user of the system over that item specified.

2. Provide a block diagram of the proposed system showing all major components and their interconnections and interrelationships. All diagrams shall be in an 11 by 17 format.

3. Provide a written overview of the proposed system describing the principal functions and capabilities of the system's general system capabilities.

4. Provide an equipment list with descriptive literature and specifications for the proposed system. Included on the list shall be all major items. List shall include as a minimum, the manufacturer, the quantity provided, and model numbers for each.

5. Provide a tentative construction schedule for completion of the project within the specified Contract period. Indicate the following activities with milestones: Mobilization, submittal preparation, submittal review, equipment procurement, equipment assembly, and system configuration, factory testing, system delivery, system installation, startup, field testing and training, and post acceptance routine service intervals.

6. Describe the manufacturer's provisions for service, technical assistance and replacement parts for the proposed system. Identify with resumes, all personnel who will be providing technical support services for the project after it is accepted.

2.2 BUILDING CONSTRUCTION

A. The enclosure will be an above grade structure.

B. All materials must be resistant to moisture degradation and infestation and to be maintainable.

C. The enclosure must address and meet required:

a. Wind and Snow Loads
b. Acceptable Framing and Sheathing Materials and Minimums
c. Adequate Insulation R Value and Flame Spread Performance
d. Sufficient HVAC Calculations and Minimum Size
e. Acceptable Exterior Treatments and Finishes
f. Acceptable Interior Treatments and Finishes
g. Drainage Needs

h. Piping Floor Penetrations
i. Safety Floor Matting

D. Openings in the sidewalls and/or roof shall be as shown and be fully framed out and supported using single or multiple framing members sufficient to support and fasten those devices or equipment items requiring a framed opening, these being access hatches, HVAC equipment, pipe passages, conduit passages, door and window openings and other special purpose openings as might be shown and required. The attaching of devices or equipment to the building at a framed opening shall be done fully according to the device manufacturers mounting instructions.

E. The building shall be warranted by the station manufacturer for a period of ten (10) years from the date of delivery.

2.3 BOOSTER PUMPS

A. The station will maintain a two-pump system for redundancy (1 pump with a Variable Frequency Drive).

1. The pumps shall be Close Coupled End Suction by Aurora

B. The pumps shall be set on adequate vibration isolation pads with required pump support stand.

2.4 PIPE WELDING

A. All pipe welds shall be performed by certified welders employed by the pump station manufacturer. As part of the equipment submittal, the pump station manufacturer shall provide copies of the welding certificates of the employees who are to perform the pipe welds.

B. Shop welders shall be certified in accordance with ASME BPVC Section IX or AWS D1.1. Certification shall be done by an independent testing laboratory giving certification for the weld positions for which the tests were performed.

2.5 PIPE SURFACE PREPARATION

A. All piping inside and outside surfaces shall be prepared by grit blasting, or other abrasive blasting, prior to any welds taking place to minimum SP-6 finish.

2.6 PIPE CUTTING

A. Piping of 4" diameter and smaller may be cut by saw.

B. Piping of 6" diameter and larger shall be bevel cut, and Oxyfuel or Plasma-arc cutting techniques shall be used to assure and facilitate bevel pipe cuts.

2.7 SADDLE CUTS AND WELDS

A. Saddle cuts in pipe made in preparation for a saddle weld of a pipe at an angle to a pipe shall be made with numerically controlled, plasma cutting machines. Similarly, saddle end cuts to pipes to make a saddle mating piece shall be done with the same numerically

controlled plasma cutting equipment.

B. When the two saddle cut pieces are mated and welded with the MIG process, the internal finished weld shall be smooth and free of inclusions, crevices and other corrosion sites.

2.8 PIPE WELDING TECHNIQUES

A. Pipe welds shall be performed by metal added, inert gas shielded arc welding (MIG) techniques wherein the weld heat settings, the wire feed speed and the traverse speed of the work below the welding are numerically set to assure proper weld fusion and penetration and repeatable welds.

B. In all cases, short circuit transfer, spray transfer or pulse-arc transfer modes of the gas metal arc welding process shall be used.

C. When utilizing the short circuit mode, shielding gas consisting of 50% carbon dioxide and 50% argon gas shall be used. When utilizing the spray or pulse-arc transfer modes, a shielding gas consisting of 5% carbon dioxide and 95% argon shall be used.

D. In all cases, welding wire with a minimum tensile strength of 70,000 psi shall be employed.

E. All flange welds and butt welds of equal size pipe shall be a single continuous nonstop weld around the complete circumference of the pipe. Whenever possible, vertical up weld passes will be applied to all pipe welds. No vertical down weld passes will be allowed.

F. Completed pipe welded assemblies shall create no internal obstruction, restriction or create any unintended sources of water deflection.

G. Piping of six (6) inch diameter and larger shall require a minimum of two (2) weld passes to complete each weld. The first pass, or root pass, shall be applied at the bottom of the bevel cut using the short circuit transfer welding mode, and the second pass, or cap pass, shall be applied over the root pass using the spray or pulse arc transfer welding modes to insure that at a minimum the total weld thickness shall be equal to thinnest of the two pieces being welded together.

H. The pipe shall be sand blasted, as specified elsewhere, before pipe weld and after pipe weld, before fusion bonded epoxy is applied.

2.9 WELD STANDOFFS

A. No welding shall be performed on fusion bonded coated piping after the coating process has been performed.
B. Where any piping is to be welded after the application of fusion bonded epoxy coating to the inside of the pipe, at the point of the weld, a weld standoff must be welded to the pipe prior to the coating. The weld shall be made to the standoff and not onto the pipe.

2.10 PIPE SUPPORTS

A. Pipe supports are to be fully welded at both end points to the pipe and steel floor where required.
B. Where components are to be supported and may require disassembly at some time, the

supports for these components shall be welded at the bottom and bolted at the top by use of a bolt yoke welded to the top of the support and bolted into the flange connection picking up at least three bolts.

2.11 RISER PIPE VERTICAL SUPPORTS

A. All of the inlet and outlet vertical riser pipes shall be provided each with, two (2) structural steel, angle pipe support welded to the weldment plates on the vertical riser pipe to down to the floor. These supports shall be opposed by at least 120 degrees around the pipe. The minimum member size for these supports shall be 3” x 4” x 1/4” tubular steel.

2.12 FUSION BONDED EPOXY INTERNAL PIPE COATING

A. The internal surfaces of piping to be fusion bonded coated shall be grit blasted to an SP-10 finish with the finish profile required by the coating material manufacturer.

B. The internal, wetted surfaces of the steel transmission piping shall have applied to it a Fusion Bonded Epoxy Coating on the interior pipe surface. The coating shall be applied and meet the testing requirements of Table 1 and Table 2 with the exception of Table 2 section 7 per AWWA C-213.

C. The powder coating product shall be National Sanitation Foundation (NSF) Standard 61 certified material.

D. Prior to shipment of the station, the station manufacturer shall provide in writing to the Engineer certification that the fusion bonded epoxy coating has been applied to all internal surfaces of the steel piping using the proper method. Said certification shall show under the station manufacturer's letterhead:
   1. Date of application.
   2. Material manufacturer and product designation including a product data sheet for the coating.
   3. Applier of the fusion bonded coating, name, address and phone number.
   4. Notarized signature of an officer of the station manufacturing company stating the fusion bonded epoxy coating was applied to AWWA Standard C213-91 or the latest revision.

2.13 COATINGS - CORROSION PROTECTION

A. All interior and exterior surfaces of the exposed steel structure, transmission piping, and fittings shall be gritblasted equal to commercial blast cleaning (SSPC-SP6). Following fabrication all exposed surfaces of the station, interior, and exterior, shall be coated according to the following requirements.

2.14 WELDMENT PRIME COATING

A. All weldments will be pretreated by hand to provide additional corrosion protection using the same product as the base coat. Following the pretreatment full coating application shall take place.

2.15 BASE COATING

A. The base coating shall take place immediately after surface preparation. The protective coating shall consist of a two-component, high solids, high build, fast drying epoxy system for protection and finishing of steel and having excellent corrosion resistant properties. The epoxy system shall be self-priming and require no intermediate coatings.

2.16 TOP COATING

A. Following the base coating application, a full finish coating application shall take place. The protective coating shall consist of a two-component, high solids, high build, fast drying epoxy system for protection and finishing of steel and having excellent corrosion resistant properties. The epoxy system shall be self-priming and require no intermediate coatings. The base and finish coats shall provide a total dry mil thickness of 8.0 mils.

2.17 POST-ASSEMBLY COATING

A. Following assembly and just prior to shipping, there shall take place a thorough cleaning of the floor of the station followed by a rolled-on coating of the two-part epoxy coating to cover over any scuffing or scaring that might have occurred during assembly.

2.18. PRESSURE RELIEF VALVE

A. All design criteria will be provided up selection of the prefabricated manufacturer.

B. All Control Valve shall be a Cla-Val

2.19. PRESSURE TESTING

A. When the station plumbing is completed, the pressure piping within the station (including valves, pumps, control valves, and fittings), connections as make up the entire system shall be hydrostatically tested at a pressure of 150 psi or a pressure equal to the lowest test pressure rating of the equipment within the tested system, whichever is lesser pressure. The test pressure shall be applied for a minimum of 20 minutes, during which time all joints, connections and seams shall be checked for leaking. Any deficiencies found shall be repaired and the system shall be retested.

B. The results of this testing shall be transmitted in writing to the Engineer prior to shipment of the station and shall note test pressure, time at full pressure and be signed by the Quality Control Manager or test technician.

2.20. ELECTRICAL DESIGN, ASSEMBLY & TEST

A. The electrical apparatus and control panel design, assembly, and installation, and the integration of component parts will be the responsibility of the manufacturer of record for this booster pumping equipment. That manufacturer shall maintain at his regular place of business a complete electrical design, assembly and test facility to assure continuity of electrical design with equipment application. Control panels designed, assembled or tested at other than the regular production facilities or by other than the regular production employees of the manufacturer of record for this booster pumping equipment will not be approved.

2.21. CONFORMANCE TO BASIC ELECTRICAL STANDARDS

A. The manufacturer of electrical control panels and their mounting and installation shall be done in strict accordance with the requirements of UL Standard 508A and the National Electrical Code (NEC), NFPA 70 latest revision so as to afford a measure of security as to the ability of the eventual owner to safely operate the equipment.

B. No exceptions to the requirements of these codes and standards will be allowed; failure

to meet these requirements will be cause to remove the equipment and correct the violation.

2.22 SERVICE ENTRANCE EQUIPMENT

A. The main service disconnect shall consist of breakers, necessary buses, associated equipment, and shall be suitable for use with service entrance equipment.

B. Main Service Disconnect Circuit Breaker. The main service disconnect device shall be molded case circuit breaker with an interrupting rating of 65,000 amperes at 240 volts AC. The circuit breaker shall be molded case construction; UL listed in accordance with UL standard 489, and shall meet the requirements of NEMA Standard ABI-1975. The circuit breaker shall be provided with ground fault protection. The Enclosure shall be of NEMA Type 12 construction and shall be UL listed in accordance with UL standard 891. All live components shall be contained in the grounded metal enclosure.

C. Main Distribution Panel (MDP). The main distribution panel shall be 208 volts, 3-phase, 4-wire, 200 amperes, as specified on the Plans, and as herein specified. The main distribution panel shall meet all UL enclosure requirements and shall be furnished with a UL label.

1. The main distribution panel shall be completely factory assembled with incoming line main device and feeder devices. The incoming line main device shall be front accessible. The main distribution panel and breakers shall be the product of a single manufacturer. The enclosure shall be of NEMA Type 12 construction.

2. The equipment shall be designed, built, and tested in accordance with applicable portions of the latest editions of NEMA PB-2, Underwriters Laboratories standard UL-891, and the latest requirements of the National Electrical Code. All sections and devices shall be UL listed and labeled.

3. The distribution panel, as a complete unit, shall be given a short circuit current rating of 65,000 amperes by the manufacturer. Such a rating shall be established by actual tests conducted by the manufacturer, in accordance with applicable UL standards, on equipment constructed similarly to the subject distribution panel.

D. Bus Bars. All bus bars shall be hard drawn electrolytic copper having 98 percent conductivity and sized on a basis of a maximum of 1000 amperes per square inch of cross-sectional area.

E. Main Circuit Breaker. The main disconnect device shall be a molded case circuit breaker.

F. Branch Circuit Breakers. Group-mounted, molded case circuit breakers shall be front accessible and front connectable. The circuit breakers shall be mounted in the main distribution panel to permit installation, maintenance, and testing without reaching over any lineside bussing. The circuit breakers shall be removable by the disconnection of only the load side cable terminations, and all line and load side connections shall be individual to each circuit breaker. No common mounting brackets or electrical bus connectors shall be acceptable. Lineside circuit breaker connections shall be jaw type plug-on. Each circuit breaker shall be furnished with an externally operable mechanical means to trip the circuit breaker.

G. Nameplates. Engraved nameplates shall be furnished for all main and feeder circuits with designations and circuit numbers. The Contractor shall provide a Master Nameplate giving voltage and ampere rating, short circuit rating, manufacturer's name, general order number, and item number. All nameplates shall have black lettering on a white background.

2.23 MANUAL TRANSFER SWITCH

A. Transfer switch shall be suitable for 277/480 volt, 3-phase, 4-wire service. Transfer switch shall be a manual operated (non-automatic), 3-pole rated at 200 amperes. The NTS shall be enclosed in a NEMA Type 12 enclosure and shall be externally operated by a single quick-break/quick-make mechanism on the outside of the enclosure. The non-automatic transfer switch shall be provided with the following accessories:

1. One (1) set of auxiliary contacts shall be provided rated 10 amperes, 480VAC, consisting of one (1) contact closed when the NTS is connected to each source. Also, one (1) set of signal lights to indicate when the NTS is connected to each source shall be provided.

2. All main contacts shall be silver composition. Switches rated 600 amperes and above shall have segmented blow-on construction for high withstand current capability and be protected by separate arcing contacts. NTS's utilizing components of molded-case circuit breakers, contactors, or parts thereof which have not been intended for continuous duty, repetitive switching, or transfer between two (2) active power sources are not acceptable.

3. Inspection of all contacts (movable and stationary) shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors. A manual operating handle shall be provided for maintenance purposes. The handle shall permit the operator to stop the contacts at any point throughout the entire travel to properly inspect and service the contacts when required.

4. The NTS unit shall be mechanically held. The switch shall be positively locked and unaffected by voltage variations or momentary outages so that constant value and temperature rise at the contacts is minimized for maximum reliability and operating life. The switch shall be mechanically interlocked to ensure only one (1) of two (2) possible positions.

B. A visual position indicator shall be provided to indicate bypass isolation switch positions. A prominent and detailed instruction plate shall be provided for convenient operation. Enclosure construction shall be in accordance with UL and NEMA standards for industrial controls.

2.24 GENERATOR RECEPTACLE ASSEMBLY

A. A generator receptacle shall be furnished to supply power to the station during outages.

B. Generator receptacle shall be a 4-wire, 4-pole, 600 VAC, 200 amp receptacle matching the Village’s existing generator set.

2.25 PROGRAMMABLE LOGIC CONTROLLER (PLC) BASED EQUIPMENT CONTROL

SYSTEM

A. Scope
   1. Provide one (1) complete Programmable Logic Controller (P.L.C.) based control system as described herein. The system shall employ industry standard Programmable Logic Controllers as described herein. The system shall be completely factory integrated and tested in the factory and field run-in with factory personnel.

B. Basis-Of-Design PLC Equipment
   1. This equipment specification and related documents represent a design based on the Allen-Bradley 1400 Series Programmable Logic Controllers. Communications, interface, input/output and other peripheral devices have been proven to be 100% compatible with the Allen-Bradley equipment.

   2. No other PLC equipment is acceptable unless the Engineer-of-Record provides notification of alternate system approval by addendum prior to the bid date.

C. Complete System Responsibility
   1. Concentric Engineering shall be the System Integrator and as such will assume full and complete responsibility for the Station P.L.C. Control System and related control functions for the full scope of supply.

   2. This assumption of full responsibility shall include identifying all electrical, mechanical and plumbing schematics and wiring inter-connect diagrams, providing instrument installation details, preparing input/output listings, writing software, performing software and hardware integration, installation in the station at the factory, debugging, calibrating and tuning the various components and subsystems and providing training and warranty services.

2.23. LIGHTING

A. Station Exterior Lighting
   1. An exterior light shall be provided as located on the drawing. Housing shall be one piece, injection molded, bronze polycarbonate. A button type photo control shall be provided.
   2. All exterior lighting must be LED.

B. Station Interior Lighting
   1. There shall be one or more two-tube, 32 watt-equivalent per tube, electronic start, enclosed and gasketed, forty-eight (48) inch minimum length LED light fixtures installed within the equipment enclosure, as shown on the plan for this item. The light switch shall be of the night glow type and be located conveniently adjacent to the door.
   2. All interior lighting must be LED.

2.27 BUILDING HEATING AND COOLING

A. Heating/Cooling/Exhaust Unit
   1. The unit shall be one-piece, wall-mounted, factory-assembled, pre-charged, prewired, tested and ready-to-operate. The unit shall have a limited warranty of 5-years on parts and 1-year on compressor. Capacity and EER certified in accordance with ANSI/ARI Standard 390-2003.

B. Dehumidifiers

1. No dehumidifier required for this station.

2.28. ELECTRICAL APPARATUS – VARIABLE FREQUENCY DRIVES

A. This specification is to cover a complete Variable Frequency motor Drive (VFD) consisting of a pulse width modulated (PWM) inverter designed for use on a standard NEMA Design B induction motor.

B. The VFD package as specified herein shall be UL listed as a complete assembly and enclosed in an integrated UL type 1 enclosure, assembled and tested by the manufacturer in an ISO9001 facility. The VFD tolerated voltage window shall allow the VFD to operate from a line of +30% nominal, and -35% nominal voltage as a minimum.

C. All VFDs shall have the same customer interface, including digital display, and keypad, regardless of horsepower rating. The keypad shall be removable, capable of remote mounting and allow for uploading and downloading of parameter settings as an aid for start-up of multiple VFDs.

D. The keypad shall include Hand-Off Auto selections and manual speed control. The drive shall incorporate bumpless transfer of speed reference when switching between Hand and Auto modes. There shall be fault reset and Help buttons on the keypad. The Help button shall include on-line assistance for programming and troubleshooting.

E. There shall be a built-in time clock in the VFD keypad. The clock shall have a battery backup with 10 years minimum life span. The clock shall be used to date and time stamp faults and record operating parameters at the time of fault. The clock shall also be programmable to control start/stop functions, constant speeds, PID parameter sets and output relays. The VFD shall have a digital input that allows an override to the time clock (when in the off mode) for a programmable time frame. There shall be four (4) separate, independent timer functions that have both weekday and weekend settings.

F. The VFDs shall utilize pre-programmed application macros specifically designed to facilitate start-up. The Application Macros shall provide on command to reprogram all parameters and customer interfaces for a particular application to reduce programming time. The VFD shall have two user macros to allow the end-user to create and save custom settings.

G. The VFD shall have cooling fans that are designed for easy replacement. Operating temperature will be monitored and used to cycle the fans on and off as required. The VFD shall be capable of starting into a coasting load (forward or reverse) up to full speed and accelerate of decelerate to setpoint without safety tripping or component damage (flying start).

H. The VFD shall have the ability to automatically restart after an over-current, over-voltage, under-voltage, or loss of input signal protective trip. The number of restart attempts, trial time, and time between attempts shall be programmable.

I. The overloading rating of the drive shall be 110% of its normal duty current rating for one (1) minute every ten (10) minutes, 130% overload for two (2) seconds. The minimum FLA rating shall meet or exceed the values in the NEC/UL table 430-150 for 4-pole motors.

J. The VFD shall have an integral 5% impedance line reactors to reduce the harmonics to

the power line and to add protection from AC line transients. The 5% impedance may be from dual (positive and negative DC buss) reactors, or 5% AC line reactors. VFDs with only one DC reactor shall add AC line reactors.

K. The VFD shall include a coordinated AC transient protection system consisting of 4-120 joule rated MOVs (phase to phase and phase to ground), a capacitor clamp, and 5% impedance reactors.

L. The VFD shall be capable of sensing a loss of load (broken belt/broken coupling) and signal the loss of load condition. Relay outputs shall include programmable time displays that will allow for drive acceleration from zero speed without signaling a false underload condition.

M. If the input reference (4-20mA or 2-10V) is lost, the VFD shall give the user the option of either (1) stopping and displaying a fault, (2) running at a programmable preset speed, (3) hold the VFD speed based on the last good reference received, or (4) cause a warning to be issued, as selected by the user.

N. The VFD shall have programmable Sleep and Wake up functions to allow the drive to be started and stopped from the level of process feedback signal.

O. All VFD to have the following adjustments:
   1. Three (3) programmable critical frequency lockout ranges to prevent the VFD from operating the load continuously at an unstable speed.
   2. Two (2) PID Setpoint controllers shall be standard in the drive, allowing pressure or flow signals to be connected to the VFD, using the microprocessor in the VFD for the closed loop control.
   3. Two (2) programmable analog inputs shall accept current or voltage signals.
   4. Two (2) programmable analog outputs (0-20mA or 4-20mA).
   5. Six (6) programmable digital inputs for maximum flexibility in interfacing with external devices.
   6. Three (3) programmable digital Form-C relay outputs.
   7. Seven (7) programmable preset speeds.
   8. Two (2) independently adjustable accel and decel ramps with 1 - 1800 seconds adjustable time ramps.
   9. The VFD shall include a motor flux optimization circuit that will automatically reduce applied motor voltage to the motor to optimize energy consumption and audible motor noise.
   10. The VFD shall include a carrier frequency control circuit that reduces the carrier frequency based on actual VFD temperature that allows the highest carrier frequency without derating the VFD or operating at high carrier frequency only at low speeds.
   11. The VFD shall include password protection against parameter changes.

P. The Keypad shall include a backlit LCD display. The display shall be in complete English words for programming and fault diagnostics (alpha-numeric codes are not acceptable). All applicable operating values shall be capable of being displayed in engineering (user) units. A minimum of three operating values shall be capable of being displayed at all times.

Q. The VFD shall have an RS-485 port as standard. The standard protocols shall be Modbus, Johnson Controls N2 bus, and Siemens Building Technologies FLN. Each individual drive shall have the protocol in the base VFD. All protocols shall be certified by the governing

authority. Serial communications capabilities shall include, but not be limited to; run-stop control, speed set adjustments, current limit, accel/decel time adjustments, and lock and unlock the keypad. The drive shall have the capability of allowing the DDC to monitor feedback such as process variable feedback, output speed/frequency, current (in amps), percent torque, power (kW), kilowatt hours (resettable), operating hours (resettable), and drive temperature. The DDC shall also be capable of monitoring the VFD relay output status, digital input status, and all analog input and analog output valves. All diagnostic warning and fault information shall be transmitted over the serial communications bus. Remote VFD fault reset shall be possible. The following additional status indicates and settings shall be transmitted over the serial communications buss - keypad Hand or Auto selected, bypass selected, the ability to change the PID setpoint, and the ability to force the unit to bypass (if bypass is specified). The DDC system shall also be able to monitor if the motor is running in the VFD mode or bypass mode (if bypass is specified) over serial communications. A minimum of 15 field parameters shall be capable of being monitored. The VFD shall allow the DDC to control the drive's digital and analog outputs via the serial interface. This control shall be independent of any VFD function.

R. All VFDs shall include EMI/RFI filters. The onboard filters shall allow the VFD assemble to be CE Marked and the VFD shall meet product standard EN 61800-3 for the First Environment restricted level.

S. All VFDs through 50 HP shall be protected from input and output power mis-wiring. The VFD shall sense this condition and display an alarm on the keypad.

T. Optional bypass to be furnished and mounted by the drive manufacturer. All optional features shall be UL Listed by the drive manufacturer as a complete assembly and carry a UL508 label.
   1. A complete factory wired and tested bypass system consisting of a disconnect switch with door mounted control lever. The lever can padlocked in the OFF position.

   2. Bypass starter.

   3. The drive/bypass shall provide single-phase motor protection in both the VFD and bypass modes.

2.29. The variable frequency drive units shall be Allen Bradley (ABB).

2.30. MEASUREMENT

Work under this item will be measured per each.

2.31 PAYMENT

The work shall be paid for at the contract price per each for PRESSURE REDUCING VALVE VAULT which shall be payment in full for all work listed herein and as directed by the Engineer.

ELECTRIC SERVICE INSTALLATION, SPECIAL

Description.

This work shall consist of furnishing a completely installed and functioning 277/480 Volt, 3-phase, 4-wire, grounded electric utility service for the supply of electric power to the pressure relief valve (PRV) vault.

The service shall include all work, materials, equipment, and labor required to connect the Pressure Relief Valve Vault to the ComEd power pole at the location shown in the plans.

Materials.

Service Entrance Equipment

- Service Characteristics. ComEd will provide a pole mounted 480/277 volts, 3-phase, 4-wire, 60 hertz transformer.

- Related work by the Contractor. The Contractor shall provide the required u-guard, along with the secondary side conduit, trench, and cable, from the utility metering cabinet at the PRV Vault to the secondary side of pole mounted transformer. The utility metering cabinet shall be provided by the Contractor.

Installation. Installation shall be in accordance with Section 804.04 of the Standard Specifications.

Method of Measurement. This work shall not be measured for payment.

Basis of Payment. This work shall be paid at the contract unit price per lump sum for ELECTRIC SERVICE INSTALLATION, SPECIAL, to be performed in accordance with the Plans and Special Provision.

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 hea\/y-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, foreach 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 STOP 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.

DUCTILE IRON SLEEVE, 12"

Description: This work shall consist of installing ductile iron sleeves as shown and detailed on the plans. 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 and installation methods are to meet or exceed the following requirements:

Ductile Iron Pipe
A. Minimum Thickness Class: 1. 4 inch (100 mm) through 24 inch (600 mm) sizes: Class 53 per AWWA C151.
B. Cement-mortar lined: per AWWA C104 with asphalt seal coat.
C. External coating: asphalt per AWWA C 151.

Joint Type
Use push-on type, except as otherwise required in the contract documents.
1. Push-on: per AWWA C111.
2. Mechanical: per AWWA C111.
3. Restrained, buried: Pipe manufacturer's standard field removable system.
4. Restrained, in structures: Restraining gland, flanged or grooved.
5. Flanged: AWWA C111.
6. Grooved: AWWA C606.

7. Gaskets: Per AWWA C111.

Spacers
Use manufactured casing spacers to position carrier pipe in casing. Wood skids will not be allowed.
Use the following material requirements for casing spacers:
1. HDPE Band/Panel and Riser: ASTM D 638.
2. Stainless Steel or Carbon Steel Band/Panel and Riser: Type 304 stainless steel per

ASTM A 240 or carbon steel per ASTM 36.
a. Liner: Elastomeric PVC per ASTM D 149.
b. Spacer Skid/Runner: Abrasion resistant polymer with a low coefficient of friction.
c. Fasteners: Type 304 (18-8) stainless steel per ASTM A 193.

End Seal
Manufactured synthetic rubber casing end seal with a minimum 1/8 inch (3 mm) thickness and stainless steel bands and fasteners.

Ductile Iron Sleeve Installation Through Abutments And Piers

Clean dirt and debris from the casing pipe after installation. Install casing spacers to pipe sections as necessary to support pipe barrel according to the pipe manufacturer's recommendation. Space according to the pipe manufacturer’s recommendation. As a minimum, place a spacer at each opening in abutments and piers. Do not allow pipe to be supported by joint bells. Lubricate casing spacers with drilling mud or flax soap. Do not use petroleum-based lubricants or oils.

Method of Measurement: All ductile iron sleeve, 12” shown on the plans will be measured for payment on a per each.

Basis of Payment: The work shall be paid for at the contract unit price per EACH for DUCTILE IRON SLEEVE, 12", which price shall be payment in full for performing all work described herein.

DECORATIVE LIGHT POLE, TYPE A

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 DECORATIVE LIGHT POLE, TYPE A, 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 1W-ML730-32L-40-T3-MDL014-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, IP BASED

Description: This work shall consist of furnishing and installing an integrated Closed-Circuit Television (CCTV) Dome Camera Assembly, camera brackets, 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 an Axis Model Q6074-E Dome Camera Assembly 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.

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 assembly shall be supplied with an integral sun shield. The enclosure shall be fully water and weather resistant with a NEMA 4 rating or better. The camera dome shall be constructed of distortion free acrylic or equivalent material that must not degrade from environmental conditions. The environmental housing shall include a camera mounting bracket. In addition, the environmental housing shall include a heater, blower, and power surge protector. An integral fitting compatible with a standard 1-1/2 in (38.1 mm) NPT pipe, suitable for outdoor pendant mounting, shall also be provided. The enclosure shall be equipped with a heater controlled by a thermostat. The heater shall turn on when the temperature within the enclosure falls below 40°F (4.4°C). The heater shall turn off when the temperature exceeds 60°F (15.6°C). The heater will minimize internal fogging of the dome faceplate when the assembly is operated in cold weather. In addition, a fan shall be provided as part of the enclosure. The fan will provide airflow to ensure effective heating and to minimize condensation.

The enclosure shall be equipped with a hermetically sealed, IP 66 Rated weatherproof connector, located near the top for external interface.

CCTV Dome Camera Mounting Supports: The Contractor shall furnish and install an Axis Pole Mount Bracket T91L61 (Part Number 5801- 721) for camera installation on a CCTV camera poles, 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. Mount shall be of aluminum construction with enamel or polyester powder coat finish. Braces, supports, and hardware shall be stainless steel. Wind load rating shall be designed for sustained gusts up to 90 mph (145 km/hr) with a 30% gust factor. Load rating shall be designed to support up to 75 lbs. (334 N). For roof or structural post/light pole mounting, mount shall have the ability to swivel inward for servicing. The mounting flange shall use standard 1-1/2 inch (38.1 mm) NPT pipe thread.

Connecting Cables

The Contractor shall furnish and install outdoor rated, gel-filled CAT 5E cable. The cable shall be terminated using the IP66 rated RJ-45 connector on the camera end and a standard RJ-45 connector in the lighten cabinet. The Contractor shall test the cable prior after termination.

The cable shall be rated for outdoor use and conform to the following specifications:

- Outdoor CMX Rated Jacket (climate/oil resistant jacket)
- UV Resistant Outer Jacket Material (PVC-UV, UV Stabilized)
- Outer Jacket Ripcord
- Designed For Outdoor Above- Ground or Conduit Duct applications
- Cat5E rated to 350MHz (great for 10/100 or even 1000mbps Gigabit Ethernet)
- Meets TIA/EIA 568b.2 Standard
- Unshielded Twist Pair
- 4 Pairs, 8 Conductors
- 24AWG, Solid Core Copper
- UL 444 ANSI TIA/EIA-568.2 ISO/IEC 11801
- RoHS Compliant
- Gel filled

CONSTRUCTION REQUIREMENTS

General

The Contractor shall prepare a shop drawing detailing the complete CCTV Dome 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 CCTV dome camera assembly at the locations indicated in the Plans or as directed by the Engineer. The CCTV Dome Camera Assembly shall be mounted on a new camera pole.

Testing

The Contractor shall test each installed CCTV Dome 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: The closed circuit television dome camera bid item will be measured for payment by each for the actual number of CCTV dome camera assemblies furnished, installed, tested, and accepted.

Basis of Payment: Payment will be made at the contract unit price for each CLOSED CIRCUIT TELEVISION DOME CAMERA, IP BASED including all equipment, material, 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.

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 **2**.

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.

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, US 34 to Harvey Road

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: 41.68924 (Decimal Degrees) Longitude: - 88.32459 (-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: 41.68924 Longitude: - 88.32459

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, no RECs were identified within or adjacent to the areas of proposed excavation.

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.

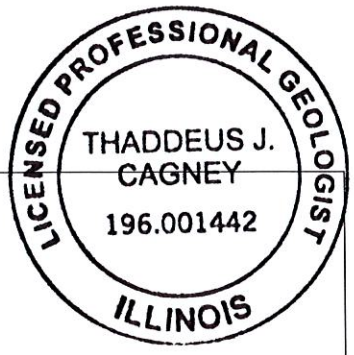
Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

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:

Aug 12, 2021
Date:



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

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section Number
FAU 1577	Wolfs Crossing Road	20-00052-01-PV
Project Number	**County**	**Contract Number**
2VBW(027)	Kendall	87783

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.

Signature	Date
Joann Majewski	6/8/2022

Print Name	Title	Agency
Joann Majewski	Project Manager	Alfred Benesch & Company

Note: Guidance on preparing each section of BDE 2342 can be found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual. Chapter 41 and this form also reference the IDOT Drainage Manual which should be readily available.

I. Site Description:

A. Provide a description of the project location; include latitude and longitude, section, town, and range:

The project is located in the Village of Oswego on Wolfs Crossing Road at the intersection of Harvey Road. (41° 41'37.7"N 88°16'31.3"W, Section 12:11:14:13, Township 37N, Range 8E)

B. Provide a description of the construction activity which is the subject of this plan. Include the number of construction stages, drainage improvements, in-stream work, installation, maintenance, removal of erosion measures, and permanent stabilization:

The project consists of 2 construction stages. Traffic will be detoured during both construction stages. The existing 4-leg stop controlled intersection will be replaced with a 2-lane roundabout. The project also consists of revising the roadway configuration of Wolfs Crossing Road and Harvey Road from 2-lane to 4-lane within the influence area of the intersection. The reconstruction will be drained by closed and open drainage systems. The project also includes watermain work on the north side of Wolfs Crossing Road within the limits of the project and extends to the west to Fifth St. No in-stream work is required. Temporary erosion control measures are to be placed during construction and final seeding to be placed at the conclusion of construction.

C. Provide the estimated duration of this project:

125 days

D. The total area of the construction site is estimated to be 15.68 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 15.68 acres.

E. The following are weighted averages of the runoff coefficient for this project before and after construction activities are completed; see Section 4-102 of the IDOT Drainage Manual:

before: 0.50 after: 0.59

F. List all soils found within project boundaries; include map unit name, slope information, and erosivity:

152A - Drummer silty clay loam, 0%-2%, Slight
223C2 - Varna Silt, 4% to 6%, Moderate
356A - Elpaso silty clay loam, 0%-2%, Slight
442A - Mundelein silt loam, 0% to 2%, Slight
443A - Barrington silt loam, 0% to 2%, Slight
541B - Graymont silt loam, 2% to 5%, Moderate
614A - Chenoa silty clay loam, 0%-2%, Slight
According to NRCS soil survey, "slight" indicates that little or no erosion is likely. "Moderate" indicates that some erosion is likely and that occasional maintenance and simple erosion control measures may be needed.

G. If wetlands were delineated for this project, provide an extent of wetland acreage at the site; see Phase I report:

Yes, 0.50 acres

H. Provide a description of potentially erosive areas associated with this project:

223C2 - Varna Silt, 4% to 6%, Moderate
541B - Graymont silt loam, 2% to 5%, Moderate

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g., steepness of slopes, length of slopes, etc.):

The above soils are found in throughout the length of the project. Slope is the main erosive factor.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) , and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Village of Oswego

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located:

Village of Oswego; Oswego Township

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. In addition, include receiving waters that are listed as Biologically Significant Streams by the Illinois Department of Natural Resources (IDNR). The location of the receiving waters can be found on the erosion and sediment control plans:

N/A

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes (i.e., 1:3 or steeper), highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc. Include any commitments or requirements to protect adjacent wetlands.

For any storm water discharges from construction activities within 50-feet of Waters of the U.S. (except for activities for water-dependent structures authorized by a Section 404 permit, describe: a) How a 50-foot undisturbed natural buffer will be provided between the construction activity and the Waters of the U.S. or b) How additional erosion and sediment controls will be provided within that area.

N/A

O. Per the Phase I document, the following sensitive environmental resources are associated with this project and may have the potential to be impacted by the proposed development. Further guidance on these resources is available in Section 41-4 of the BDE Manual.

weighted runoff coefficient after construction complete: 0.59

☐ 303(d) Listed receiving waters for suspended solids, turbidity, or siltation.
The name(s) of the listed water body, and identification of all pollutants causing impairment:

N/A

Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

All disturbed areas will be seeded and temporary erosion control blanket will be placed to prevent erosion. Perimeter erosion barrier will be placed to prevent sediment discharge. Additionally, inlet filter protection will be provided for all inlets and temporary ditch checks placed for areas of open drainage.

Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

N/A

Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

N/A

☐ Applicable Federal, Tribal, State, or Local Programs

N/A

☐ Floodplain

N/A

☒ Historic Preservation

Farmstead, 560 Wolfs Crossing Road

☐ Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation

TMDL (fill out this section if checked above)

The name(s) of the listed water body:

N/A

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

N/A

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

N/A

☐ Threatened and Endangered Species/Illinois Natural Areas (INAI)/Nature Preserves

☐ Other

☒ Wetland

wetlands will be mitigated for this project

P. The following pollutants of concern will be associated with this construction project:

☒ Antifreeze / Coolants

☒ Solid Waste Debris

- ☒ Concrete
- ☒ Concrete Curing Compounds
- ☒ Concrete Truck Waste
- ☒ Fertilizers / Pesticides
- ☐ Paints
- ☒ Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
- ☒ Soil Sediment
- ☐ Solvents
- ☒ Waste water from cleaning construction equipments
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in Section I.C above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. **Erosion and Sediment Controls:** 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.

B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II.B.1 and II.B.2, stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- ☒ Erosion Control Blanket / Mulching
- ☐ Geotextiles
- ☒ Permanent Seeding
- ☐ Preservation of Mature Seeding
- ☒ Protection of Trees
- ☐ Sodding
- ☒ Temporary Erosion Control Seeding
- ☐ Temporary Turf (Seeding, Class 7)
- ☐ Temporary Mulching
- ☐ Vegetated Buffer Strips
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

Describe how the stabilization practices listed above will be utilized during construction:

Temporary erosion control blanket and temporary seeding to be used per specifications and as directed by the Engineer during construction; tree protection to be placed prior to construction start to protect trees not designated for removal and are within limits of construction areas.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

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

C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- ☐ Aggregate Ditch
- ☐ Concrete Revetment Mats
- ☐ Dust Suppression
- ☐ Dewatering Filtering
- ☐ Gabions
- ☐ In-Stream or Wetland Work
- ☐ Level Spreaders
- ☐ Paved Ditch
- ☐ Permanent Check Dams
- ☒ Perimeter Erosion Barrier
- ☐ Permanent Sediment Basin
- ☐ Retaining Walls
- ☐ Riprap
- ☐ Rock Outlet Protection
- ☐ Sediment Trap
- ☒ Storm Drain Inlet Protection
- ☒ Stabilized Construction Exits
- ☐ Stabilized Trench Flow
- ☐ Slope Mattress
- ☐ Slope Walls
- ☒ Temporary Ditch Check
- ☐ Temporary Pipe Slope Drain
- ☐ Temporary Sediment Basin
- ☐ Temporary Stream Crossing
- ☐ Turf Reinforcement Mats
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

Describe how the structural practices listed above will be utilized during construction:

Perimeter erosion barrier will be placed around the outer limits of work prior to the start of construction start, stabilized construction entrances to be placed for use during construction, storm drain inlet protection to be placed in inlets as constructed. Temporary ditch checks will be placed once ditch grading is complete and will minimize sediment from leaving the construction area.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Perimeter erosion barrier, inlet protection, stabilized construction entrances and temporary ditch checks are to be removed once construction has been completed.

D. **Treatment Chemicals**

Will polymer flocculants or treatment chemicals be utilized on this project: ☐ Yes ☒ No

If *yes* above, identify where and how polymer flocculants or treatment chemicals will be utilized on this project.

E. **Permanent (i.e., Post-Construction) Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed.The installation of these devices may be subject to Section 404 of the Clean Water Act.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

   The practices selected for implementation were determined based on the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT BDE Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions

are maintained and protected (e.g., maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

Permanent landscaping and seeding

F. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

Illinois Procedures and Standards for Urban Soil and Erosion and Sedimentation Control

G. **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 cons
   - 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.
   - 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 (chemicals, concrete curing compounds, petroleum, etc.)
   - 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.

- Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
- Additional measures indicated in the plan.

III. Maintenance:

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. Describe how all items will be checked for structural integrity, sediment accumulation and functionality. Any damage or undermining shall be repaired immediately. Provide specifics on how repairs will be made. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. 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.

During construction, the Contractor shall clean and grade the work area to eliminate concentration of runoff and 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 Gneering. All maintenance of erosion control systems will be the responsibility of the Contractor.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site including Borrow, Waste, and Use Areas, which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report, BC 2259. Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5” or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an “Incidence of Non-Compliance” (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall 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. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:
Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. 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.

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	20-00052-01-PV

Project Number	County	Contract Number
2VBW(027)	Kendall	87783

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

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 North Grand Avenue, East; 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 Theodore Drive
Oswego, IL 60543

PERMIT NUMBER: 1446-FY2022

DATE ISSUED: July 26, 2022
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: Alfred Benesch & Company
NUMBER OF PLAN SHEETS: 16
TITLE OF PLANS: "Wolfs Crossing Road Water Main Extension"
APPLICATION RECEIVED DATE: June 23, 2022

PROPOSED IMPROVEMENTS:

Install approximately 6,870 feet of 12-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.
2. The permit approval is for the Application, Schedule B, and 16 plan sheets received on June 23, 2022.

DCC:GAZ

cc: Alfred Benesch & Company
Elgin Regional Office

David C. Cook, 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 the Board for 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.

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

BLENDED FINELY DIVIDED MINERALS (BDE)

Effective: April 1, 2021

Revise the second paragraph of Article 1010.01 of the Standard Specifications to read:

"Different sources or types of finely divided minerals shall not be mixed or used alternately in the same item of construction, except as a blended finely divided mineral product according to Article 1010.06."

Add the following article to Section 1010 of the Standard Specifications:

"**1010.06 Blended Finely Divided Minerals.** Blended finely divided minerals shall be the product resulting from the blending or intergrinding of two or three finely divided minerals. Blended finely divided minerals shall be according to ASTM C 1697, except as follows.

(a) Blending shall be accomplished by mechanically or pneumatically intermixing the constituent finely divided minerals into a uniform mixture that is then discharged into a silo for storage or tanker for transportation.

(b) The blended finely divided mineral product will be classified according to its predominant constituent or the manufacturer's designation and shall meet the chemical requirements of its classification. The other finely divided mineral constituent(s) will not be required to conform to their individual standards."

80436

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017
Revised: April 1, 2019

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

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

(1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.

(2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.

(3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days."

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

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

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

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

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

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

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

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

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

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

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

(1) When adverse weather prevents work on the controlling item.

(2) When job conditions due to recent weather prevent work on the controlling item.

(3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.

(4) When delays caused by utility or railroad adjustments prevent work on the controlling item.

(5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.

(6) When any condition over which the Contractor has no control prevents work on the controlling item."

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

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

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

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

Add the following to Section 109 of the Standard Specifications.

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

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

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

(a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.

(b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.

(1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

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

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

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

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

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

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

80384

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010
Revised: November 1, 2014

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

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

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

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

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

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

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

b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

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

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

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

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

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

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

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

Diesel Retrofit Deficiency Deduction

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

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

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

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

80261

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000
Revised: March 2, 2019

FEDERAL 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 by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract the Contractor signs with a subcontractor.

> 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 contracts funded in whole or in part with federal or state funds. 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:
>
> (a) Withholding progress payments;
>
> (b) Assessing sanctions;
>
> (c) Liquidated damages; and/or
>
> (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform 8 % 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. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

(a) The bidder documents enough DBE participation has been obtained to meet the goal or,

(b) The bidder documents a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:
http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index.

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must 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 Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not

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.

GOOD FAITH EFFORT PROCEDURES. 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 enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will 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 bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. This means the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts the bidder has made. Mere *pro forma* efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

(a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.

(1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with

the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

(5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

(6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

(7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.

(b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not

approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

(c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed 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 companies. 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 counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

(a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.

(b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

(c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.

(d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:

(1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

(2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.

(e) DBE as a material supplier:

(1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.

(2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.

(3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. 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 goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

(a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at DOT.DBE.UP@illinois.gov.

(b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

(c) SUBCONTRACT. The Contractor must provide copies of 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.

(d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:

(1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or

(2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or

(3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

(e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

(1) The listed DBE subcontractor fails or refuses to execute a written contract;

(2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;

(3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;

(4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.

(6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;

(7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;

(8) The listed DBE is ineligible to receive DBE credit for the type of work required;

(9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;

(10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

(f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore 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 on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily completed. 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. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.

(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.

(h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of “Good Faith Effort Procedures” of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the

Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

80029

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 – LONGITUDINAL JOINT SEALANT (BDE)

Effective: November 1, 2022

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):

"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)
3/4 (19)	0.44 (0.66)		
1 (25)	0.58 (0.86)		
1 1/4 (32)	0.66 (0.98)	0.44 (0.66)	
1 1/2 (38)	0.74 (1.10)	0.48 (0.71)	0.63 (0.94)
1 3/4 (44)	0.82 (1.22)	0.52 (0.77)	0.69 (1.03)
2 (50)	0.90 (1.34)	0.56 (0.83)	0.76 (1.13)
≥ 2 1/4 (60)	0.98 (1.46)		

1/ The application rate includes a surface demand for liquid. The thickness of the LJS may taper from the center of the application to a lesser thickness on the edge of the application, provided the correct width and application rate are maintained."

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

MATERIAL TRANSFER DEVICE (BDE)

Effective: June 15, 1999
Revised: January 1, 2022

Add the following to Article 406.03 of the Standard Specifications:

"(n) Material Transfer Device .....1102.02"

Add the following to the end of Article 406.06(f) of the Standard Specifications:

"When required, a material transfer device (MTD) shall be used to transfer the HMA from the haul trucks to the spreading and finishing machine. The particular HMA mixtures for which an MTD is required will be specified in the plans. When not required, an MTD may still be used at the Contractor's option, subject to the requirements and restrictions herein. Use of MTDs shall be according to the following.

MTD Category	Usage
Category I	Any resurfacing application Full-Depth HMA where the in-place binder thickness is ≥ 10 in. (250 mm)
Category II	Full-Depth HMA where the in-place binder thickness is < 10 in. (250 mm)

Category I MTD's will only be allowed to travel over structures under the following conditions:

(1) Approval will be given by the Engineer.

(2) The MTD shall be emptied of HMA material prior to crossing the structure and shall travel at crawl speed across the structure.

(3) The tires of the MTD shall travel on or in close proximity and parallel to the beam and/or girder lines of the structure."

Add the following to the end of Article 406.13(b) of the Standard Specifications:

"The required use of an MTD will be measured for payment in tons (metric tons) of the HMA mixtures placed with the MTD. The use of an MTD at the Contractor's option will not be measured for payment."

Add the following between the second and third paragraphs of Article 406.14 of the Standard Specifications:

"The required use of an MTD will be paid for at the contract unit price per ton (metric ton) for MATERIAL TRANSFER DEVICE. The HMA mixtures placed with the MTD will be paid for separately according to their respective specifications."

Revise Article 1102.02 of the Standard Specifications to read:

"**1102.02 Material Transfer Device (MTD).** The MTD shall be according to the following.

(a) Requirements. The MTD shall have a minimum surge capacity of 15 tons (13.5 metric tons), shall be self-propelled and capable of moving independent of the paver, and shall be equipped with the following.

(1) Front-Dump Hopper and Conveyor. The conveyor shall provide a positive restraint along the sides of the conveyor to prevent material spillage. MTDs having paver style hoppers shall have a horizontal bar restraint placed across the foldable wings which prevents the wings from being folded.

(2) Paver Hopper Insert. The paver hopper insert shall have a minimum capacity of 14 tons (12.7 metric tons).

(3) Mixer/Agitator Mechanism. This re-mixing mechanism shall consist of a segmented, anti-segregation, re-mixing auger.

(b) Qualification and Designation. The MTD shall be on the Department's qualified product list with one of the following designations.

(1) Category I. The MTD has a documented maximum HMA carrying capacity contact pressure greater than 25 psi and has a central surge hopper of sufficient capacity to mix upstream HMA with downstream HMA.

(2) Category II. The MTD has a documented maximum HMA carrying capacity contact pressure less than or equal to 25 psi."

80045

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

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

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 PAYROLL RECORDS (BDE)

Effective: April 1, 2021
Revised: November 1, 2022

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, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, and the worker's starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable.

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."

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

SURFACE TESTING OF PAVEMENTS – IRI (BDE)

Effective: January 1, 2021
Revised: January 1, 2023

Description. This work shall consist of testing the ride quality of the finished surface of pavement sections with new concrete pavement, PCC overlays, full-depth HMA, and HMA overlays with at least 2.25 in. (57 mm) total thickness of new HMA combined with either HMA binder or HMA surface removal, according to Illinois Test Procedure 701, "Ride Quality Testing Using the International Roughness Index (IRI)". Work shall be according to Sections 406, 407, or 420 of the Standard Specifications, except as modified herein.

Hot-Mix Asphalt (HMA) Overlays

Add the following to Article 406.03 of the Standard Specifications:

"(n) Pavement Surface Grinding Equipment.....1101.04"

Revise Article 406.11 of the Standard Specifications to read:

"**406.11 Surface Tests.** Prior to HMA overlay pavement improvements, the Engineer will measure the smoothness of the existing high-speed mainline pavement. The Contractor shall measure the smoothness of the finished high-speed mainline, low-speed mainline, and miscellaneous pavements after the pavement improvement is complete but within the same construction season. Testing shall be performed in the presence of the Engineer and according to Illinois Test Procedure 701. The pavement will be identified as high-speed mainline, low-speed mainline, or miscellaneous as follows.

(a) Test Sections.

(1) High-Speed Mainline Pavement. High-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit greater than 45 mph. These sections shall be tested with an inertial profiling system (IPS).

(2) Low-Speed Mainline Pavement. Low-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit of 45 mph or less. These sections shall be tested using a 16 ft (5 m) straightedge or with an IPS analyzed using the rolling 16 ft (5 m) straightedge simulation in ProVAL.

(3) Miscellaneous Pavement. Miscellaneous pavement are segments that either cannot readily be tested by an IPS or conditions beyond the control of the Contractor preclude the achievement of smoothness levels typically achievable with mainline pavement construction. This may include the following examples or as determined by the Engineer.

a. Pavement on horizontal curves with a centerline radius of curvature of less than or equal to 1,000 ft (300 m) and the pavement within the superelevation transition of such curves;

b. Pavement on vertical curves having a length less than or equal to 200 ft (60 m) in combination with an algebraic change in tangent grade greater than or equal to 3 percent as may occur on urban ramps or other constricted-space facilities;

c. The first and last 50 ft (15 m) of a pavement section where the Contractor is not responsible for the adjoining surface;

d. Intersections and the 25 ft (7.6 m) before and after an intersection or end of radius return;

e. Variable width pavements;

f. Side street returns, to the end of radius return;

g. Crossovers;

h. Pavement connector for bridge approach slab;

i. Bridge approach slab;

j. Pavement that must be constructed in segments of 600 ft (180 m) or less;

k. Pavement within 25 ft (7.6 m) of manholes, utility structures, at-grade railroad crossings, or other appurtenances;

l. Turn lanes; and

m. Pavement within 5 ft (1.5 m) of jobsite sampling locations for HMA volumetric testing that fall within the wheel path.

Miscellaneous pavement shall be tested using a 16 ft (5 m) straightedge.

(4) International Roughness Index (IRI). An index computed from a longitudinal profile measurement using a quarter-car simulation at a simulation speed of 50 mph (80 km/h).

(5) Mean Roughness Index (MRI). The average of the IRI values for the right and left wheel tracks.

a. MRI_O. The MRI of the existing pavement prior to construction.

b. MRI_I. The MRI value that warrants an incentive payment.

c. MRI_F. The MRI value that warrants full payment.

d. MRI_D. The MRI value that warrants a financial disincentive.

(6) Areas of Localized Roughness (ALR). Isolated areas of roughness, which can cause significant increase in the calculated MRI for a given sublot.

(7) Sublot. A continuous strip of pavement 0.1 mile (160 m) long and one lane wide. A partial sublot greater than or equal to 264 ft (80 m) will be subject to the same evaluation as a whole sublot. Partial sublots less than 264 ft (80 m) shall be included with the previous sublot for evaluation purposes.

(b) Corrective Work. Corrective work shall be completed according to the following.

(1) High-Speed Mainline Pavement. For high-speed mainline pavement, any 25 ft (7.6 m) interval with an ALR in excess of 200 in./mile (3,200 mm/km) will be identified by the Engineer and shall be corrected by the Contractor. Any sublot having a MRI greater than MRI_D, including ALR, shall be corrected to reduce the MRI to the MRI_F, or replaced at the Contractor's option.

(2) Low-Speed Mainline Pavement. Surface variations in low-speed mainline pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.

(3) Miscellaneous Pavements. Surface variations in miscellaneous pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area perpendicular to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the sublot(s) shall be retested. The Contractor shall furnish the data and reports to the Engineer within 2 working days after corrections are made. If the MRI and/or ALR still do not meet the requirements, additional corrective work shall be performed.

Corrective work shall be at no additional cost to the Department.

(c) Smoothness Assessments. Assessments will be paid to or deducted from the Contractor for each sublot of high-speed mainline pavement per the Smoothness Assessment Schedule. Assessments will be based on the MRI of each sublot prior to performing any corrective work unless the Contractor has chosen to remove and replace the pavement.

For pavement that is replaced, assessments will be based on the MRI determined after replacement.

The upper MRI thresholds for high-speed mainline pavement are dependent on the MRI of the existing pavement before construction (MRI_0) and shall be determined as follows.

Upper MRI Thresholds [1/]	MRI Thresholds (High-Speed, HMA Overlay)	
	$MRI_0 \leq 125.0$ in./mile (≤ 1,975 mm/km)	$MRI_0 > 125.0$ in./mile [1/] (> 1,975 mm/km)
Incentive (MRI_I)	45.0 in./mile (710 mm/km)	$0.2 \times MRI_0 + 20$
Full Pay (MRI_F)	75.0 in./mile (1,190 mm/km)	$0.2 \times MRI_0 + 50$
Disincentive (MRI_D)	100.0 in./mile (1,975 mm/km)	$0.2 \times MRI_0 + 75$

1/ MRI_0, MRI_I, MRI_F, and MRI_D shall be in in./mile for calculation.

Smoothness assessments for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, HMA Overlay)	
Mainline Pavement MRI Range	Assessment Per Sublot [1/]
$MRI \leq MRI_I$	$+ (MRI_I - MRI) \times \$20.00$ [2/]
$MRI_I < MRI \leq MRI_F$	+ \$0.00
$MRI_F < MRI \leq MRI_D$	$- (MRI - MRI_F) \times \$8.00$
$MRI > MRI_D$	– \$200.00

1/ MRI, MRI_I, MRI_F, and MRI_D shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$300.00.

Smoothness assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein."

Hot-Mix Asphalt (HMA) Pavement (Full-Depth)

Revise the first paragraph of Article 407.03 of the Standard Specifications to read:

"**407.03 Equipment.** Equipment shall be according to Article 406.03."

Revise Article 407.09 of the Standard Specifications to read:

"**407.09 Surface Tests.** The finished surface of the pavement shall be tested for smoothness

according to Article 406.11, except as follows:

The testing of the existing pavement prior to improvements shall not apply and the smoothness assessment for high-speed mainline pavement shall be determined according to the following table.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, Full-Depth HMA)	
Mainline Pavement MRI, in./mile (mm/km)	Assessment Per Sublot [1/]
≤ 45.0 (710)	+ (45 – MRI) × $45.00 [2/]
> 45.0 (710) to 75.0 (1,190)	+ $0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × $20.00
> 100.0 (1,580)	– $500.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $800.00."

Portland Cement Concrete Pavement

Delete Article 420.03(i) of the Standard Specifications.

Revise Article 420.10 of the Standard Specifications to read:

"**420.10 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows.

The testing of the existing pavement prior to improvements shall not apply. The Contractor shall measure the smoothness of the finished surface of the pavement after the pavement has attained a flexural strength of 250 psi (3,800 kPa) or a compressive strength of 1,600 psi (20,700 kPa).

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the Department.

(a) Corrective Work. No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to areas ground according to Article 420.18 at no additional cost to the Department.

Jointed portland cement concrete pavement corrected by removal and replacement, shall be corrected in full panel sizes.

(b) Smoothness Assessments. Smoothness assessment for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, PCC)	
Mainline Pavement MRI, in./mile (mm/km) [3/]	Assessment Per Sublot [1/]
≤ 45.0 (710)	+ (45 – MRI) × $60.00 [2/]
> 45.0 (710) to 75.0 (1,190)	+ $0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × $37.50
> 100.0 (1,580)	– $750.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed $1200.00.

3/ If pavement is constructed with traffic in the lane next to it, then an additional 10 in./mile will be added to the upper thresholds."

Removal of Existing Pavement and Appurtenances

Revise the first paragraph of Article 440.04 of the Standard Specifications to read:

"**440.04 HMA Surface Removal for Subsequent Resurfacing.** The existing HMA surface shall be removed to the depth specified on the plans with a self-propelled milling machine. The removal depth may be varied slightly at the discretion of the Engineer to satisfy the smoothness requirements of the finished pavement. The temperature at which the work is performed, the nature and condition of the equipment, and the manner of performing the work shall be such that the milled surface is not torn, gouged, shoved or otherwise damaged by the milling operation. Sufficient cutting passes shall be made so that all irregularities or high spots are eliminated to the satisfaction of the Engineer. When tested with a 16 ft (5 m) straightedge, the milled surface shall have no surface variations in excess of 3/16 in. (5 mm)."

General Equipment

Revise Article 1101.04 of the Standard Specifications to read:

"**1101.04 Pavement Surface Grinding Equipment.** The pavement surface grinding device shall have a minimum effective head width of 3 ft (0.9 m).

(a) Diamond Saw Blade Machine. The machine shall be self-propelled with multiple diamond saw blades.

(b) Profile Milling Machine. The profile milling machine shall be a drum device with carbide or diamond teeth with spacing of 0.315 in. (8 mm) or less and maintain proper forward speed for surface texture according to the manufacturer's specifications."

80435

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 **2**. 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: November 1, 2021

The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

The report shall be submitted 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

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

"(q) Temporary Sign Supports .....1106.02"

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

80427

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. All laborers and mechanics employed or working upon the site of the work, 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 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.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). 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 classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall 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.(1) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore 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 utilized 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) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. 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.

(3) 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 shall 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.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall 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.

c. 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 shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. 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, 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.

2. Withholding (29 CFR 5.5)

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally- assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, 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.

3. Payrolls and basic records (29 CFR 5.5)

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, 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 section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) 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 section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall 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. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed 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;

(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 of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) 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. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, 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 may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed 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 Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall 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 the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall 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, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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 journeymen 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 shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 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 (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) 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 section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

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 watchmen 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. 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 watchmen 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. 29 CFR 5.5.

* $27 as of January 23, 2019 (See 84 FR 213-01, 218) 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. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or 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, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

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 200.326.

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 200.326.

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.

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Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) 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;

(b) 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

(c) 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)

2. 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.

Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor 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.

(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 Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract."

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.