

159

Letting April 26, 2019

Notice to Bidders, Specifications and Proposal



**Contract No. 61F09
COOK County
Section 14-00114-01-PV (Schaumburg)
Routes MUN 3073 & FAU 1689 (Woodfield Road)
Project 9F21-896 ()
District 1 Construction Funds**

Prepared by

Checked by

F



- 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 10:00 a.m. April 26, 2019 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. 61F09
COOK County
Section 14-00114-01-PV (Schaumburg)
Project 9F21-896 ()
Routes MUN 3073 & FAU 1689 (Woodfield Road)
District 1 Construction Funds**

Pavement removal, storm sewers, HMA pavement, curb and gutter, sidewalks, traffic signals, street lighting and pavement markings on Woodfield Road, from Martingale Road to the East Frontage Road in Schaumburg.

- 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 readvertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Omer Osman,
Acting Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2019

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 4-1-16) (Revised 1-1-19)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>	<u>Page No.</u>
106 Control of Materials	1
107 Legal Regulations and Responsibility to Public	2
403 Bituminous Surface Treatment (Class A-1, A-2, A-3)	3
404 Micro-Surfacing and Slurry Sealing	4
405 Cape Seal	15
406 Hot-Mix Asphalt Binder and Surface Course	25
420 Portland Cement Concrete Pavement	26
424 Portland Cement Concrete Sidewalk	28
442 Pavement Patching	29
502 Excavation for Structures	30
503 Concrete Structures	32
504 Precast Concrete Structures	35
542 Pipe Culverts	36
586 Sand Backfill for Vaulted Abutments	37
602 Catch Basin, Manhole, Inlet, Drainage Structure, and Valve Vault Construction, Adjustment, and Reconstruction	39
630 Steel Plate Beam Guardrail	40
631 Traffic Barrier Terminals	43
670 Engineer's Field Office and Laboratory	44
701 Work Zone Traffic Control and Protection	45
704 Temporary Concrete Barrier	46
780 Pavement Striping	48
781 Raised Reflective Pavement Markers	49
888 Pedestrian Push-Button.....	50
1001 Cement	51
1003 Fine Aggregates	52
1004 Coarse Aggregates	53
1006 Metals	56
1020 Portland Cement Concrete	58
1043 Adjusting Rings	60
1050 Poured Joint Sealers	62
1069 Pole and Tower	64
1077 Post and Foundation	65
1096 Pavement Markers	66
1101 General Equipment	67
1102 Hot-Mix Asphalt Equipment	68
1103 Portland Cement Concrete Equipment	70
1105 Pavement Marking Equipment	72
1106 Work Zone Traffic Control Devices	74

RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>			<u>PAGE NO.</u>
1	X	Additional State Requirements for Federal-Aid Construction Contracts	75
2	X	Subletting of Contracts (Federal-Aid Contracts)	78
3	X	EEO	79
4		Specific EEO Responsibilities Non Federal-Aid Contracts	89
5		Required Provisions - State Contracts	94
6		Asbestos Bearing Pad Removal	100
7		Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal	101
8		Temporary Stream Crossings and In-Stream Work Pads	102
9		Construction Layout Stakes Except for Bridges	103
10	X	Construction Layout Stakes	106
11		Use of Geotextile Fabric for Railroad Crossing	109
12		Subsealing of Concrete Pavements	111
13		Hot-Mix Asphalt Surface Correction	115
14	X	Pavement and Shoulder Resurfacing	117
15		Patching with Hot-Mix Asphalt Overlay Removal	118
16		Polymer Concrete	120
17		PVC Pipeliner	122
18		Bicycle Racks	123
19		Temporary Portable Bridge Traffic Signals	125
20	X	Work Zone Public Information Signs	127
21		Nighttime Inspection of Roadway Lighting	128
22		English Substitution of Metric Bolts	129
23		Calcium Chloride Accelerator for Portland Cement Concrete	130
24		Quality Control of Concrete Mixtures at the Plant	131
25	X	Quality Control/Quality Assurance of Concrete Mixtures	139
26		Digital Terrain Modeling for Earthwork Calculations	155
27		Reserved	157
28		Preventive Maintenance – Bituminous Surface Treatment (A-1)	158
29		Reserved	164
30		Reserved	165
31		Reserved	166
32		Temporary Raised Pavement Markers	167
33		Restoring Bridge Approach Pavements Using High-Density Foam	168
34		Portland Cement Concrete Inlay or Overlay	171
35		Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	175

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
LRS1	Reserved 179
LRS2	X Furnished Excavation 180
LRS3	Work Zone Traffic Control Surveillance 181
LRS4	Flaggers in Work Zones 182
LRS5	Contract Claims 183
LRS6	Bidding Requirements and Conditions for Contract Proposals 184
LRS7	Bidding Requirements and Conditions for Material Proposals 190
LRS8	Reserved 196
LRS9	Bituminous Surface Treatments 197
LRS10	Reserved 198
LRS11	Employment Practices 199
LRS12	Wages of Employees on Public Works 201
LRS13	Selection of Labor 203
LRS14	Paving Brick and Concrete Paver Pavements and Sidewalks 204
LRS15	Partial Payments 207
LRS16	Protests on Local Lettings 208
LRS17	Substance Abuse Prevention Program 209
LRS18	Multigrade Cold Mix Asphalt 210

INDEX OF SPECIAL PROVISIONS

<u>TITLE</u>	<u>PAGE NO.</u>
LOCATION OF PROJECT	1
DESCRIPTION OF PROJECT	1
COMPLETION DATE PLUS WORKING DAYS	1
WORK RESTRICTIONS	2
PUBLIC CONVENIENCE AND SAFETY (DIST 1)	2
MAINTENANCE OF ROADWAYS	3
TOLLWAY PERMIT AND BOND	3
STATUS OF UTILITIES (D-1)	3
AVAILABLE REPORTS	10
COOPERATION WITH ADJACENT CONTRACTS	11
SAW CUTTING	11
EMBANKMENT I	11
COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)	13
AGGREGATE SUBGRADE IMPROVEMENT (D-1)	13
DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)	15
FRICTION AGGREGATE (D-1)	17
HMA MIXTURE DESIGN REQUIREMENTS (D-1)	20
RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)	27
GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)	37
AGGREGATE FOR CONCRETE BARRIER (DISTRICT ONE)	38
ADJUSTMENTS AND RECONSTRUCTIONS	38
DUCTILE IRON WATER MAIN (VOS)	39
ADJUSTING WATER MAIN (VOS)	47
FIRE HYDRANTS TO BE REMOVED (VOS)	48
FIRE HYDRANT (VOS)	48
FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX (VOS)	48
VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID (VOS)	51
VALVE VAULTS TO BE ADJUSTED (VOS)	51
VALVE VAULTS TO BE RECONSTRUCTED (VOS)	51
COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24 (VOS)	52
REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES	52
TEMPORARY ACCESS ROAD (SPECIAL) (VOS)	65
BIKE PATH REMOVAL (VOS)	66
EXPLORATION TRENCH, SPECIAL (VOS)	66
AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS	67
PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, SPECIAL (VOS)	68
DETECTABLE WARNINGS (SPECIAL) (VOS)	69
STORM SEWERS, PIPE UNDERDRAINS, SANITARY SEWERS, AND WATERMAIN (VOS)	69
CATCH BASINS, WITH SPECIAL FRAME AND GRATE (VOS)	70
INLETS, WITH SPECIAL FRAME AND GRATE, SPECIAL (VOS)	70
MANHOLES, TYPE A, 6'-DIAMETER, WITH 2 TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE (VOS)	71
SANITARY MANHOLES TO BE ADJUSTED (VOS)	71

SANITARY MANHOLES TO BE RECONSTRUCTED (VOS)	71
VALVE BOX (VOS)	72
FRAMES AND LIDS TO BE ADJUSTED (SPECIAL) (VOS)	72
CHAIN LINK FENCE (SPECIAL) (VOS)	72
CHAIN LINK FENCE REMOVAL (VOS)	73
FOLD DOWN BOLLARDS (VOS)	73
BOLLARD REMOVAL (VOS)	74
SIGN PANEL – TYPE 1 (SPECIAL) (VOS)	74
TELESCOPING STEEL SIGN SUPPORT (SPECIAL) (VOS)	74
HANDHOLE TO BE ADJUSTED (VOS)	75
BRICK PAVER SIDEWALK ON RIGID BASE (VOS)	75
CONCRETE HEADER BAND (VOS)	77
CONCRETE WASHOUT FACILITY	77
REMOVE AND REPLACE LAWN SPRINKLER SYSTEM (VOS)	78
REMOVE EXISTING IRRIGATION SYSTEM (VOS)	78
BRICK PAVER REMOVAL (VOS)	79
PAVEMENT MARKING (SPECIAL) (VOS)	80
TEMPORARY INFORMATION SIGNING	83
PRESSURE CONNECTION (VOS)	84
STORM SEWERS (WATER MAIN REQUIREMENTS) (VOS)	86
TEMPORARY PAVEMENT	86
TEMPORARY PAVEMENT (VARIABLE DEPTH) (VOS)	87
TRAFFIC CONTROL PLAN	88
TRAFFIC CONTROL AND PROTECTION (ARTERIALS)	89
KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)	89
KEEPING THE EXPRESSWAY OPEN TO TRAFFIC	90
FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC	92
TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	92
TRAFFIC CONTROL FOR WORK ZONE AREAS	96
SPEED DISPLAY TRAILER (D1)	97
LANDSCAPING / PLANTING (VOS)	99
TREE PRESERVATION (VOS)	100
GYPSUM PLACEMENT (VOS)	101
PERENNIAL PLANTS (VOS)	101
PLANTING WOODY PLANTS (VOS)	103
TOPSOIL AND COMPOST (VOS)	105
MEDIAN SOIL MIX FURNISH AND PLACE (VOS)	105
COMPOST FURNISH AND PLACE, SPECIAL (VOS)	107
SODDING, SALT TOLERANT (VOS)	108
WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE (VOS)	109
IRRIGATION SYSTEM SPECIAL (VOS)	110
WATER SERVICE LINE, 1 ½" (VOS)	119
RPZ BACKFLOW PREVENTER	119
WATER SERVICE CONNECTION, 1 ½" (VOS)	121
MAST ARM SIGN PANELS	123
TRAFFIC SIGNAL GENERAL REQUIREMENTS	124
OPTIMIZE TRAFFIC SIGNAL SYSTEM	135
SERVICE INSTALLATION (TRAFFIC SIGNALS)	139
GROUNDING OF TRAFFIC SIGNAL SYSTEMS	142

COILABLE NON-METALLIC CONDUIT	144
UNDERGROUND RACEWAYS	145
HANDHOLES	146
FIBER OPTIC TRACER CABLE	148
MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION	149
TRAFFIC SIGNAL PAINTING	152
FULL-ACTUATED CONTROLLER AND CABINET	154
MASTER CONTROLLER	156
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	158
FIBER OPTIC CABLE	162
ELECTRIC CABLE	163
GROUNDING EXISTING HANDHOLE FRAME AND COVER	164
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	165
TRAFFIC SIGNAL POST	166
MAST ARM ASSEMBLY AND POLE	167
CONCRETE FOUNDATIONS	168
LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED SIGNAL HEAD	169
LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD	173
TRAFFIC SIGNAL BACKPLATE	176
DETECTOR LOOP	177
RADAR VEHICLE DETECTION SYSTEM	179
EMERGENCY VEHICLE PRIORITY SYSTEM	181
ACCESSIBLE PEDESTRIAN SIGNALS	182
TEMPORARY TRAFFIC SIGNAL INSTALLATION	184
TEMPORARY TRAFFIC SIGNAL TIMING	190
LED INTERNALLY ILLUMINATED STREET NAME SIGN	191
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	194
ELECTRIC UTILITY SERVICE CONNECTION	195
REMOVE EXISTING DOUBLE HANDHOLE	196
VIDEO DETECTION SYSTEM COMPLETE INTERSECTION (VOS)	197
CABLE, SPECIAL (VOS)	199
GENERAL ELECTRICAL REQUIREMENTS (VOS)	200
UNDERGROUND RACEWAYS	216
UNIT DUCT	217
WIRE AND CABLE	219
UNDERPASS LUMINAIRE, HPS, STAINLESS STEEL HOUSING	221
PROTECTION AND MAINTENANCE OF EXISTING UNDERPASS LUMINAIRES	234
MAINTENANCE OF LIGHTING SYSTEMS (VOS)	236
LUMINAIRE INSTALLATION (VOS)	240
LIGHT POLE, SPECIAL (VOS)	247
BREAKAWAY DEVICE, TRANSFORMER BASE, SPECIAL (VOS)	247
REMOVAL OF LIGHTING UNIT, SALVAGE (VOS)	248
REMOVAL OF POLE FOUNDATION (VOS)	248
REMOVE ELECTRIC CABLE FROM CONDUIT (VOS)	248
REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE (VOS)	249
LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET (VOS)	249
TEMPORARY LIGHTING CONTROLLER (VOS)	250

TEMPORARY WOOD POLE (VOS)	250
TEMPORARY LUMINAIRE (VOS)	250
TEMPORARY ELECTRIC SERVICE INSTALLATION (VOS)	254
REMOVE EXISTING CONDUIT ATTACHED TO STRUCTURE (VOS)	255
LIGHT POLE, SPECIAL (MATERIAL ONLY) (VOS)	255
LUMINAIRE (MATERIAL ONLY) (VOS)	255
LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 6' (MATERIAL ONLY) (VOS)	256
BREAKAWAY DEVICE, TRANSFORMER BASE, SPECIAL (MATERIAL ONLY) (VOS)	256
LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 6' (VOS)	256
IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)	257
SPECIAL PROVISION FOR INSURANCE (LR 107-4)	259
STORM WATER POLLUTION PREVENTION PLAN	260
MWRD PERMIT	275
LOCAL AGENCY LPC-663 CCDD CERTIFICATION	291
IDOT LPC-663 CCDD CERTIFICATION	369

BDE SPECIAL PROVISIONS

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

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274		Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192		Automated Flagger Assistance Device	Jan. 1, 2008	
80173	375	X Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80241		Bridge Demolition Debris	July 1, 2009	
50261		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80404		Coarse Aggregate Quality for Micro-Surfacing and Cape Seals	Jan. 1, 2019	
* 80384	377	X 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	
80293		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311	381	X Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277		Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261	383	X Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387		Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
* 80029	386	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
80402	396	X Disposal Fees	Nov. 1, 2018	
80378		Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
80405		Elastomeric Bearings	Jan. 1, 2019	
80388	398	X Equipment Parking and Storage	Nov. 1, 2017	
80229	399	X Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80304		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
80246	402	X Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	Aug. 1, 2018
80398	404	X Hot-Mix Asphalt – Longitudinal Joint Sealant	Aug. 1, 2018	Jan. 1, 2019
80406		Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT Projects)	Jan. 1, 2019	
80399	408	X Hot-Mix Asphalt – Oscillatory Roller	Aug. 1, 2018	Nov. 1, 2018
80347		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	Aug. 1, 2018
80383		Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	Jan. 1, 2019
80376	410	X Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
80392	411	X Lights on Barricades	Jan. 1, 2018	
80336		Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
* 80411		Luminaires, LED	April 1, 2019	
* 80393	413	X Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	Mar. 1, 2019
80400	415	X Mast Arm Assembly and Pole	Aug. 1, 2018	
80045		Material Transfer Device	June 15, 1999	Aug. 1, 2014
80394		Metal Flared End Section for Pipe Culverts	Jan. 1, 2018	April 1, 2018
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80349		Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371	416	X Pavement Marking Removal	July 1, 2016	
80390	417	X Payments to Subcontractors	Nov. 2, 2017	
80389	418	X Portland Cement Concrete	Nov. 1, 2017	
80359		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2017

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80300		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	419	X Progress Payments	Nov. 2, 2013	
34261		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80306		Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 1, 2019
80407		Removal and Disposal of Regulated Substances	Jan. 1, 2019	
80395		Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340		Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127	420	X Steel Cost Adjustment	April 2, 2014	Aug. 1, 2017
80408	423	X Steel Plate Beam Guardrail Manufacturing	Jan. 1, 2019	
80397	424	X Subcontractor and DBE Payment Reporting	April 2, 2018	
* 80391	425	X Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80317		Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	April 1, 2016
80298	426	X Temporary Pavement Marking	April 1, 2012	April 1, 2017
20338	429	X Training Special Provision	Oct. 15, 1975	
80403	432	X Traffic Barrier Terminal, Type 1 Special	Nov. 1, 2018	
80409	433	X Traffic Control Devices – Cones	Jan. 1, 2019	
80410		Traffic Spotters	Jan. 1, 2019	
80318		Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
80288	434	X Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	436	X Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80071		Working Days	Jan. 1, 2002	

The following special provisions are in the 2019 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location(s)</u>	<u>Effective</u>	<u>Revised</u>
80382	Adjusting Frames and Grates	Articles 602.02(s) and (t), 1043.04, and 1043.05	April 1, 2017	
80366	Butt Joints	Article 406.08(c)	July 1, 2016	
80386	Calcium Aluminate Cement for Class PP-5 Concrete Patching	Article 1001.01(e)	Nov. 1, 2017	
80396	Class A and B Patching	Articles 442.06(a)(1) and (2)	Jan. 1, 2018	Nov. 1, 2018
80377	Portable Changeable Message Signs	Articles 701.20(h) and 1106.02(i)	Nov. 1, 2016	April 1, 2017
80385	Portland Cement Concrete Sidewalk	Article 424.12	Aug. 1, 2017	

The following special provision has been deleted from use.

<u>File Name</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80401	Portland Cement Concrete Pavement Connector for Bridge Approach Slab	Aug. 1, 2018	

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted April 1, 2016 (hereinafter referred to as the "Standard Specifications"); the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD); the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids; and the "Supplemental Specifications and Recurring Special Provisions", adopted January 1, 2019, indicated on the Check Sheet included here in which apply to and govern the construction of MUN 3073 / FAU 1689 (Woodfield Road), Section 14-00114-01-PV, Project No. 9F21(896), Contract No. 61F09, and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

This project is located in the Village of Schaumburg, Cook County. The project limits on Woodfield Road are from 450' west of Martingale Road to the I-290 East Frontage Road. The project limits on the I-290 West Frontage Road are from 675' north to 130' south of Woodfield Road. The project limits on the I-290 East Frontage Road are from 270' north to 675' south of Woodfield Road. The project has a total gross and net length of 3,794.54 feet (0.719 miles).

DESCRIPTION OF PROJECT

The work consists of earth excavation, pavement removal, construction of storm sewers, HMA binder and surface course, combination concrete curb and gutter, traffic signals, street lighting, storm sewer, tree removal, landscaping, erosion control, thermoplastic pavement markings, sodding, and all incidental and collateral work necessary to complete the project as shown on the plans and as described herein.

COMPLETION DATE PLUS WORKING DAYS

Revise Article 108.05 (b) of the Standard Specifications as follows:

Interim Completion Date – The Contractor shall complete all underground, sidewalk, curb and gutter, pavement (up to binder course), and striping required to open all lanes as shown on the Winter Stage plans by 11:59 on November 16, 2019.

Completion Date – The Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on October 16, 2020 except as specified herein.

The Contractor will be allowed to complete all tree planting, clean-up work and punch list items within 10 working days after the completion date for opening the roadway to traffic.

Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

Article 108.09 shall apply to the Interim Completion Date, Completion Date, and the number of Working Days.

WORK RESTRICTIONS

No work shall be allowed on the entrance to Woodfield Mall (Perimeter Drive), the entrance to Streets of Woodfield, and the temporary and permanent easements between November 1st and March 1st.

The Streets of Woodfield Entrance shall not be closed for more than 14 calendar days. The HMA surface course shall be placed on the entrance prior to re-opening the entrance.

The Crate and Barrel East Entrance shall not be closed for more than 14 calendar days.

The Contractor shall provide the Engineer a minimum 15 calendar day notice in advance of the full closure of either the Streets of Woodfield Entrance or the Crate and Barrel East Entrance.

The Streets of Woodfield Entrance and the Crate and Barrel East Entrance shall not be closed at the same time.

Full access to all Woodfield Mall entrances shall be maintained between the hours of 8:00 AM and 11:00 PM.

No work shall be allowed on the Woodfield Mall entrances or within the Woodfield Mall easements between the hours of 4:00 PM to 10:00 PM on Fridays, 8:00 AM to 10:00 PM on Saturdays, and 8:00 AM to 10:00 PM on Sundays.

Failure to meet these requirements will be subject to a Traffic Control Deficiency Deduction. The deficiency will be calculated as outlined in Article 105.03 of the Standard Specifications.

PUBLIC CONVENIENCE AND SAFETY (DIST 1)

Effective: May 1, 2012

Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

“If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply.”

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

“The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After”

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

MAINTENANCE OF ROADWAYS

Effective: September 30, 1985 Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the “Standard Specifications”.

TOLLWAY PERMIT AND BOND

Effective: January 13, 1989

The Contractor will be required to obtain a permit from the Illinois State Toll Highway Authority (ISTHA) according to Article 107.04 of the Standard Specifications prior to initiating any lane closures on the Tollway or doing any work on the ISTHA right of way. As part of the permit, the Contractor will be required to post a surety bond with the ISTHA.

The Contractor will furnish a copy of the authorized permit to the Engineer.

STATUS OF UTILITIES (D-1)

Effective: June 1, 2016

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

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain

the necessary permits to complete their work; in some instances resolution will be a function of the construction staging. The responsible agency must relocate or complete new installations as noted in the action column; this work has been deemed necessary to be complete for the Department's contractor to then work in the stage under which the item has been listed.

Pre-Stage

STAGE/ LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
Woodfield Road – Sta. 131+00 RT – Sta. 132+35	Buried Fiber Optic line	Existing fiber optic line in conflict with drainage structures	MCI/XO	MCI/XO to lower and relocate lines <u>30</u> days
Woodfield Road – Sta. 133+50 RT- 136+23 RT	Buried Fiber Optic line	Existing fiber optic line in conflict with drainage structures	MCI/XO	MCI/XO to lower and relocate lines <u>30</u> days Nicor to relocate line <u>60</u> days
Woodfield Road - Sta. 122+50 to 137+36 (RT side) West Frontage Road – (RT side)	Underground gas main	Multiple conflicts with proposed drainage, signals, and lighting structures	Nicor	
Woodfield Road – Sta. 133+50 – Sta. 135+00, RT	Underground Fiber Optic line	Conflict due to loss of cover over existing fiber optic line	Zayo	Zayo to relocate line <u>5</u> days
West Frontage Road – Sta. 703+90, 52' LT	Underground Fiber Optic line	Existing fiber optic line in conflict with drainage structure	Zayo	Zayo to relocate line <u>5</u> days

Pre-Stage: 15 Days Total Installation for ComEd
Pre-Stage: 30 Days Total Installation for MCI/XO
Pre-Stage: 60 Days Total Installation for Nicor
Pre-Stage: 10 Days Total Installation for Zayo
Pre-Stage Total: 115 Days

Stage 1

STAGE/ LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
Woodfield Road – 127+90, 49' RT	Adjust during construction	Adjust handhole to proposed grade	Vinakom	Vinakom to adjust <u>1</u> day

Woodfield Road – 137+24, 61' RT	Adjust during construction	Adjust handhole to proposed grade	Zayo	Zayo to adjust <u>1</u> day
Woodfield Road – 137+29, 54' RT	Adjust during construction	Adjust handhole to proposed grade	MCI/XO	MCI/XO to adjust <u>1</u> day
Woodfield Road – 137+55, 74' RT	Adjust during construction	Adjust handhole to proposed grade	ComEd	ComEd to adjust <u>1</u> day
West Frontage Road – 703+11, 52' LT	Adjust during construction	Adjust handhole to proposed grade	MCI/XO	MCI/XO to adjust <u>1</u> day

Stage 1: 1 Day Total Installation for Vinakom
Stage 1: 1 Day Total Installation for Zayo
Stage 1: 2 Days Total Installation for MCI/XO
Stage 1: 1 Day Total Installation for ComEd
Stage 1 Total: 5 Days

Stage 2

STAGE/ LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
Woodfield Road – 123+68, 39' LT	Adjust during construction	Adjust handhole to proposed grade	ComEd	ComEd to adjust <u>1</u> day
Woodfield Road – 128+22, 36' LT	Adjust during construction	Adjust handhole to proposed grade	MCI/XO	MCI/XO to adjust <u>1</u> day
Woodfield Road – 129+35, 29' LT	Adjust during construction	Adjust handhole to proposed grade	AT&T	AT&T to adjust <u>1</u> day
Woodfield Road – 129+41, 39' LT	Adjust during construction	Adjust handhole to proposed grade	ComEd	ComEd to adjust <u>1</u> day

Stage 2: 2 Days Total Installation for ComEd
Stage 2: 1 Day Total Installation for MCI/XO
Stage 2: 1 Day Total Installation for AT&T
Stage 2 Total: 4 Days

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

Agency/Comp any Responsible to Resolve Conflict	Name of contact	Address	Phone	e-mail address
AT&T	Bruce Robbins	1000 Commerce Drive, Floor 1, Oak Brook, IL 60523	630.573.6471	br1831@att.com
ComEd	Christian Mukania	1 Lincoln Center, 6 th Floor, Oakbrook Terrace, IL 60181	630.437.2927	Christian.Mukania@ comed.com
MCI / Verizon / XO	Mel Conn	1515 E. Woodfield Road, Schaumburg, IL 60173	847-706-2315	Mel.conn@verizon.com

NICOR	Bruce Koppang	1844 Ferry Road, Naperville, IL 60563	630.388.3046	bkoppan@southernco.com
Zayo (HBK Engineering)	John Grieger	2101 W. Carroll Ave., Chicago, IL 60612	312.253.1800 ext. 1893	jpgrieger@hbkengineering.com

UTILITIES TO BE WATCHED AND PROTECTED

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

Stage 1

STAGE/ LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
Woodfield Road – 129+35 RT – 133+22 RT, 137+07 RT – 137+53 RT	Buried communication and fiber optic lines	Existing communication and fiber optic lines; exercise caution during excavation	AT&T	Contractor to call JULIE before excavation
Woodfield Road – 122+50 RT – 138+25 RT	Buried electric lines	Existing electric lines; exercise caution during excavation	ComEd	Contractor to call JULIE before excavation
Woodfield Road – 138+18, 12' RT	Buried electric duct	Existing 3'X2' electric duct crossing proposed 15" storm sewer – ComEd to brace duct prior to storm sewer installation	ComEd	Contractor to inform ComEd at least 4 weeks prior to beginning storm sewer work in the area
West Frontage Road (LT side)	Sanitary/combined sewer	Existing sanitary/combined sewer; exercise caution during excavation	MWRD	Contractor to call JULIE before excavation; manhole lids shall not be buried or covered. Facility shall be protected from damage by the Contractor during construction.

Martingale Road (RT side)	Buried fiber optic lines	Existing fiber optic lines; exercise caution during excavation	Vinakom	Contractor to call JULIE before excavation
Woodfield Road – 127+50 RT – 137+25 RT, Martingale Road (RT side)	Buried fiber optic lines	Existing fiber optic lines; exercise caution during excavation	Zayo	Contractor to call JULIE before excavation

Stage 2

STAGE/ LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
Woodfield Road – 129+35 LT – 137+05 LT	Buried communication and fiber optic lines	Existing communication and fiber optic lines; exercise caution during excavation	AT&T	Contractor to call JULIE before excavation
Woodfield Road – 122+50 LT – 143+40 LT, East Frontage Road (right side)	Buried electric lines	Existing electric lines; exercise caution during excavation	ComEd	Contractor to call JULIE before excavation
Woodfield Road – 122+50 LT – 128+00 LT	Buried fiber optic lines	Existing fiber optic lines; exercise caution during excavation	Vinakom	Contractor to call JULIE before excavation

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

Agency/Company Responsible to Resolve Conflict	Name of contact	Address	Phone	e-mail address
MWRD	Stephen Kaszonyi	111 East Erie, Chicago, IL 60611	312.751.3170	Kaszonysi@mwrdd.org
Vinakom	Dicky Patel	860 Remington Road, Schaumburg, IL 60173	847.592.5785	dicky.patel@vinakom.com
West Shore Pipeline	Bobby Lafan	12920 Bell Road, Lemont, IL 60439	630.257.7583	

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

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

The estimated relocation dates must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor and the utility companies. The Department's contractor is responsible for contacting J.U.L.I.E. prior to any and all excavation work.

AVAILABLE REPORTS

No project specific reports were prepared.

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

- Record structural plans
- Preliminary Site Investigation (PSI) (IDOT ROW)
- Preliminary Site Investigation (PSI) (Local ROW)
- Preliminary Environmental Site Assessment (PESA) (IDOT ROW)
- Preliminary Environmental Site Assessment (PESA) (Local ROW)
- Soils/Geotechnical Report
- Boring Logs
- Pavement Cores
- Location Drainage Study (LDS)
- Hydraulic Report
- Noise Analysis
- Other: Subdivision Control Ordinance #1639
 Schaumburg Plumbing Code

Those seeking these reports should request access from:

Ms. Kristin Mehl, P.E.
Engineering Division Manager
Village of Schaumburg Engineering and Public Works
714 South Plum Grove Road
Schaumburg, IL 60193
847.923.6618
kmehl@ci.schaumburg.il.us

COOPERATION WITH ADJACENT CONTRACTS

The intent of this provision is to inform the Contractor that the Department is aware of adjacent contracts that are currently scheduled during the same time period as this contract.

Woodfield Road: Meacham Road to Martingale Road
Section 14-00114-02-PV
Contract No. 61F10

The Contractor is required to cooperate with these adjacent contracts in accordance with Section 105.08 of the Standard Specifications and may be required to modify his staging operations in order to meet these requirements.

SAW CUTTING

The Contractor shall saw cut pavement, curb and gutter, driveways, sidewalk, and patches to separate the existing material to be removed by means of an approved concrete saw to a depth as shown on the plans or as directed by the Engineer. This work shall be included in the cost of the item being removed.

The Contractor shall be required to saw vertical cuts so as to form clean vertical joints. Should the Contractor deface any edge, a new sawed joint shall be provided and any additional work, including removal and replacement, shall be done at the Contractor's expense.

EMBANKMENT I

Effective: March 1, 2011

Revised: November 1, 2013

Description. This work shall be according to Section 205 of the Standard Specifications except for the following.

Material. All material shall be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements.

- a) The laboratory Standard Dry Density shall be a minimum of 90 lb/cu ft (1450 kg/cu m) when determined according to AASHTO T 99 (Method C).
- b) The organic content shall be less than ten percent determined according to AASHTO T 194 (Wet Combustion).
- c) Soils which demonstrate the following properties shall be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 3 ft (900 mm) of soil not considered detrimental in terms of erosion potential or excess volume change.

- 1) A grain size distribution with less than 35 percent passing the number 75 um (#200) sieve.
 - 2) A plasticity index (PI) of less than 12.
 - 3) A liquid limit (LL) in excess of 50.
- d) Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.
- e) The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

CONSTRUCTION REQUIREMENTS

Samples. Embankment material shall be sampled, tested, and approved before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for approval and compaction can be performed. Embankment material placement cannot begin until tests are completed and approval given.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the engineer.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows.

- a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.
- b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

Stability. The requirement for embankment stability in Article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as included in the various items of excavation.

COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)

Effective: November 1, 2011

Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

AGGREGATE SUBGRADE IMPROVEMENT (D-1)

Effective: February 22, 2012

Revised: April 1, 2016

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 gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse 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 gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

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. The calibration for the mechanical feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.

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 gradation CS 01 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

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 cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

“ **1004.07 Coarse Aggregate for Aggregate Subgrade Improvement.** 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. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.
- (c) Gradation.
 - (1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

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

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

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

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)

Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) 1030
- “(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)°

Revise Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer’s specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03.”

FRICTION AGGREGATE (D-1)

Effective: January 1, 2011
 Revised: April 29, 2016

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

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

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

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

Use	Mixture	Aggregates Allowed	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL- 9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} :	
		Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} :	
		Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone		
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
<i>Up to...</i>	<i>With...</i>		

Use	Mixture	Aggregates Allowed	
		50% Dolomite ^{2/}	Any Mixture E aggregate
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone
		75% Crushed Gravel ^{2/} or Crushed Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u> <i>Up to...</i>	
		50% Crushed Gravel ^{2/} , Crushed Concrete ^{3/} , or Dolomite ^{2/}	<i>With...</i> Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

1/ Crushed steel slag allowed in shoulder surface only.
 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.

- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume.”
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80.”

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013
 Revised: January 1, 2018

1) Design Composition and Volumetric Requirements

Revise the table in Article 406.06(d) of the Standard Specifications to read:

“MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19)
SMA-9.5, IL-9.5, IL-9.5L	1 1/2 (38)
SMA-12.5	2 (50)
IL-19.0, IL-19.0L	2 1/4 (57)”

Revise the table in Article 1004.03(c) of the Standard Specifications to read:

“Use	Size/Application	Gradation No.
Class A-1, 2, & 3	3/8 in. (10 mm) Seal	CA 16
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & 3	Cover	CA 14
HMA High ESAL	IL-19.0 IL-9.5	CA 11 ^{1/} CA 16, CA 13 ^{3/}
HMA Low ESAL	IL-19.0L IL-9.5L Stabilized Subbase or Shoulders	CA 11 ^{1/} CA 16
SMA ^{2/}	1/2 in. (12.5mm) Binder & Surface IL 9.5 Surface	CA13 ^{3/} , CA14 or CA16 CA16, CA 13 ^{3/}

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

- 2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.
- 3/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.

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

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

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

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

Revise the nomenclature table in Article 1030.01 of the Standard Specifications to read:

“High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA) ^{1/} ; HMA Shoulders ^{2/}

1/ Uses 19.0L binder mix.

2/ Uses 19.0L for lower lifts and 9.5L for surface lift.”

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

“**1030.02 Materials.** Materials shall be according to the following.

Item.....	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be an Elvaloy or SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type 1 or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, "Warm Mix Asphalt Technologies".

Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

“(1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following limits.

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA ^{4/} IL-12.5 mm		SMA ^{4/} IL-9.5 mm		IL-9.5 mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in. (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	90	100		100						
1/2 in. (12.5 mm)	75	89	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 ^{5/}	16	32 ^{5/}	34 ^{6/}	52 ^{2/}	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4	6	7	9 ^{3/}
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

Revise Article 1030.04(b)(1) of the Standard Specifications to read:

“(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL				
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
	IL-19.0	IL-9.5	IL-4.75 ^{1/}	
50	13.5	15.0	18.5	65 – 78 ^{2/}
70			65 - 75	
90				

1/ Maximum Draindown for IL-4.75 shall be 0.3 percent

2/ VFA for IL-4.75 shall be 72-85 percent”

Replace Article 1030.04(b)(3) of the Standard Specifications with the following:

“(3) SMA Mixtures.

Volumetric Requirements SMA ^{1/}			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 ^{4/}	3.5	17.0 ^{2/}	75 - 83
		16.0 ^{3/}	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

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

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

4/ Blending of different types of aggregate will not be permitted. For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse

aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

“During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production.”

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

“As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

- (a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.
- (b.) A mix design was prepared based on collected dust (baghouse).

2) Design Verification and Production

Revise Article 1030.04 (d) of the Standard Specifications to read:

“(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department’s verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification and shall meet the following requirements:

- (1)Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG 70 -XX (or higher)	20,000	12.5
PG 64 -XX (or lower)	10,000	12.5

1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.

For IL 4.75mm Designs (N-50) the maximum rut depth is 9.0mm at 15,000 repetitions.

(2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 60 psi (415 kPa) for non-polymer modified performance graded (PG) asphalt binder and 80 psi (550 kPa) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 200 psi (1380 kPa).”

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

“(a) High ESAL, IL-4.75, WMA, and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for SMA mixtures it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture at the beginning of each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

Add the following after the sixth paragraph in Article 1030.06 (a) of the Standard Specifications:

“The Hamburg Wheel test shall also be conducted on all HMA mixtures from a sample taken within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day’s production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.

If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

Method of Measurement:

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

“The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design’s Gmb.”

Basis of Payment.

Replace the fourth paragraph of Article 406.14 of the Standard Specifications with the following:

“Stone matrix asphalt will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; and POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified.”

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)

Effective: November 1, 2012

Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.

- (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
- (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...).
- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
- (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or HMA (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as “Non-Quality”.

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer’s written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be “B Quality” or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. FRAP and RAS testing shall be according to the following.

- (a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.
- (1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).
 - (2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.
 - (3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored

for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

(1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

(2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

(a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm} . A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	$\pm 6 \%$
No. 8 (2.36 mm)	$\pm 5 \%$
No. 30 (600 μm)	$\pm 5 \%$
No. 200 (75 μm)	$\pm 2.0 \%$

Asphalt Binder	± 0.3 %
G _{mm}	± 0.03 ^{1/}

- 1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

- (c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
	FRAP	RAS
% Passing: ^{1/}		
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
G _{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

- (d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

- (a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.
- (1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
 - (2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
 - (3) RAP from Class I, HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
 - (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.
- (b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative

sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

1031.06 Use of FRAP and/or RAS in HMA. The use of FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) FRAP. The use of FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures ^{1/} _{2/ 4/}	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified _{3/}
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

1031.07 HMA Mix Designs. At the Contractor’s option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under “Evaluation of Tests” herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the “Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) or Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)” procedure in the Department’s Manual of Test Procedures for Materials.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized material. .

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

- (a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

- h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)
 - i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
 - j. Accumulated mixture tonnage.
 - k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
 - b. HMA mix number assigned by the Department.
 - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
 - d. Mineral filler weight to the nearest pound (kilogram).
 - f. RAS and FRAP weight to the nearest pound (kilogram).
 - g. Virgin asphalt binder weight to the nearest pound (kilogram).
 - h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B. The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".
- (b) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 μ m) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)

Effective: June 26, 2006
 Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

“(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other 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, 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

Add the following to the end of Note 1. 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 must be capable of providing continuous mechanical mixing throughout by continuous agitation and 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.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 5)1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

AGGREGATE FOR CONCRETE BARRIER (DISTRICT ONE)

Effective: February 11, 2004

Revised: January 24, 2008

Add the following paragraph to Article 637.02 of the Standard Specifications:

“The coarse aggregate to be used in the concrete barrier walls shall conform to the requirement for coarse aggregate used in Class BS concrete according to Article 1004.01(b), paragraph 2.”

ADJUSTMENTS AND RECONSTRUCTIONS

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

“**602.04 Concrete.** Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020.”

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

“Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or

binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.05 to read:

“603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.06 to read:

“603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.”

DUCTILE IRON WATER MAIN (VOS)

Description The Contractor shall furnish and install the proposed water main of the diameter specified at the locations shown on the plans or as directed by the Engineer. The water main shall include excavation, granular bedding, installation of the water main, fittings, testing and chlorination of the water main, backfill and compaction of the trench and all incidental items required for a complete and operational water main.

All water main and related work and material shall be completed in accordance with Village of Schaumburg specifications, the “Standard Specifications for Water and Sewer Main Construction in Illinois”, latest edition, the American Water Works Association (AWWA). In case of conflict, the more stringent of the requirements shall apply.

Sequence of Water Main Construction

The Contractor is required to coordinate with the Engineer and with the Village of Schaumburg to establish an acceptable Sequence of Construction for the installation of the proposed water main. The Contractor is required to submit a construction schedule and sequence plan at the time of the pre-construction meeting.

Materials

Water main pipe and fittings must conform to the applicable paragraphs of the "Standard Specifications For Water And Sewer Main Construction In Illinois", current edition.

Ductile Iron Water Main Pipe:

Ductile iron pipe shall be CL-52 Ductile Iron Pipe and conform to AWWA specifications C151-65. Normal working pressure shall not exceed one hundred fifty (150) psi. Pipe shall be furnished in nominal eighteen foot (18') laying lengths.

Ductile iron pipe shall be bituminous coated cement mortar lined as specified in section 51-8.2 of AWWA specification C151-65. The ductile iron pipe shall be coated on the outside as specified in section 15.8.1 with the exceptions that the thickness of the coating shall be an average of two (2) to four (4) mils and a minimum of two (2) mils. Each pipe shall have the weight and class designation conspicuously painted on it. In addition, the manufacturer's mark and year in which the pipe was made shall be distinctly cast or stamped on the bell.

All fittings shall be cement lined, tar coated ductile iron with mechanical joints rated 250 psi per AWWA C110/ANSI 21.10 latest revision or AWWA C153/A21.53 latest revision. All fitting shall have mechanical joints conforming to AWWA C111/A21.11 latest revision (Clow, Tyler, or Union Foundry). All the nut and bolts required for the installation of all fitting shall be stainless steel Type 304. All fittings shall be connected to sections of water main pipe by means of a positive restrained joint consisting of mechanical joints with retainer gland or Megalug joints.

Polyethylene encasement (wrap) shall be installed for all buried water main piping, fittings, and valves as shown on the plans. Encasement or wrapping of piping shall be polyethylene film in tube or sheet and shall be in accordance with AWWA C105/A21.5-82 suitable for the appropriate diameter water main. The contractor shall follow the installation guideline as set forth with AWWA specification C-105 and as detailed on the plans.

Ductile Iron Water Main Pipe Joints:

Slip Joints: Sections of water main pipe shall be connected by means of slip joints, consisting of bells cast integrally with pipe which have interior angular recesses conforming with the shape and dimensions of a rubber sealing gasket, the interior dimension of which is such that it will admit the insertion of the spigot end of the joining pipe in such manner as to compress the gasket tightly between the bell of the pipe and the inserted spigot, thus securing the gasket and sealing the joint. Such a slip joint shall be any one of the following make or type:

Super Belltite - as supplied by Griffin.

Fastite - as supplied by the American Cast Iron Pipe Company.

Tyton - as supplied by the U.S. Pipe and Foundry Company, or the Clow Valve Co.

The lubricant used in conjunction with the slip joints shall be that recommended by the supplier specified.

Mechanical Joint Pipe:

Bolting Material: Mechanical joint pipe shall meet the requirement of ASA specification A-U 11. Bolting materials shall meet the requirements of the manufacturer.

All water main fasteners shall be 304 stainless steel.

Construction Requirements:

Excavation: The trench shall be excavated so that the water main will have a minimum cover of five and one-half feet (5½'). The trench for the pipe shall be excavated at least twelve inches (12") wider than the external diameter of the pipe and not more than eighteen inches (18") wider than the diameter of the pipe at the top of the pipe.

Bell holes of sufficient depth shall be provided across the bottom of the trench to accommodate the bell of the pipe to provide sufficient room for joint making and to ensure uniform bearing for the pipe.

Where a firm foundation is not found to exist for the bottom of the trench at the required depth, due to soft, spongy or other unsuitable soil, such unsuitable soil shall be removed for the full width of the trench or tunnel and replaced with well compacted unwashed gravel or an equal substitute therefor, or crushed stone if such compacted material proved unsatisfactory. Where rock in either ledge or boulder formation is encountered, it shall be removed below grade and replaced with a well-compacted cushion of unwashed gravel having a thickness under the pipe of not less than eight inches (8").

If the excavation has been made deeper than necessary, the water main shall be laid at the proper depth by installing CA-6 to the lower bedding depth, and no additional cost shall be charged for the additional stone or for subsequent adjustments to fire hydrants, valves, valve vaults or house services. All excavation materials not needed for backfilling the trenches shall be disposed of by the Contractor.

Sheeting and Bracing: Sheeting and bracing shall be per OSHA requirements. While sheeting is being withdrawn, all vacancies shall be carefully filled with sand free from silt, rammed into place, puddled or otherwise firmly compacted.

Dewatering Trench: The Contractor shall provide and use effective and satisfactory methods to lower the groundwater table to a safe plane below the bottom of the work. No pipe shall be laid or jointed unless the trench is completely dewatered.

Water pumped or drained from the work shall be disposed of in a manner that will not damage adjacent private property, other work construction, street pavements, or other municipal property. No water shall be discharged into sanitary sewers. No water containing settleable solids shall be discharged into storm sewers.

Laying Water Main: The Contractor shall keep the trench free from water while the water main is being placed and until the pipe joint has been sealed to the satisfaction of the Engineer.

Adequate provision shall be made for safety, storing and protecting all water pipe prior to actual installation in the trench. Care shall be taken to prevent damage to the pipe castings, both inside and out. Provisions shall be made to keep the inside of the pipe clean throughout its storage period and to keep mud and/or other debris from being deposited therein. All pipe shall be thoroughly cleaned on the inside before laying of the pipe. Proper equipment shall be used for the safe handling, conveying and laying of the pipe. All pipe shall be carefully lowered into the trench, piece by piece, by means of a derrick, ropes, or other suitable tools or equipment, in such manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench.

In making joints, all portions of the joining materials and the socket and spigot ends of the joining pipe shall be wiped clean of all foreign materials. The actual assembly of the jointing shall be in accordance with the manufacturer's installation instructions and/or directed in writing by the Engineer. During construction, until jointing operations are complete, the open ends of all pipes shall be at all times protected and sealed with temporary watertight plugs.

Pipe Cutting: The cutting of pipe for inserting valves, fittings or closure pieces shall be done in a neat and workmanlike manner without damage to cement lining and so as to leave a smooth end at right angles to the axis of the pipe.

When machine cutting is not available for cutting pipe twenty inches (20") in diameter or larger, the electric arc cutting method will be permitted, using a carbon or steel rod. Only qualified and experienced workmen shall be used on this work.

The flame cutting of pipe by means of an oxyacetylene torch shall not be allowed.

Backfilling: The contractor shall not backfill above the top of the pipe, until grade, alignment and the pipe joints have been made available for checking by the Engineer.

Unless otherwise directed, all trenches and excavations shall be backfilled as soon as possible and the work shall be prosecuted expeditiously after it has been commenced.

As soon as it is laid, all pipe shall have the space between the pipe and the bottom and sides of the trench packed full of sand, grade 9 gravel, or clean, dry materials by hand and thoroughly tamped with a shovel, hoe or light tamper, as fast as placed up to the level of the middle of the pipe.

The filling shall be carried up evenly on both sides. Care shall be taken that no rock, frozen material, or other hard substances are placed in contact with the pipe. The pipe shall then be covered at least twelve inches (12") with clean, dry material.

The remainder of the trench shall be backfilled by using the material originally excavated from the ditch (except for conditions hereinafter defined) to a height slightly above the original elevation of the ground.

Pipe constructed in open cut across or within two feet (2') of any existing or proposed pavements, existing driveways and sidewalks, shall be backfilled to subgrade with grade CA-6 gravel tamped in twelve inch (12") lifts into place.

Pipe Restraint

All tees, bends, fittings, fire hydrants, and water valves shall be adequately blocked with poured-in-place thrust blocking. All thrust blocks shall be precast or poured with Class SI concrete in accordance with the applicable provisions of Section 500 of the Standard Specifications. When poured, care shall be taken so that the cement does not interfere with access to joints or with hydrant drainage and shall be against undisturbed earth.

In addition to the above blocking, all fittings, valves and hydrants shall be restrained with retainer glands, Megalug Retainer Gland Series 1100 as manufactured by EBBA Iron Inc. (set screw retainer glands will not be accepted). In addition to the Megalug retaining glands at mechanical joint fittings, the bell and spigot joints shall be restrained with Megalug Restraint Harness Series 1700 at each joint one pipe length beyond the fitting.

Locking gaskets will not be an acceptable alternative to restraining the bell and spigot joint.

All water main within casings shall be restrained joints. All nuts and bolts used for the mechanical fitting and restraint systems shall be 304 stainless steel.

Water Main Pressure Testing.

Pressure Test:

Each section of water main and appurtenances shall be tested by the Contractor and Village jointly. Any defects or leaks shall be corrected by the Contractor.

It is the responsibility of the Contractor to re-excavate the pipe at his expense if the system fails to meet the requirements of the test.

A hydrostatic pressure of one hundred fifty (150) pounds per square inch shall be applied for the testing of the water main, valves, fittings and fire hydrants. The duration of the test shall be for a period of not less than two hours.

Procedure for Test: Each section of pipe shall be tested and shall be slowly filled with water and the specified test pressure shall be applied by means of a pump connected to the pipe in a satisfactory manner. The pump pipe connection and all necessary apparatus including gauges and meters shall be furnished by the Contractor. Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at points of highest elevation and afterwards tightly plugged.

Any cracked or defective pipes, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and replaced by the Contractor with sound material and the test shall be repeated until satisfactory to the Engineer.

Provisions of AWWA C-600 and C-603, where applicable, shall apply.

The Contractor shall notify the Department of Engineering and Public Works (847-895-7100) a minimum of forty-eight (48) hours in advance to schedule this test. In no instance shall the Contractor draw water from an existing water main or operate any valves on an existing water main without the express permission of the Department of Engineering and Public Works.

Water Main Leakage Test:

After completion of the pressure test, a leakage test shall be conducted to determine the quantity of water lost by leakage under the specified test pressure. "Test pressure" is defined as the maximum operating pressure of the section under test and is based on the elevation of the lowest point in the line or section under test corrected to the elevation of the test gauge. Applicable provisions of AWWA C-600 and C-603 shall apply. Duration of each leakage test shall be a minimum of one hour in addition to the pressure test period.

1. Allowable leakage in gallons per hour for ductile iron water main shall not be greater than that determined by the formula:

L =	$\frac{ND \times \text{Square root } [P]}{3700}$
-----	--

for mechanical joints and push on joints, or

L =	$\frac{ND \times \text{Sqaure root } [P]}{1850}$
-----	--

for caulked bell and spigot joints.

- L = Allowable leakage in gallons per hour
- N = Number of joints in length of pipeline tested
- D = Nominal diameter of the pipe in inches
- P = Average test pressure during leakage test in pounds per square inch gauge.

2. "Leakage" is defined as the quantity of water to be supplied in the newly laid pipe or any valved section under test, which is necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.

3. Flanged pipe shall be "bottle tight".

4. In no case shall the leakage exceed the greater of either three thousand (3,000) gallons per day per mile of water main or three percent (3%) of total supplied water.

Preliminary Flushing:

Prior to chlorination, the main shall be flushed as thoroughly as possible with the water pressure and outlets available. Flushing shall be done after the pressure test is made. It must be understood that such flushing removes only the lighter solids and cannot be relied upon to remove heavy material allowed to get into the main during laying. If no hydrant is installed at the end of the main, a tap should be provided large enough to effect a velocity in the main of at least 2.5 feet per second.

Sterilization:

The preferred point of application of the chlorinating agent shall be at the beginning of the pipeline extension or any valved section of it and through a corporation stop in the top of the newly laid pipe. The water injector for delivering the chlorine bearing water into the pipe should be supplied from a tap on the pressure side of the gate valve controlling the flow into the pipeline extension. In a new system, application of chlorine may be made at the pumping station, the elevated tank, the standpipe or the reservoir. When properly cleaned first, these units are thus chlorinated adequately.

Water from the existing distribution system or other source of supply shall be controlled so as to flow slowly into the newly laid pipeline during the application of chlorine. The rate of chlorine mixture flow shall be in such proportion to the rate of water entering the pipe that the chlorine dose applied to the water entering the newly laid pipe shall be at least fifty (50) ppm, or enough to meet the requirements during the retention period. A convenient method of determining the rate of flow of water into the line to be treated is to start with the line full of water and measure the rate of discharge at a hydrant with a Pitot tube. Great flexibility is made possible by providing a series of orifices to give good gauge readings at high and low flows.

Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water.

Treated water shall be retained in the pipe long enough to destroy all spore forming bacteria. This retention period should be at least twenty-four (24) hours. After the chlorine treated water has been retained for the required time, the chlorine residual at the pipe extremities and at other representative points should be at least ten (10) ppm.

In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.

Final Flushing And Testing:

Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipeline at its extremities until the replacement water, throughout its length shall, upon test, be approved as safe water by the Department of Engineering and Public Works. This quality of water delivered by the new main should continue for a period of at least two (2)

consecutive full days as demonstrated by laboratory examination of samples taken from a tap located and installed in such a way as to prevent outside contamination. Samples should never be taken from an unsterilized hose or from a fire hydrant, because such samples seldom meet current bacteriological standards.

1. Repetition of Procedures: Should the initial treatment fail to result in the conditions specified, the chlorination procedure shall be repeated until such results are obtained.
2. Sampling Tap: Three-quarter inch ($\frac{3}{4}$ ") bronze corporation cocks shall be installed in all water mains at intervals not exceeding one thousand feet (1,000').

The Contractor must notify the Department of Engineering and Public Works at least forty-eight (48) hours in advance to arrange for appropriate pressure testing and water samplings. The Contractor is to provide the Department of Engineering and Public Works with sampling bottles at the time of sampling. All samples will be sent to the Cook County Department of Health or to a State of Illinois approved testing lab for analysis.

Environmental Protection Agency:

Water main design, construction, and testing shall in all respects be in accord with the regulations of the Bureau of Public Water Supplies, Environmental Protection Agency, State of Illinois. No construction shall commence until a copy of a permit from this agency is filed with the Village or the Village receives verification from this agency that a permit has been issued.

All water mains must be constructed according to the rules and regulations of the Illinois Department of Public Health regarding the protection of water mains, water service lines and appurtenances from contamination.

Method of Measurement. Water main (of the diameters specified) will be measured per foot in place. Water main shall be measured along the centerline of the water main from the center of the valve to the center of the valve, fittings, or end of the pipe. Water main fittings will be measured by weight in pounds.

Basis of Payment. The installation of the proposed water main shall be paid for at the contract unit price per foot for DUCTILE IRON WATER MAIN, of the size and material specified providing and installing the pipe, all equipment, labor, excavation, backfill, testing, chlorination, and furnishing materials as specified herein, including polyethylene encasement. Measurement shall be the actual installed length measured horizontally along the centerline of the pipe. The installation of fittings called out on the plans shall be considered incidental to the DUCTILE IRON WATER MAIN which shall include all materials, labor and equipment to connect the fittings to the water main pipe and shall include all work and materials associated with construction of the thrust block (if applicable). All fasteners and Retainer glands used at these bends, tees and at water valves are incidental to this item and will not be paid separately. The installation of additional fittings needed due to unforeseen conditions and not shown on the plans shall be paid for at the contract unit price per pound for DUCTILE IRON WATER MAIN FITTINGS. All fasteners and retainer glands used at these additional fittings are incidental to this item and will not be paid separately.

Payment for concrete thrust blocking or retainer glands will not be measured separately for payment but shall be INCLUDED in the cost of the DUCTILE IRON WATER MAIN.

ADJUSTING WATER MAIN (VOS)

Description. This work shall consist of adjusting existing water mains when directed by the Engineer where they are in conflict with the proposed storm sewer or sanitary sewer. This item shall only be used on the existing watermain and shall not be allowed for adjusting the proposed watermain.

All materials used in adjusting the existing water mains shall meet the requirements of the special provisions "Ductile Iron Water Main". All adjustment in the line or grade of the existing water main shall be approved by the Engineer.

All materials, labor, and equipment necessary to adjust the water main shall be on hand before shutdown and cutting of the existing main. The Contractor shall take every precaution to hold the interruption of service to a minimum.

A minimum clearance of eighteen inches (18") shall be maintained between the adjusted main and improvement for which the adjustment was made. A downward adjustment will be required unless 5.5' of cover can be maintained for an upward adjustment or as approved by the Engineer.

Adequate precautions shall be taken to prevent contaminants from entering the existing main. The inside surface of all new materials used in the adjustment shall be cleaned of all foreign materials and swabbed with a solution of efficient bactericide before assembly. The adjusted section shall then be flushed with potable water.

Thrust blocking of Class SI concrete shall also be placed where required and as directed by the Engineer.

Forty-eight (48) hours prior to shutting down the existing main for the adjustments, the facility owner and all users that will be affected shall be notified in writing. The Contractor shall distribute notices of the shut down to the residents affected. The Contractor shall cooperate with the local agency personnel to locate valves necessary to isolate the work area. All valves will be operated by personnel from the owning agency.

Method of Measurement. Adjusting water main (of the diameters specified) will be measured per foot in place. Water mains shall be measured along the center line of the water main from the center of the valve to the center of the valve, fittings, or end of the pipe.

Basis of Payment. This work will be paid for at the contract unit price per foot for ADJUSTING WATERMAIN of the size specified. This price shall include the cost of all excavation, materials, pipe, adapters, joint materials, fittings, blocking, backfill, trench backfill, removal and disposal of existing main, and all work and equipment necessary to make a complete and finished installation.

FIRE HYDRANTS TO BE REMOVED (VOS)

Description. This work shall consist of the removal of existing fire hydrants, auxiliary valves, backfilling the excavated site and removal of the existing hydrant sign at locations shown on the Plans.

Method of Construction. This work shall conform to the applicable sections of the Standard Specifications for Water and Sewer Main Construction. When a proposed fire hydrant is shown to be installed to replace the existing fire hydrant using the existing tee on the watermain, the Contractor shall remove the fire hydrant, auxiliary valve and valve box, and the watermain from the auxiliary valve to the existing tee.

When a proposed fire hydrant is shown to be installed at an adjacent location and not using the existing tee on a live watermain, the Contractor shall follow the following procedure. The fire hydrant and auxiliary valve along with any pipe should be removed back to the existing tee and the tee should be plugged.

The Contractor shall remove the connector pipe, fire hydrant, and auxiliary valve and valve box (when described above) and coordinate delivery to the location specified by the Village of Schaumburg Public Works Department or dispose of them at the direction of the Engineer.

The Contractor shall backfill the excavation with CA-6 or appropriate backfill, as approved by the Engineer, to the existing grade elevation, unless a new fire hydrant is shown to be installed at this location. The backfill shall be compacted in accordance with Section 550 of the "Standard Specifications" except that only Method 1 shall be used.

Removal of the fire hydrants shall be performed during a shut-down of the water main. The superintendent of the Utility (Village), the Engineer and the Contractor shall mutually agree upon a date and time for connections which will allow ample time to assemble labor and materials, and to notify all customers affected. Customers shall be notified at least 48 hours prior to being taken out of service. Shut-downs may only be possible during off-hours or on weekends. No additional compensation shall be due to the Contractor for work during these times. A maximum length of the shut-down shall be two hours unless otherwise approved by the Engineer.

Method of Measurement. The removal of a fire hydrant with auxiliary valve and box and including all appurtenances shall be measured on a per each basis at each location.

Basis of Payment This work shall be paid for at the contract unit price per each for FIRE HYDRANT TO BE REMOVED, which price shall include all labor, equipment and material necessary to complete the work as specified herein.

FIRE HYDRANT (VOS) FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX (VOS)

Description This item shall consist of furnishing fire hydrants or fire hydrants with auxiliary valves and valve boxes and installing them at the locations shown on the plans and in

accordance with the Standard Specifications for Water and Sewer Main Construction in Illinois.

Materials

1. Fire Hydrants

Fire hydrants shall conform to AWWA Standard C-502 with breakaway traffic flange. They shall have a valve opening of five and one-fourth inches (5 1/4") and shall be equipped with two (2) 2 1/2-inch hose connections and one 4 1/2-inch male pumper connection. The outside diameter of the male thread on the two and one-half inch (2 1/2") hose connections shall be "national standard" threads. Hose caps shall not be fastened to barrel, the steel chain shall be removed.

A suitable tee of the quality and kind herein specified shall be placed in the watermain opposite each of the fire hydrants and shall be connected with the hydrant by means of the valve and connecting pipe.

All hydrant bolts installed underground shall be 304 stainless steel t-bolts and nuts. Each hydrant shall have a stainless steel lower operating stem.

Each hydrant shall be provided with a drain that will leave no water standing in the barrel of the hydrant when the hydrant is closed. This drip shall close tightly before the hydrant begins to open. The hose and steamer connections shall be securely threaded and locked into the hydrant and each shall be provided with a suitable cast iron threaded cover fastened securely.

All fire hydrants, when noted, shall be equipped with an auxiliary valve and cast iron valve box, including a valve box stabilizer. The auxiliary valve shall be a six inch (6") valve. The pipe connecting the hydrant to the main shall be six inch (6") ductile iron water pipe (class 52) meeting the requirements contained in the special provision for DUCTILE IRON WATER MAIN.

Fire hydrants shall be the break flange type Clow Medallian F-2545 or Mueller Super Centurion A-423.

All hydrants and any required fittings shall receive one (1) coat of factory applied red paint as recommended by the manufacturer prior to final acceptance.

All cap chains shall be removed prior to hydrant installation.

2. Auxiliary Valves and Valve Box

Auxiliary valves shall be "resilient seat wedge valves" in accordance with the following: The valves shall come complete with a cast iron valve box and cover produced by the same manufacturer producing the valve. The auxiliary valves shall be six (6) inches in diameter. Valve boxes shall be Tyler Union 6850 664S Type 26T Top, #60 Middle, and 36B Bottom sections. Valve stabilizers shall be VB Stabilizer from Alberico. The word "Water" shall be imprinted on the valve box cover (Mueller 1H-10360 or Clow 1F-2454). All valves shall be rated for 300 psi test pressure and 150 working pressure.

The auxiliary valve shall be attached directly to the hydrant with push joints or mechanical joints.

All valves shall be right hand turning.

Wedges shall be constructed of ductile iron, fully encapsulated in nitrile rubber except for guide and wedge nut areas.

Wedge rubber shall be molded in place and bonded to the ductile iron portion, and shall not be mechanically attached with screws, rivets, or similar fasteners.

Wedge shall seat against seating surfaces arranged symmetrically about the centerline of the operating stem, so that seating is equally effective regardless of direction of pressure unbalance across the wedge.

All seating surfaces in body shall be inclined to the vertical at a minimum angle of 32 degrees (when stem is in a vertical position) to eliminate abrasive wear of rubber sealing surfaces. The stem shall be sealed by at least two O-rings; all stem seals shall be replaceable with valve fully open and while subjected to full pressure. Waterway shall be smooth and shall have no depressions or cavities in seat area where foreign material can lodge and prevent closure or sealing.

Construction Methods. Each hydrant shall be set on a concrete thrust block not less than 24 inches by 24 inches by 4 inches in thickness. Within the disturbed area, CA-7 gravel shall be placed 3 foot above the weep hole with a geofabric placed on top of the gravel to prevent fines from the soil backfill from clogging the drain field.

All hydrants shall be set plumb and shall have their nozzles parallel with edge of pavement, the steamer connection shall be facing the edge of pavement. The height of the nut on a four and one-half inch (4 ½") steamer connection shall be no less than twenty four inches (24") or more than thirty six inches (36") above finished grade at the hydrant. All hydrant leads between the tee and the hydrant shall be a positively restrained connection.

The bowl of each hydrant shall be well braced against undisturbed earth at the end of trench with stone slabs or concrete backing.

Fire hydrant extensions shall only be used with the approval of the Engineer. Should fire hydrant extensions be required due to improper construction methods by the Contractor, the extensions will be installed but will not be measured for payment.

Auxiliary valves shall be installed in the vertical position, supported on a concrete pedestal. It shall be the Contractor's responsibility to assure that the finished elevation of the box is flush with the adjacent proposed ground line. Valve box installation shall meet the requirements of Section 44 of the Standard Specifications for Water and Sewer Main Construction in Illinois.

All excavation around the fire hydrant and auxiliary valve shall be backfilled to the natural line or finished grade as rapidly as possible. The backfill material shall consist of CA-7 or trench backfill as herein specified. All backfill material shall be deposited in the excavation in a

manner that will not cause damage to the fire hydrant or auxiliary valve. Any depressions which may develop within the area involved in a construction operation due to settlement of backfill material shall be filled in a manner consistent with standard practice.

If the new fire hydrant is added to an existing water main, the hydrant shall be installed within five to seven feet of the auxiliary valve.

Hydrant signs and posts shall be included with each fire hydrant as shown in the plans, and shall be located as directed by the Engineer.

Method of Measurement. The fire hydrant or fire hydrant with auxiliary valve and box complete and including all appurtenances, including the hydrant sign and signpost, shall be measured on a per each basis at each location.

Six (6) inch watermain connection pipe as specified shall not be measured for payment and shall be included in the cost of the fire hydrant or fire hydrant with auxiliary valve and valve box.

Basis of Payment. This work shall be paid for at the contract unit price per each for FIRE HYDRANT or FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX which price shall include furnishing and installing the fire hydrant with auxiliary valve and box, all labor, equipment, drainage stone, thrust block, ductile iron pipe, fittings, connections to the existing watermain, all appurtenances and backfilling necessary to complete the work.

**VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID (VOS)
VALVE VAULTS TO BE ADJUSTED (VOS)
VALVE VAULTS TO BE RECONSTRUCTED (VOS)**

Description. This work shall consist of furnishing and installing a precast concrete valve vault of the diameter specified at locations shown on the plans, in accordance with the details included and as directed by the Engineer.

Materials. Valve vaults are required for all valves greater than 6 inches or as otherwise called out on the plans. All castings for Valve Vaults shall be manufactured by Neenah R-1712 and stamped, "Village of Schaumburg — Water". If a valve controls the water supply to a sprinkler system, it shall be stamped "Village of Schaumburg — Water/Fire". All castings shall be heavy duty type. Manhole steps will not be required, except for those valve vaults where the depth (finish grade to top of water main) exceeds seven (7) feet.

Construction Methods. Vaults shall be built up so the cover and frame, when placed, will conform to the proper grade. Frame castings shall be set in full mortar beds on top of masonry. If the frame casting must be adjusted to meet the finished grade line requiring an adjustment of 2 inches or less, the final adjustment shall be provided with a High Density Polyethylene Manhole Adjusting Ring. All adjusting rings must be mortared together and must be mortared to the casting, as well as to the cone section of the structure. The maximum height of adjusting rings shall be 12 inches with no more than two total adjusting rings.

Basis of Payment. Payment for valve vaults shall be made at the contract unit price per each for VALVE VAULT, TYPE A, of the size specified, TYPE 1 FRAME, CLOSED LID. Payment shall be full compensation for the valve, precast concrete vault, frame and lid, hardware, all materials, labor, equipment, and other appurtenant items to complete this item as specified.

The cost of the frame and lid and final adjustment will not be paid for separately but shall be considered included in the cost of the valve vault. Granular backfill compacted around the valve vault will not be paid for separately but shall be considered included in the cost of the valve vault and installation.

When adjustment or reconstruction is specified and existing frames and lids are to be used, this work will be paid for at the contract unit price per each for VALVE VAULTS TO BE ADJUSTED or VALVE VAULTS TO BE RECONSTRUCTED.

COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24 (VOS)

Description. This work shall consist of constructing concrete curb and gutter of the type specified.

Materials. The materials shall meet the requirements of Article 606.02 of the "Standard Specifications".

General. The work shall be performed according to Section 606 of the "Standard Specifications" and IDOT Standard Drawings 606001 and 606301. The gutter width shall vary as shown on the island details included in the plans.

Method of Measurement. Combination concrete curb and gutter will be measured for payment in feet. The measurement will be made along the face of curb according to Article 606.14 of the "Standard Specifications".

Basis of Payment. This work will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24 (VARIABLE WIDTH GUTTER FLAG). The unit price shall include all equipment, materials and labor required to construct the curb and gutter.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

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

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

Site 2999V-1: Woodfield Mall, 5 Woodfield Mall, Schaumburg, Cook County

- Station 702+30 to Station 703+45 (CL West Frontage Road), 0 to 90 feet LT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.

Site 2999V-2: Commercial Building, 1901 Woodfield Road, Schaumburg, Cook County

- Station 701+00 to Station 702+30 (CL West Frontage Road), 0 to 90 feet LT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.

Site 2999V-3: IDOT ROW, 1900 block of Woodfield Road, Schaumburg, Cook County

- Station 137+90 to Station 139+90 (CL Woodfield Road), 0 to 130 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameters: Lead and Manganese.
- Station 139+90 to Station 141+00 (CL Woodfield Road), 0 to 80 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(1). Contaminants of concern sampling parameter: Manganese.
- Station 141+00 to Station 142+05 (CL Woodfield Road), 0 to 110 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(5). Contaminants of concern sampling parameters: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, and Dibenzo(a,h)anthracene.
- Station 801+35 to Station 808+05 (CL East Frontage Road), 0 to 100 feet LT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.
- Station 802+90 to Station 807+00 (CL East Frontage Road), 0 to 70 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.
- Station 807+00 to Station 808+45 (CL East Frontage Road), 0 to 70 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(5). Contaminants of concern sampling parameters: Arsenic, Lead, and Manganese.
- Station 808+45 to Station 809+70 (CL East Frontage Road), 0 to 70 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.
- Station 809+70 to Station 810+75 (CL East Frontage Road), 0 to 70 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with 669.09(a)(5). Contaminants of concern sampling parameters: Arsenic and Manganese.

At the IDOT ROW property, Manganese was detected at concentrations exceeding the TACO Tier 1 soil remediation objectives for the Construction Worker exposure route in soil boring 2999V-3-B17, from the sample interval 0 to 3 feet deep, as noted in the Final Preliminary Site Investigation Report for this project, submitted August 17, 2018 by Andrews Engineering, Inc. Procedures shall be implemented to protect site workers and observers from hazards encountered during construction activities in locations containing contaminated materials, pursuant to Article 669.06 of the Standard Specifications for Road and Bridge Construction manual.

- Station 808+05 to Station 810+75 (CL East Frontage Road), 0 to 80 feet LT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.

- Station 137+90 to Station 139+90 (CL Woodfield Road), 0 to 110 feet LT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(5). Contaminants of concern sampling parameters: Arsenic and Manganese.
- Station 139+90 to Station 142+25 (CL Woodfield Road), 0 to 75 feet LT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(1). Contaminants of concern sampling parameter: Manganese.
- Station 703+40 to Station 707+95 (CL West Frontage Road), 0 to 75 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.09(a)(2). Contaminants of concern sampling parameter: Manganese.

Additional information on the above sites collected during the Phase I Engineering process is available through the District's Environmental Studies Unit (DESU).

Revise Section 669 of the Standard Specifications to read:

“SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

669.01 Description. This work shall consist of the transportation and proper disposal of contaminated soil and groundwater. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.

669.02 Equipment. The Contractor shall notify the Engineer of the delivery of all excavation, storage, and transportation equipment to a work area location. The equipment shall comply with OSHA and American Petroleum Institute (API) guidelines and shall be furnished in a clean condition. Clean condition means the equipment does not contain any residual material classified as a non-special waste, non-hazardous special waste, or hazardous waste. Residual materials include, but are not limited to, petroleum products, chemical products, sludges, or any other material present in or on equipment.

Before beginning any associated soil or groundwater management activity, the Contractor shall provide the Engineer with the opportunity to visually inspect and approve the equipment. If the equipment contains any contaminated residual material, decontamination shall be performed on the equipment as appropriate to the regulated substance and degree of contamination present according to OSHA and API guidelines. All cleaning fluids used shall be treated as the contaminant unless laboratory testing proves otherwise.

669.03 Pre-construction Submittals. Prior to beginning this work, or working in areas with regulated substances, the Contractor shall submit a Regulated Substance Pre-Construction Plan (RSPCP) to the Engineer for review and approval using form BDE 2730. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

As part of the RSPCP, the qualifications of Contractor(s) or firm(s) performing the following work shall be listed.

- (a) On-Site Monitoring. Qualification for on-site monitoring of regulated substance work and on-site monitoring of UST removal requires either pre-qualification in Hazardous Waste by the Department or demonstration of acceptable project experience in remediation and special waste operations for contaminated sites in accordance with applicable Federal, State, or local regulatory requirements.

Qualification for each individual performing on-site monitoring requires a minimum of one-year of experience in similar activities as those required for the project.

- (b) Underground Storage Tank. Qualification for underground storage tank (UST) work requires licensing and certification with the Office of the State Fire Marshall (OSFM) and possession of all permits required to perform the work. A copy of the permit shall be provided to the Engineer prior to tank removal.

The qualified Contractor(s) or firm(s) shall also document it does not have any current or former ties with any of the properties contained within, adjoining, or potentially affecting the work.

The Engineer will require up to 30 calendar days for review of the RSPCP. The review may involve rejection or revision and resubmittal; in which case, an additional 30 days will be required for each subsequent review. Work shall not commence until the RSPCP has been approved by the Engineer. After approval, the RSPCP shall be revised as necessary to reflect changed conditions in the field.

CONSTRUCTION REQUIREMENTS

669.04 Contaminated Soil and/or Groundwater Monitoring. Prior to beginning excavation, the Contractor shall mark the limits of removal for approval by the Engineer. Once excavation begins, the work and work area involving regulated substances shall be monitored by qualified personnel. The qualified personnel shall be on-site continuously during excavation and loading of material containing regulated substances. The qualified personnel shall be equipped with either a photoionization detector (PID) (minimum 10.6eV lamp), or a flame ionization detector (FID), and other equipment, as appropriate, to monitor for potential contaminants associated with volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs). The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily, and as field and weather conditions change. Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. PID or FID readings may be used as the basis of increasing the limits of removal with the approval of the Engineer but shall in no case be used to decrease the limits.

The qualified personnel shall document field activities using form BDE 2732 (Regulated Substances Monitoring Daily Record) including the name(s) of personnel conducting the monitoring, weather conditions, PID or FID calibration records, a list of equipment used on-site, a narrative of activities completed, photo log sheets, manifests and landfill tickets, monitoring results, how regulated substances were managed and other pertinent information.

Samples will be collected in accordance with the RSPCP. Samples shall be analyzed for the contaminants of concern (COCs), including pH, based on the property's land use history, the encountered abnormality and/or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605. The analytical results shall serve to document the level of contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, collection location and depth, and any other relevant observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846; "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039; and "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", EPA 600/R-95/131, August 1995. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective.

669.05 Contaminated Soil and/or Groundwater Management and Disposal. The management and disposal of contaminated soil and/or groundwater shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:
 - (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
 - (2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

- (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a CCDD facility or an USFO within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (5) When the Engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
- (b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as “uncontaminated soil” according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.
- (1) The pH of the soil is less than 6.25 or greater than 9.0.
 - (2) The soil exhibited PID or FID readings in excess of background levels.
- (c) Soil Analytical Results Exceed Most Stringent MAC but Do Not Exceed Tiered Approach to Corrective Action Objectives (TACO) Residential. When the soil analytical results indicate that detected levels exceed the most stringent MAC but do not exceed TACO Tier 1 Soil Remediation Objectives for Residential Properties pursuant to 35 IAC 742 Appendix B Table A, the excavated soil can be utilized within the right-of-way or managed and disposed off-site as “uncontaminated soil” according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO.
- (d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. The groundwater shall be containerized and trucked to an off-site treatment facility or may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority. Groundwater discharged to a sewer shall be pre-treated to remove particulates and measured with a calibrated flow meter to comply with applicable discharge limits. A copy of the permit shall be provided to the Engineer prior to discharging groundwater to the sewer.

All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.

The Contractor shall use due care when transferring contaminated material from the area of origin to the transporter. Should releases of contaminated material to the environment occur (i.e., spillage onto the ground, etc.), the Contractor shall clean-up spilled material and place in the appropriate storage containers as previously specified. Clean-up shall include, but not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.

The Contractor shall be responsible for transporting and disposing all material classified as a non-special waste, special waste, or hazardous waste from the job site to an appropriately permitted landfill facility. The transporter and the vehicles used for transportation shall comply with all federal, state, and local rules and regulations governing the transportation of non-special waste, special waste, or hazardous waste.

All equipment used by the Contractor to haul contaminated material to the landfill facility shall be lined with a 6 mil (150 micron) polyethylene liner and securely covered during transportation. The Contractor shall obtain all documentation including any permits and/or licenses required to transport the contaminated material to the disposal facility.

The Contractor shall provide engineered barriers, when required, and shall include materials sufficient to completely line excavation surfaces, including sloped surfaces, bottoms, and sidewall faces, within the areas designated for protection.

The Engineer shall coordinate with the Contractor on the completion of all documentation. The Contractor shall make all arrangements for collection and analysis of landfill acceptance testing. The Contractor shall coordinate for waste disposal approval with the disposal facility. After the Contractor completes these activities and upon receipt of authorization from the Engineer, the Contractor shall initiate the disposal process.

The Contractor shall provide the Engineer with all transport-related documentation within two days of transport or receipt of said document(s). The Engineer shall maintain the file for all such documentation. For management of special or hazardous waste, the Contractor shall provide the Engineer with documentation the Contractor (or subcontractor, if a subcontractor is used for transportation) is operating with a valid Illinois special waste transporter permit at least two weeks before transporting the first load of contaminated material.

The Contractor shall schedule and arrange the transport and disposal of each load of contaminated material produced. The Contractor shall make all transport and disposal arrangements so no contaminated material remains within the project area at the close of business each day. Exceptions to this specification require prior approval from the Engineer within 24 hours of close of business. The Contractor shall be responsible for all other pre-disposal/transport preparations necessary daily to accomplish management activities.

Any waste generated as a special or hazardous waste from a non-fixed facility shall be manifested off-site using the Department's county generator number. An authorized representative of the Department shall sign all manifests for the disposal of the contaminated material and confirm the Contractor's transported volume. Any waste generated as a non-special waste may be managed off-site without a manifest, a special waste transporter, or a generator number.

The Contractor shall select a landfill mandated by definition of the contaminant within the State of Illinois. The Department will review and approve or reject the facility proposed by the Contractor to use as a landfill. The Contractor shall verify whether the selected disposal facility is compliant with those applicable standards as mandated by definition of the contaminant and whether the disposal facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The Contractor shall be responsible for coordinating permits with the IEPA. The use of a Contractor selected landfill shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.

669.06 Non-Special Waste Certification. An authorized representative of the Department shall sign and date all non-special waste certifications. The Contractor shall be responsible for providing the Engineer with the required information that will allow the Engineer to certify the waste is not a special waste.

(a) Definition. A waste is considered a non-special waste as long as it is not:

- (1) a potentially infectious medical waste;
- (2) a hazardous waste as defined in 35 IAC 721;
- (3) an industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 IAC 811.107;
- (4) a regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR 61.141;
- (5) a material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;
- (6) a material subject to the waste analysis and recordkeeping requirements of 35 IAC 728.107 under land disposal restrictions of 35 IAC 728;

- (7) a waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or
 - (8) an empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of, or otherwise handled.
- (b) Certification Information. All information used to determine the waste is not a special waste shall be attached to the certification. The information shall include but not be limited to:
- (1) the means by which the generator has determined the waste is not a hazardous waste;
 - (2) the means by which the generator has determined the waste is not a liquid;
 - (3) if the waste undergoes testing, the analytic results obtained from testing, signed and dated by the person responsible for completing the analysis;
 - (4) if the waste does not undergo testing, an explanation as to why no testing is needed;
 - (5) a description of the process generating the waste; and
 - (6) relevant material safety data sheets.

669.07 Temporary Staging. The Contractor shall excavate and dispose of all waste material as mandated by the contaminants without temporary staging. If circumstances require temporary staging, he/she shall request in writing, approval from the Engineer.

When approved, the Contractor shall prepare a secure location within the project area capable of housing containerized waste materials. The Contractor shall contain all waste material in leak-proof storage containers such as lined roll-off boxes or 55 gal (208 L) drums, or stored in bulk fashion on storage pads. The design and construction of such storage pad(s) for bulk materials shall be subject to approval by the Engineer. The Contractor shall place the staged storage containers on an all-weather gravel-packed, asphalt, or concrete surface. The Contractor shall maintain a clearance both above and beside the storage units to provide maneuverability during loading and unloading. The Contractor shall provide any assistance or equipment requested by the Engineer for authorized personnel to inspect and/or sample contents of each storage container. All containers and their contents shall remain intact and undisturbed by unauthorized persons until the manner of disposal is determined. The Contractor shall keep the storage containers covered, except when access is requested by authorized personnel of the Department. The Engineer shall authorize any additional material added to the contents of any storage container before being filled.

The Contractor shall ensure the staging area is enclosed (by a fence or other structure) to ensure direct access to the area is restricted, and he/she shall procure and place all required regulatory identification signs applicable to an area containing the waste material. The Contractor shall be responsible for all activities associated with the storage containers

including, but not limited to, the procurement, transport, and labeling of the containers. The Contractor shall clearly mark all containers in permanent marker or paint with the date of waste generation, location and/or area of waste generation, and type of waste (e.g., decontamination water, contaminated clothing, etc.). The Contractor shall place these identifying markings on an exterior side surface of the container. The Contractor shall separately containerize each contaminated medium, i.e. contaminated clothing is placed in a separate container from decontamination water. Containers used to store liquids shall not be filled in excess of 80 percent of the rated capacity. The Contractor shall not use a storage container if visual inspection of the container reveals the presence of free liquids or other substances that could classify the material as a hazardous waste in the container.

The Department will not be responsible for any additional costs incurred, if mismanagement of the staging area, storage containers, or their contents by the Contractor results in excess cost expenditure for disposal or other material management requirements.

669.08 Underground Storage Tank Removal. For the purposes of this section, an underground storage tank (UST) includes the underground storage tank, piping, electrical controls, pump island, vent pipes and appurtenances.

Prior to removing an UST, the Engineer shall determine whether the Department is considered an "owner" or "operator" of the UST as defined by the UST regulations (41 Ill. Adm. Code Part 176). Ownership of the UST refers to the Department's owning title to the UST during storage, use or dispensing of regulated substances. The Department may be considered an "operator" of the UST if it has control of, or has responsibility for, the daily operation of the UST. The Department may however voluntarily undertake actions to remove an UST from the ground without being deemed an "operator" of the UST.

In the event the Department is deemed not to be the "owner" or "operator" of the UST, the OSFM removal permit shall reflect who was the past "owner" or "operator" of the UST. If the "owner" or "operator" cannot be determined from past UST registration documents from OSFM, then the OSFM removal permit will state the "owner" or "operator" of the UST is the Department. The Department's Office of Chief Counsel (OCC) will review all UST removal permits prior to submitting any removal permit to the OSFM. If the Department is not the "owner" or "operator" of the UST then it will not register the UST or pay any registration fee.

The Contractor shall be responsible for obtaining all permits required for removing the UST, notification to the OSFM, using an OSFM certified tank contractor, removal and disposal of the UST and its contents, and preparation and submittal of the OSFM Site Assessment Report in accordance with 41 Ill. Adm. Code Part 176.330.

The Contractor shall contact the Engineer and the OSFM's office at least 72 hours prior to removal to confirm the OSFM inspector's presence during the UST removal. Removal, transport, and disposal of the UST shall be according to the applicable portions of the latest revision of the "American Petroleum Institute (API) Recommended Practice 1604".

The Contractor shall collect and analyze tank content (sludge) for disposal purposes. The Contractor shall remove as much of the regulated substance from the UST system as necessary to prevent further release into the environment. All contents within the tank shall

be removed, transported and disposed of, or recycled. The tank shall be removed and rendered empty according to IEPA definition.

The Contractor shall collect soil samples from the bottom and sidewalls of the excavated area in accordance with 35 Ill. Adm. Code Part 734.210(h) after the required backfill has been removed during the initial response action, to determine the level of contamination remaining in the ground, regardless if a release is confirmed or not by the OSFM on-site inspector.

In the event the UST is designated a leaking underground storage tank (LUST) by the OSFM's inspector, or confirmation by analytical results, the Contractor shall notify the Engineer and the DESU. Upon confirmation of a release of contaminants from the UST and notifications to the Engineer and DESU, the Contractor shall report the release to the Illinois Emergency Management Agency (IEMA) (e.g., by telephone or electronic mail) and provide them with whatever information is available ("owner" or "operator" shall be stated as the past registered "owner" or "operator", or the IDOT District in which the UST is located and the DESU Manager);

The Contractor shall perform the following initial response actions if a release is indicated by the OSFM inspector:

- (a) Take immediate action to prevent any further release of the regulated substance to the environment, which may include removing, at the Engineer's discretion, and disposing of up to 4 ft (1.2 m) of the contaminated material, as measured from the outside dimension of the tank
- (b) Identify and mitigate fire, explosion and vapor hazards;
- (c) Visually inspect any above ground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater; and
- (d) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors and free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements).

The UST excavation shall be backfilled according to applicable portions of Sections 205, 208, and 550 with a material that will compact and develop stability. The material shall be approved prior to placement. All uncontaminated concrete and soil removed during tank extraction may be used to backfill the excavation, at the discretion of the Engineer.

After backfilling the excavation, the site shall be graded and cleaned.

669.09 Regulated Substance Final Construction Report. Not later than 90 days after completing this work, the Contractor shall submit a Regulated Substance Final Construction Report (RSFCR) to the Engineer using form BDE 2733 and required attachments. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

669.10 Method of Measurement. Non-special waste, special waste, and hazardous waste soil will be measured for payment according to Article 202.07(b) when performing earth excavation, Article 502.12(b) when excavating for structures, or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench.

Groundwater containerized and transported off-site for management, storage, and disposal will be measured for payment in gallons (liters).

Backfill plugs will be measured in cubic yards (cubic meters) in place, except the quantity for which payment will be made shall not exceed the volume of the trench, as computed by using the maximum width of trench permitted by the Specifications and the actual depth of the trench, with a deduction for the volume of the pipe.

Engineered Barriers will be measured for payment in square yards (square meters).

669.11 Basis of Payment. The work of preparing, submitting and administering a Regulated Substances Pre-Construction Plan will be paid for at the contract lump sum price for REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN.

On-site monitoring of regulated substances, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day, or fraction thereof, for ON-SITE MONITORING OF REGULATED SUBSTANCES.

The installation of engineered barriers will be paid for at the contract unit price per square yard (square meter) for ENGINEERED BARRIER.

The work of removing a UST, soil excavation, soil and content sampling, and the excavated soil, UST content, and UST disposal will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL.

The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.

The transportation and disposal of groundwater from an excavation determined to be contaminated will be paid for at the contract unit price per gallon (liter) for SPECIAL WASTE GROUNDWATER DISPOSAL or HAZARDOUS WASTE GROUNDWATER DISPOSAL. When groundwater is discharged to a sanitary or combined sewer by permit, the cost will be paid for according to Article 109.05.

Backfill plugs will be paid for at the contract unit price per cubic yard (cubic meter) for BACKFILL PLUGS.

Payment for temporary staging, if required, will be paid for according to Article 109.04.

Payment for accumulated stormwater removal and disposal will be according to Article 109.04. Payment will only be allowed if appropriate stormwater and erosion control methods were used.

Payment for decontamination, labor, material, and equipment for monitoring areas beyond the specified areas, with the Engineer's prior written approval, will be according to Article 109.04.

The sampling and testing associated with this work will be paid for as follows.

- (a) BETX Soil/Groundwater Analysis. When the contaminants of concern are gasoline only, soil or groundwater samples shall be analyzed for benzene, ethylbenzene, toluene, and xylenes (BETX). The analysis will be paid for at the contract unit price per each for BETX SOIL ANALYSIS and/or BETX GROUNDWATER ANALYSIS using EPA Method 8021B.
- (b) BETX-PNAS Soil/Groundwater Analysis. When the contaminants of concern are middle distillate and heavy ends, soil or groundwater samples shall be analyzed for BETX and polynuclear aromatics (PNAS). The analysis will be paid for at the contract unit price per each for BETX-PNAS SOIL ANALYSIS and/or BETX-PNAS GROUNDWATER ANALYSIS using EPA Method 8021B for BETX and EPA Method 8310 for PNAs.
- (c) Priority Pollutants Soil Analysis. When the contaminants of concern are used oils, soil samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, and priority pollutants metals. The analysis will be paid for at the contract unit price per each for PRIORITY POLLUTANTS SOIL ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, and using an ICP instrument and EPA Methods 6010B and 7471A for metals.
- (d) Priority Pollutant Groundwater Analysis. When the contaminants of concern are used oils, non-petroleum material, or unknowns, groundwater samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, and priority pollutants metals. The analysis will be paid for at the contract unit price per each for PRIORITY POLLUTANTS GROUNDWATER ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, and EPA Methods 6010B and 7470A for metals.
- (e) Target Compound List (TCL) Soil Analysis. When the contaminants of concern are unknowns or non-petroleum material, soil samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCS, priority pollutants metals, pesticides, and Resource Conservation and Recovery Act (RCRA) metals by the toxicity characteristic leaching procedure (TCLP). The analysis will be paid for at the contract unit price per each for TCL SOIL ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, EPA Method 8081 for pesticides, and ICP instrument and EPA Methods 6010B, 7471A, 1311 (extraction), 6010B, and 7470A for metals.
- (f) Soil Disposal Analysis. When the waste material for disposal requires sampling for disposal acceptance, the samples shall be analyzed for TCLP VOCs, SVOCs, RCRA metals, pH, ignitability, and paint filter test. The analysis will be paid for at the contract unit price per each for SOIL DISPOSAL ANALYSIS using EPA Methods 1311

(extraction), 8260B for VOCs, 8270C for SVOCs, 6010B and 7470A for RCRA metals, 9045C for pH, 1030 for ignitability, and 9095A for paint filter.

The work of preparing, submitting and administering a Regulated Substances Final Construction Report will be paid for at the contract lump sum price REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT.”

TEMPORARY ACCESS ROAD (SPECIAL) (VOS)

Description. This work shall consist of constructing, maintaining and removing paved temporary access for private and commercial entrances and side roads when directed by the Engineer.

General. When temporary aggregate access points are to remain for an extended period of time and only when directed by the Engineer, the Contractor shall construct and maintain temporary access composed of an HMA surface course over an existing aggregate temporary access. The top 2” of the existing aggregate temporary access should be removed and replaced with 2” of Hot-Mix Asphalt.

HMA Surface Course. The Hot-Mix Asphalt surface course shall be 2 in. thick when compacted. HMA Surface Course, Mix “D”, N50 shall be used except as modified by the plans or as directed by the Engineer. This work shall be constructed in accordance with the applicable portions of Section 406 of the Standard Specifications and as directed by the Engineer. The material shall conform to the applicable portions of Section 1030 of the Standard Specifications.

The paved temporary access shall be constructed to the dimensions and grades of the existing aggregate temporary access unless otherwise directed by the Engineer.

Maintaining the paved temporary access shall include repairing the HMA surface course after any operation that may disturb or remove the paved temporary access to the satisfaction of the Engineer.

When use of the paved temporary access is discontinued, the paved temporary access shall be removed according to Article 440.03 of the Standard Specifications. The material shall be disposed of according to Article 202.03 of the Standard Specifications or may be utilized in the permanent construction with the approval of the Engineer.

Method of Measurement. Paved temporary access for private and commercial entrances and roads will be measured for payment at the contract unit price per square yard for every private entrance, commercial entrance or road constructed for the purpose of providing a paved temporary access.

Basis of Payment. Paved temporary access for private and commercial entrances and roads will be paid for at the contract unit price per square yard for TEMPORARY ACCESS ROAD (SPECIAL).

Partial payment of the square yard amount bid for each paved temporary access will be paid according to the following schedule:

(a) Upon construction of the paved temporary access, sixty percent of the contract unit price per square yard will be paid.

(b) Subject to the approval of the Engineer for the adequate maintenance and removal of the paved temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access.

BIKE PATH REMOVAL (VOS)

Description. This work shall consist of the removal and disposal of the existing hot-mix asphalt bike path, regardless of thickness, as directed by the Engineer. This work shall be performed in accordance with Section 440 of the Standard Specifications.

Method of Measurement. Bike path removal shall be measured for payment in place and the area computed in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for BIKE PATH REMOVAL.

EXPLORATION TRENCH, SPECIAL (VOS)

Description. This item shall consist of excavating a trench at locations designated by the Engineer for the purpose of locating existing tile lines or other underground facilities within the limits of the proposed improvement. The trench shall be deep enough to expose the line but not more than one foot deeper than the line, and the width of the trench shall be sufficient to allow proper investigation to determine if the line needs to be relocated or replaced.

The exploration trench shall be backfilled with gradation CA 6 stone, the cost of which shall be included in the item of EXPLORATION TRENCH, SPECIAL.

Basis of Payment. This work will be paid for at the contract unit price per foot for EXPLORATION TRENCH, SPECIAL, regardless of the depth required, and no extra compensation will be allowed for any delays, inconveniences or damages sustained by the Contractor in performing the work.

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

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

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

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

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

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

Add the following to Article 402.12 of the Standard Specifications:

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

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

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

Partial payment of the each amount bid for temporary access, of the type specified, will be paid according to the following schedule:

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

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, SPECIAL (VOS)

Description. This work shall consist of the construction of Portland Cement Concrete driveways at the locations designated on the plans in accordance with Section 423 of the Standard Specifications.

Materials. Materials shall comply with the requirements of Sections 1006, 1020 and 1051 of the Standard Specifications for Class PV concrete.

Construction Method. The driveway shall be poured to the thickness shown on the plans. The existing aggregate subbase shall be replaced with 2” of Subbase Granular Material, Type B. The subbase shall be paid for separately as SUBBASE GRANULAR MATERIAL, TYPE B 2”.

6 inch X 6 inch - #6 welded wire mesh shall be placed 3” below the surface of the concrete.

All forming shall be with 2" x 8" lumber or approved metal forms except within areas of driveway radii where 1" x 6" lumber shall be utilized.

The Contractor shall machine saw a perpendicular joint between that portion of a driveway to be removed and that which is to remain in place. If the Contractor removes or damages the existing driveway or parking area outside the limits designated by the Engineer for removal and replacement, he will be required to repair or replace that portion at his own expense to the Engineer’s satisfaction. All required excavation shall be included in the contract unit price for this item. Removal of the existing driveway pavement will be paid for separately.

Method of Measurement. This work will be measured for payment in place and the area computed in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, SPECIAL of the thickness specified.

Removal of the existing driveway pavement shall be paid for per square yard as DRIVEWAY PAVEMENT REMOVAL.

DETECTABLE WARNINGS (SPECIAL) (VOS)

Article 424.09. Append the article with the following:

“The vitrified polymer composite surface applied detectable/tactile warning surface tile shall be ‘Armor-Tile’, as manufactured by Engineering Plastics Inc. (800-682-2525).”

Article 424.13. Replace the second sentence with the following:

“Detectable warnings will be paid for at the contract unit price per square foot for DETECTABLE WARNINGS (SPECIAL)”.

STORM SEWERS, PIPE UNDERDRAINS, SANITARY SEWERS, AND WATERMAIN (VOS)

Whenever during construction operations any loose material is deposited in the flow line of drainage structures such that the natural flow of water is obstructed, it shall be removed at the close of each working day. At the conclusion of construction operations, all utility structures shall be free from dirt and debris. The cost of all materials required and all labor necessary to comply with these provisions will not be paid for separately, but shall be considered as included in the cost of the storm sewers installed and drainage structures installed, adjusted, or reconstructed as part of this project.

The Contractor shall furnish all labor, equipment and material necessary for dewatering trench excavations as well as shoring trench walls during utility operations. The cost to comply with the above shall be included in the cost of the storm sewers, drainage structures, valve vaults, watermain, and fire hydrants installed as part of this project.

The cost of making storm sewer connections to existing or proposed storm sewer or drainage structures shall be included in the cost of the storm sewer or drainage structure being constructed.

Removal of sleeves on existing storm sewers shall be included in the cost of the storm sewer being removed.

When existing drainage facilities are disturbed, the Contractor shall provide and maintain temporary outlets and connections for all private or public drains, sewers or catch basins. The Contractor shall provide facilities to take in all storm water which will be received by these drains and sewers and discharge the same. The Contractor shall provide and maintain an efficient pumping plant, if necessary, and a temporary outlet. The Contractor shall be prepared at all times to dispose of the water received from temporary connections until such time as the permanent connections with sewers are built and in service. This work will not be paid for separately, but shall be included in the cost of the storm sewers and drainage structures installed as part of this project.

Top of frame (“rim”) elevations given on the plans are only to assist the Contractor in determining the approximate overall height of each structure. Frames on all new structures shall be adjusted to the final elevations of the areas in which they are located. This work will

not be paid for separately, but shall be included in the cost of the drainage structures installed as part of this project.

Unless otherwise noted on the plans, the existing drainage facilities shall remain in use during the period of construction. Locations of existing drainage structures and sewers as shown on the plans are approximate. Prior to commencing work the Contractor shall determine the exact locations of existing structures which are within the proposed construction limits.

During construction, if the Contractor encounters or otherwise becomes aware of any sewers, underdrains, or field drains within the right-of-way other than those shown on the plans, he shall so inform the Engineer, who shall direct the work necessary to maintain or replace the facilities in service and to protect them from damage during construction if maintained. Existing facilities to be maintained that are damaged because of the non-compliance with this provision shall be replaced at the Contractor's own expense. Should the Engineer have directed the replacement of a facility, the necessary work and payment shall be in accordance with Sections 550 and 601, and Article 104.02 of the Standard Specifications.

The Contractor shall determine when flat slab tops are required on manholes and catch basins. No additional compensation shall be allowed for the use of flat slab tops.

The Contractor shall be aware that at times the Engineer may require a change in storm sewer elevation due to a utility line or other obstruction. If such a grade change does not alter the pipe classification, the additional excavation, backfill, and sheeting required shall be included in the cost of the storm sewer being installed. If the revised grade results in a change in pipe classification, payment will be made for the revised type of storm sewer.

Pipe underdrains shall be installed according to Section 601 of the Standard Specifications and IDOT Highway Standard 601001-05. Top of pipe underdrains shall be placed a minimum of 6" below the Aggregate Subgrade improvement layer. The cost of making pipe underdrain connections to drainage structures shall be include in the cost of Pipe Underdrains, of the type specified.

CATCH BASINS, WITH SPECIAL FRAME AND GRATE (VOS) INLETS, WITH SPECIAL FRAME AND GRATE, SPECIAL (VOS)

Description. This work shall be performed in accordance with the applicable portions of Section 602 except as follows:

Special frames and grates for structures listed on the plans as being on-grade within B-6.12 curb and gutter shall consist of Neenah R-3281-AL with an open curb box.

Special frames and grates for structures listed on the plans as being in a low point location within B-6.12 curb and gutter shall consist of Neenah R-3281-A with an open curb box.

Special frames and grates for structures listed on the plans as being on-grade within B-6.18 curb and gutter shall consist of Neenah R-3278-AL with an open curb box.

Special frames and grates for structures listed on the plans as being in a low point location within B-6.18 curb and gutter shall consist of Neenah R-3278-A with an open curb box.

The words "Dump No Waste" and "Drains to Waterways" shall be cast into the top of the curb box.

Basis of Payment. When new construction is specified, this work will be paid for at the contract unit price per each for CATCH BASINS, of the type or type and diameter specified, WITH SPECIAL FRAME AND GRATE or INLETS, of type specified, WITH SPECIAL FRAME AND GRATE, SPECIAL.

MANHOLES, TYPE A, 6'-DIAMETER, WITH 2 TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE (VOS)

Description. This work shall consist of constructing a type A manhole, with two type 1 frame, closed lids, and a restrictor plate.

Materials. The materials shall meet the requirements of Article 602.02 of the "Standard Specifications".

General. The work shall be performed according to Section 602 of the "Standard Specifications", IDOT Standard Drawing 602401 and the following:

The restrictor plate shall be furnished and installed as shown on the plans.

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. The unit price shall include all equipment, labor and materials required to furnish and install the manhole, frame and lid, and restrictor plate.

**SANITARY MANHOLES TO BE ADJUSTED (VOS)
SANITARY MANHOLES TO BE RECONSTRUCTED (VOS)**

Description. This work shall consist of adjusting or reconstructing existing sanitary manholes at locations indicated on the plans. This work shall be performed in accordance with Section 602 of the Standard Specifications with the following addition:

A new external chimney seal which fully encompasses the rings and castings shall be installed after the frame has been adjusted to the final elevation. The external chimney shall be the Classic External Chimney Seal manufactured by Cretex.

The manhole lid shall be rotated out of the proposed sidewalk as much as possible, as determined by the Engineer.

Basis of Payment. This work shall be measured and paid for at the contract unit price per each for SANITARY MANHOLES TO BE ADJUSTED or SANITARY MANHOLES TO BE

RECONSTRUCTED which price shall include all labor, equipment, and materials necessary to perform said work.

VALVE BOX (VOS)

Description. This work shall consist of furnishing and installing a valve box on a water valve.

Materials. Valve boxes shall be Tyler Union 6850 664S Type 26T Top, #60 Middle, and 36B Bottom sections. Valve stabilizers shall be VB Stabilizer from Alberico. The word "Water" shall be imprinted on the valve box cover (Mueller 1H-10360 or Clow 1F-2454).

Installation. Valve box installation shall meet the requirements of Section 44 of the Standard Specifications for Water and Sewer Main Construction in Illinois. CA-6 crushed compacted limestone shall be utilized to backfill all around the outside of the valve boxes and below the valve to prevent mud from penetrating valve box. All backfill material shall be deposited in the excavation in a manner that will not cause damage to the valve box. Any depressions which may develop within the area involved in a construction operation due to settlement of the backfill material shall be filled in a manner meeting the approval of the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per each for VALVE BOX, which price shall include all labor, equipment, and materials necessary to perform said work.

FRAMES AND LIDS TO BE ADJUSTED (SPECIAL) (VOS)

Description. This work shall consist of adjusting frames and lids for drainage and utility structures located within the pavement area in accordance with Section 603 of Standard Specifications and the following modifications:

All work shall follow and be according to the District One Detail BD-8 "Details for Frames and Lids Adjustment with Milling".

Add the following to Article 603.09 of the Standard Specifications:

"Removing frames and lids on drainage and utility structures in the pavement prior to milling, and adjusting to final grade prior to placing the surface course, will be paid for at the contract unit price each for FRAMES AND LIDS TO BE ADJUSTED (SPECIAL).

CHAIN LINK FENCE (SPECIAL) (VOS)

Description. This work shall consist of constructing chain link fence in accordance with Section 664 of the Standard Specifications with the following additions:

This work shall include the installation of a new corner post at the connection point to the existing fence, installation of the brace post, and connecting the existing fence fabric to the new corner post.

A handrail shall be attached to the fence in accordance with the detail included in the plans. A smooth transition or connection shall be made between the new handrail and the existing handrail, in a manner meeting the approval of the Engineer.

Method of Measurement. Chain link fence will be measured for payment in feet, along the top of the fence from center to center of end posts.

Basis of Payment. This work will be paid for at the contract unit price per foot for CHAIN LINK FENCE (SPECIAL) which price shall include all labor, equipment, and materials necessary to perform said work.

CHAIN LINK FENCE REMOVAL (VOS)

Description. This work shall consist of the removal and satisfactory disposal of existing chain link fence at the locations shown on the plans or as directed by the Engineer.

General. Removal of the chain link fence shall include posts, fence fabric, handrails, fittings, appurtenances, attachments, and concrete foundations. Any holes created by removal of the foundation shall be backfilled with suitable material approved by the Engineer.

Method of Measurement. This work will be measured for payment in feet along the top of the fence from end to end of the fence removed.

Basis of Payment. This work will be paid for at the contract unit price per foot for CHAIN LINK FENCE REMOVAL, which price shall include all equipment, labor, and materials required to remove and dispose of existing chain link fence and restore the site as herein specified.

FOLD DOWN BOLLARDS (VOS)

Description. This work shall consist of furnishing and installing a fold down bollard and footing.

Materials. Fold down bollards shall be Double Post Hinged Bollard as manufactured by TrafficGuard Direct and shall be safety orange color. The concrete for the footing shall comply with the requirements of Section 1020 of the Standard Specifications for Class SI Concrete. The connection to the foundation shall be Concrete Pier Anchor System CPAS12 as manufactured by TrafficGuard Direct.

Submittals. The Contractor shall submit shop drawings and product data describing the items and the installation details.

Installation. Installation shall comply with the details included in the plans and the manufacturer's instructions and drawings.

Basis of Payment. This work will be paid for at the contract unit price per each for FOLD DOWN BOLLARDS, which price shall include all equipment, labor, and materials required to complete the work as specified.

BOLLARD REMOVAL (VOS)

Description. This work shall consist of the removal and disposal of existing bollards at the locations shown on the plans and as directed by the Engineer. The bollards shall be removed in their entirety, including all concrete foundations. All removed materials shall be disposed of by the Contractor outside the limits of the improvements. Holes or excavations resulting from the removal operations shall be backfilled with suitable material and compacted to the satisfaction of the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price per each for BOLLARD REMOVAL, which shall include all equipment, labor, and materials required to complete the work as specified.

SIGN PANEL – TYPE 1 (SPECIAL) (VOS)

Description. This work shall consist of furnishing, fabricating, and /or installing telescoping steel sign supports in accordance with Section 720 of the Standard Specification with the following modifications:

The sheeting shall be Diamond Grade DG3 Reflective Sheeting Series 4000 manufactured by 3M.

Method of Measurement. Sign panels will be measured for payment in square feet according to Article 720.03.

Basis of Payment. This work will be paid for at the contract unit price per square foot for SIGN PANEL – TYPE 1 (SPECIAL).

TELESCOPING STEEL SIGN SUPPORT (SPECIAL) (VOS)

Description. This work shall consist of furnishing and installing telescoping steel sign supports for ground-mounted signs utilizing a telescoping base section in accordance with Section 728 of the Standard Specification with the following modifications:

The sign supports shall meet the requirements shown in the detail contained within the plans.

Method of Measurement. Sign supports will be measured for payment in feet. The length measured will be the total length of all sections installed, except for any internal splice members and any telescoping of a top section more than 12 inches into a base section.

Basis of Payment. This work will be paid for at the contract unit price per foot for TELESCOPING STEEL SIGN SUPPORT (SPECIAL).

HANDHOLE TO BE ADJUSTED (VOS)

Description. This work shall be in accordance with Section 814 of the Standard Specifications insofar as applicable and the following provisions.

This work shall consist of adjusting a handhole in a sidewalk area prior to placing the sidewalk concrete. The need for the adjustment of the handhole shall be determined by the Engineer after the sidewalk has been formed.

This work shall include the necessary removal of the existing handhole frame and cover and re-setting the frame and cover accurately to the finished sidewalk elevation in cast-in-place concrete.

Basis of Payment. This work shall be measured and paid for at the contract unit price per each for HANDHOLE TO BE ADJUSTED. This price shall include any necessary excavation work, disposal of excess material, and all material, equipment, and labor necessary to place the frame and cover at the proper grade in accordance with the Standard Specifications.

BRICK PAVER SIDEWALK ON RIGID BASE (VOS)

General. The Contractor shall provide all labor and materials necessary to install concrete pavers at locations, and in accordance with the details, included in the plans.

Materials. The concrete base shall comply with the requirements of Section 1020 of the Standard Specifications for Class SI Concrete. The paving bricks shall be UNILOCK, of the type, size and color shown on the paver detail. The paving bricks shall be of the nominal sizes, shapes, and colors shown on the plans. A sample of the bricks to be used shall be submitted to the Engineer for approval of the size, shape, and color. The pavers shall meet the requirements set forth in ASTM C-936, "Specification of interlocking concrete paving units". Minimum average compressive strength shall be 8,500 p.s.i.; minimum average absorption rates shall be 5%; and the maximum average weight loss after 50 freeze/thaw cycles shall be 1%. Test results shall be provided by the manufacturer. The Engineer shall approve the materials and installation of the sand bedding system. The joint sand shall consist of a natural or manufactured sand conforming to ASTM C-33 for fine aggregates. Sand must be free from clay, organic matter, and other deleterious material. Mason sand will not be permitted. The joint sand stabilizer shall be SB-1370, Surebond Safebond Ecology Sealer & Joint Sand Stabilizer. Non-woven filter fabric shall conform to Article 1080.05 of the Standard Specifications. PVC pipe shall be schedule 40 conforming to ASTM 1784 or ASTM 1785. Reinforcement bars and welded wire fabric shall conform to the requirements of Article 1006.10 of the Standard Specifications.

Installation. The concrete base pad shall include placing and compacting 4" of Aggregate Base Course, Type B on prepared subgrade, installing 6X6 - #6 welded wire fabric, and placing portland cement concrete to a minimum thickness of 5 inches. Weep holes shall be provided in the base pad at the location of the low point of the paver field to allow water to

drain to the base course material, with use of 3/4" PVC pipe. This work shall be constructed in accordance with Sections 351 and 424 of the Standard Specifications.

Concrete for the installation of sidewalks, detectable warnings, or concrete header bands shall not be constructed integrally with the concrete base. The concrete base shall be tied to the sidewalk and concrete header bands with #6 dowel bars, 12" long, placed at 12" centers. The cost of placing the bars shall be included in the cost of BRICK PAVER SIDEWALK ON RIGID BASE.

The pavers shall be installed after the P.C.C. sidewalk, header band, and concrete base has been installed and the forms removed. The Contractor shall then place the filter fabric and sand bedding on the concrete base. The pavers shall be installed according to the pattern shown on the plans. Once installed, the pavers shall be compacted with a plate compactor outfitted with a rubber pad. After the first pass, a thin, uniform layer of joint sand shall be spread over the top of the pavers and the pavers compacted again. Additional sand shall be swept into the joints until they are full to within 1/16" from the bevel edge of paver or the joint surface. All excess sand shall be removed from the paver surface. This process shall be repeated after 48 hours.

After all excess sand has been removed from the paver surface, the joint sand stabilizer shall be liberally and evenly applied as to coat the pavers and joints by using a low pressure regulated sprayer not to exceed 25 pounds per square inch. The joint sand stabilizer shall be applied at a coverage rate of approximately 120 SF per gallon. The excess material shall be simultaneously drawn off the surface with a soft squeegee to ensure that all joints are adequately coated and that no surplus material is left on the surface. The application of the joint sand stabilizer shall be organized in such a manner so that the operation is carried out in each area before the stabilizer has a chance to dry by doing suitable increments at a time. The work shall be undertaken when the weather is appropriate and shall cease when inclement weather, including rain or strong winds, will affect the stabilizing operation. Joint sand stabilizer shall not be applied if temperatures will fall below 45° Fahrenheit during the application or curing time of the stabilizer. The curing time shall be as defined by the manufacturer and approved by the Engineer. If the pavement has become saturated with water, work shall not commence until the joint sand has dried out sufficiently to allow for proper penetration of the stabilizer. In extremely dry, hot conditions, when midday temperatures rise above 90° Fahrenheit, it may be necessary to adjust the application methods to retard drying and facilitate the proper spreading of the stabilizer. If these circumstances apply, consult with the Engineer before proceeding with stabilization operation. All areas treated with sand joint stabilizer shall be protected from rain or moisture until stabilizer is cured and should not be trafficked for a minimum of 24 hours after completion of the stabilization operation.

Method of Measurement. Paver sidewalks will be measured for payment in square feet of paver fields in place.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for BRICK PAVER SIDEWALK ON RIGID BASE, which price shall include all materials, labor, and equipment necessary to complete the work as described and as shown on the details in the plans. The aggregate base shall be paid for separately as AGGREGATE BASE COURSE, TYPE B, 4".

CONCRETE HEADER BAND (VOS)

Description. This work shall consist of the installation of concrete header bands on the sides of the proposed paver sidewalks, at the locations and in accordance with the details included in the plans. This work shall be performed in accordance with Section 606 of the Standard Specifications.

Materials. Materials shall comply with the requirements of Section 1020 and 1051 of the Standard Specifications for Class SI Concrete.

Basis of Payment. This work will be paid for at the contract unit price per foot for CONCRETE HEADER BAND which price shall include the reinforcement bars, dowel bars and joint filler at construction joints. Protective Coat applied to the tops of the bands will be paid for separately.

CONCRETE WASHOUT FACILITY

Description. The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, reservoirs, and wetlands with fuels, oils, bitumens, calcium chloride, or other harmful materials according to Article 107.23 of the "Standard Specifications".

General. To prevent pollution by residual concrete and/or the by-product of washing out the concrete trucks, concrete washout facilities shall be constructed and maintained on any project which includes cast-in-place concrete items. The concrete washout shall be constructed, maintained, and removed according to this special provision. Concrete washout facilities shall be required regardless of the need for NPDES permitting. ON projects requiring NPDES permitting, concrete washout facilities shall also be addressed in the Storm Water Pollution Prevention Plan.

The concrete washout facility shall be constructed on the job site in accordance with Illinois Urban Manual practice standard for Temporary Concrete Washout Facility (Code 954). The Contractor may elect to use a pre-fabricated portable concrete washout structure. The Contractor shall submit a plan for the concrete washout facility, to the Engineer for approval, a minimum of 10 calendar days before the first concrete pour. The working concrete washout facility shall be in place before any delivery of concrete to the site. The Contractor shall ensure that all concrete washout activities are limited to the designated area.

The concrete washout facility shall be located no closer than 50 feet from any environmentally sensitive areas, such as water bodies, wetlands, and/or other areas indicated on the plans. Adequate signage shall be placed at the washout facility and elsewhere as necessary to clearly indicate the location of the concrete washout facility to the operators of concrete trucks.

The concrete washout facility shall be adequately sized to fully contain the concrete washout needs of the project. The contents of the concrete washout facility shall not exceed 75% of the facility capacity. Once the 75% capacity is reached, concrete placement shall be

discontinued until the facility is cleaned out. Hardened concrete shall be removed and properly disposed of outside the right-of-way. Slurry shall be allowed to evaporate, or shall be removed and properly disposed of outside the right-of-way. The Contractor shall immediately replace damaged basin liners or other washout facility components to prevent leakage of concrete waste from the washout facility. Concrete washout facilities shall be inspected by the Contractor after each use. Any and all spills shall be reported to the Engineer and cleaned up immediately. The Contractor shall remove the concrete washout facility when it is no longer needed.

Basis of Payment. The cost of all materials required and all labor necessary to comply with the above will be paid for at the lump sum price for CONCRETE TRUCK WASHOUT. The unit price shall include all labor, equipment and materials necessary to complete the work, regardless of the number washout facilities required.

REMOVE AND REPLACE LAWN SPRINKLER SYSTEM (VOS)

Description. Work under this item shall consist of removing and replacing portions of a lawn sprinkler system that is required to be replaced as a result of construction operations and not as a result of Contractor negligence.

The Contractor shall determine all existing lawn sprinkler systems that are proposed to be relocated and replaced in the presence of the Engineer. The Contractor shall take all necessary precautions to protect existing lawn sprinkler systems that are to remain in place. The Contractor shall replace only that portion of the lawn sprinkler system that is required by legitimate construction operations and approved by the Engineer. The replacement sections of the lawn sprinkler system shall be compatible with the existing system. The Engineer shall approve locations of the replacement appurtenances prior to demolition activities. Once the replacement sprinklers are replaced and have been tested by the Contractor in the presence of the Engineer, the item will be measured for payment.

The Contractor shall be responsible for coordinating all work involving the sprinkler systems with the business owners. The Contractor shall obtain written approval of any relocations or repairs from the Engineer prior to final payment.

Method of Measurement. This work shall be measured for payment in feet of sprinkler system replaced.

Basis of Payment. This work shall be paid for at the contract unit price per foot for REMOVE AND REPLACE LAWN SPRINKLER SYSTEM in accordance with the plans and as described herein for all materials (including sprinkler heads and valves) and labor necessary to complete the work.

REMOVE EXISTING IRRIGATION SYSTEM (VOS)

Description. This work shall consist of the complete removal of existing irrigation systems at the locations shown in the plans. The irrigation system removal shall include the existing

RPZ valves and enclosures, blowout valves, valves, controllers, vaults, foundations, spray heads, piping, fittings, and other appurtenances connected to the irrigation system.

The existing water service connection (corporation stop) shall be used for the proposed irrigation system but must be temporarily abandoned during construction. The service shall be temporarily abandoned by exposing the service connection at the main and closing the corporation stop. The water service line shall be capped at any location where it is cut or disconnected from the valves. All service lines that are in conflict with the proposed water service lines shall be removed.

All holes created by removal of the irrigation system shall be backfilled with suitable material approved by the Engineer.

The existing RPZ, RPZ enclosure, blowout valves, valves, controllers, vaults, and spray heads shall be salvaged by the Contractor and delivered by the Contractor to the Public Works facility at 714 S. Plum Grove Road. The Village may refuse all or some of the parts based on their condition and the Village's need for salvaged parts. All components not accepted by the Village shall be disposed of by the Contractor.

Method of Measurement. This work will be measured per each location, which shall be counted at the location of each water service connection from the irrigation system to the water main.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE EXISTING IRRIGATION SYSTEM.

BRICK PAVER REMOVAL (VOS)

Description. This work shall consist of the complete removal of existing brick pavers, including sand setting bed material, filter fabric material, and salvaging or disposal of bricks, in accordance with the details in the plans and these special provisions.

Full-size bricks in good condition shall be sorted, stored securely, and salvaged by the Contractor, then stacked neatly on pallets, banded, and delivered by the Contractor to the Public Works facility at 714 S. Plum Grove Road. The Village may refuse all or some of the salvaged paver bricks based on their need for salvaged bricks at the time of the removal. All bricks not accepted by the Village shall be disposed of by the Contractor.

Method of Measurement. Brick paver removal will be measured for payment in place and the area computed in square yards.

Basis of Payment. The work described herein shall be paid for at the contract unit price per square yard for BRICK PAVER REMOVAL.

Removal of adjacent concrete head bands shall be paid for separately as CURB REMOVAL. Removal of existing concrete underlayment shall be paid for separately as SIDEWALK REMOVAL.

PAVEMENT MARKING (SPECIAL) (VOS)

Description. This work shall include furnishing and installing interconnected preformed thermoplastic pavement markings per Section 780 and as described herein.

Materials. The material must be a resilient preformed thermoplastic product which contains a minimum of thirty percent (30%) intermixed anti-skid/anti-slip elements and where the top surface contains anti-skid/anti-slip elements. These anti-skid/anti-slip elements must have a minimum hardness of 8 (Mohs scale) and meet the following gradation:

Size Gradation		Intermix		Drop - On	
US Mesh	µm	Retained, %	Passing, %	Retained, %	Passing, %
10	2000	0 - 10%	90 - 100%		
12	1700	5 - 25%	75 - 95%		
14	1400	15 - 50%	50 - 85%		
16	1180	15 - 50%	50 - 85%	0 - 5%	95 - 100%
18	1000	10 - 30%	70 - 90%	0 - 10%	90 - 100%
20	850	0 - 5%	95 - 100%	5 - 25%	75 - 95%
25	710	0 - 2%	98 - 100%	15 - 50%	50 - 85%
30	600			15 - 50%	50 - 85%
35	500			5 - 25%	75 - 95%
40	425			0 - 10%	90 - 100%

The material must be resistant to the detrimental effects of motor fuels, antifreeze, lubricants, hydraulic fluids, and other motor vehicle fluids.

The material shall be capable of being applied on bituminous and/or portland cement concrete pavements primarily by the use of an infrared heater supplied by the material manufacturer. A handheld propane heat torch supplied by the material manufacturer may be used in isolated areas. The use of a compactor or similar equipment shall not be necessary. The material must be able to be applied to asphalt and concrete surfaces without preheating the application surface to a specific temperature. The material must be capable of being affixed to green concrete (concrete that has set but not appreciably hardened). The material shall not require the portland cement concrete application areas to be cured or dried out.

The material must be capable of conforming to pavement contours, breaks and faults through the action of traffic at normal pavement temperatures. It shall not be necessary to

use a grid template or to make pattern grooves or other indentations in the asphalt or concrete surface prior to applying the material. It shall not be necessary to inlay the material in grooves or indentations. It shall not be necessary to heat the pavement or application surface to a specific temperature.

The material is typically supplied in segments measuring 24 in. by 24 in. The material must be factory assembled and interconnected with a compatible material, so that it is unnecessary to assemble the individual "brick" pieces at the jobsite. Certain 24 in. by 24 in. material segments may be rotated to create additional pattern options using standard parts.

Interchangeable, patterned borders shall be available in either 8 in. or 12 in. wide by 24 in. long sizes, to allow flexibility in design options using standard parts.

The material must be able to be applied in temperatures down to 45°F (7.2°C) without any special storage, preheating or treatment of the material before application.

The material must be able to be applied to asphalt and concrete surfaces without using a grid template and without forming a pattern in the pavement substrate. Heating indicators must be evenly distributed on the surface of the material in order to ensure correct application.

The material must cover the entire application area and be flush across the surface. Once applied, no part of the pavement surface should be visible in the application area.

Material must be composed of an ester modified rosin impervious to degradation by motor fuels, lubricants, etc. in conjunction with aggregates, pigments, binders, and anti-skid/anti-slip elements. Pigments and anti-skid/anti-slip elements must be uniformly distributed throughout the material. The thermoplastic material conforms to AASHTO designation M249, with the exception of the relevant differences due to the material being supplied in a preformed state, being non-reflective, and potentially being of a color different from white or yellow.

Pigments:

White: The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected.

Red, Blue, and Yellow: The material shall be manufactured with sufficient pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected. The pigment system must not contain heavy metals nor any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

Other Colors: The pigment system must not contain heavy metals nor any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

Heating indicators: The top surface of the material shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state allowing for satisfactory adhesion and proper embedment of anti-skid/anti-slip

elements, and a post-application visual cue that the application procedures have been followed.

Skid Resistance: The surface of the preformed thermoplastic material shall contain factory applied anti-skid material with a minimum hardness of 8 (Mohs scale). Upon application the material shall provide a minimum skid resistance value of 60 BPN when tested according to ASTM E 303.

Slip Resistance: The surface of the preformed thermoplastic material shall contain factory applied anti-skid material with a minimum hardness of 8 (Mohs scale). Upon application the material shall provide a minimum static friction of coefficient of 0.6 when tested according to ASTM C 1028 (wet and dry), and a minimum static coefficient of friction of 0.6 when tested according to ASTM D 2047.

Thickness: The material must be supplied at a minimum thickness of 125 mil (3.18mm).

Environmental Resistance: The material must be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to oil and gasoline.

Interconnected: The material must consist of interconnected individual pieces of preformed thermoplastic pavement marking material, which through a variety of colors and patterns, make up the desired design. The individual pieces in each material segment, typically 24 in. (61cm) by 24 in. (61cm), must be factory assembled and interconnected with a compatible material so that in the field it is not necessary to assemble the individual pieces within a material segment. Multiple patterned border segment options shall be available in the material in either 8 in. (20cm) or 12 in. (30cm) wide by 24 in. (61cm) long sizes.

Manufacturing control and ISO certification. The manufacturer must be ISO 9001:2008 certified for design, development and manufacturing of preformed thermoplastic, and provide proof of current certification.

Application. **Manufacturer Certified Applicator Requirement:** The material shall be supplied and applied only by an applicator certified by the material manufacturer. The applicator shall provide proof of current certification before commencing work. The Certified Applicator shall follow the material manufacturer's current published application procedures.

Asphalt: The material shall be applied primarily by using an infrared heater supplied by the material manufacturer. A handheld propane heat torch supplied by the material manufacturer may be used in isolated areas. The material must be able to be applied at ambient and road temperatures down to 45°F (7.2°C) without any preheating of the pavement to a specific temperature. A sealer specified and supplied by the material manufacturer must be applied to the substrate prior to material application to ensure proper adhesion, and to provide bond reinforcement for larger volumes of material. The sealer must be supplied by the material manufacturer in 300/600ml cartridges along with sealer application supplies. A thermometer shall not be required during the application process. The pavement shall be clean, dry and free of debris. The supplier must provide current application instructions to the Certified Applicator.

Portland Cement Concrete: The same application procedure shall be used as described for Asphalt.

The specified pattern for installation shall be Ennis-Flint Traffic Patterns, Herringbone pattern, Brick Red color, with Grey grout. Outside edge consists of Soldier course brick pattern of the same color, also with Grey grout. A 12" White color preformed thermoplastic stripe of the same specified material shall be placed outside of the patterned installation.

Method of Measurement. This work shall be measured in square feet installed.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for PAVEMENT MARKING (SPECIAL), which shall include all labor, equipment and materials as described within and as necessary to complete this work.

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996

Revised: January 2, 2007

Description. This work shall consist of furnishing, installing, maintaining, relocating for various states of construction and eventually removing temporary informational signs. Included in this item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

Materials. Materials shall be according to the following Articles of Section 1000 – Materials:

Item	Article/Section
a. Sign Base (Notes 1 & 2).....	1090
b. Sign Face (Note 3).....	1091
c. Sign Legends.....	1092
d. Sign Supports.....	1093
e. Overlay Panels (Note 4).....	1090.02

Note 1. The Contractor may use 5/8-inch instead of 3/4-inch plywood.

Note 2. Type A sheeting can be used on the plywood base.

Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.

Note 4. The overlay panels shall be 0.08-inch thick.

GENERAL CONSTRUCTION REQUIREMENTS

Installation. The sign sizes and legend sizes shall be verified by the Contractor prior to fabrication.

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Articles 701.14 and 720.04. The signs shall be 7

feet above the near edge of the pavement and shall be a minimum of 2 feet beyond the edge of the paved shoulder. A minimum of 2 posts shall be used.

The attachment of temporary signs to existing sign structures or sign panels shall be approved by the Engineer. Any damage to the existing signs due to the Contractor's operations shall be repaired or signs replaced, as determined by the Engineer, at the Contractor's expense.

Signs which are placed on overhead bridge structures shall be fastened to the handrail with stainless steel bands. These signs shall rest on the concrete parapet where possible. The Contractor shall furnish mounting details for approval by the Engineer.

Method of Measurement. This work shall be measured for payment in square feet (square meters) edge to edge (horizontally and vertically).

All hardware, posts or skids, supports, bases for ground mounted signs, connections, which are required for mounting these signs will be included as part of this pay item.

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

PRESSURE CONNECTION (VOS)

Description. This work shall consist of installing a valve in a five foot diameter vault under pressure on the existing water main when directed by the Engineer so as not to disrupt service to the existing main. The connection shall be constructed in accordance with all applicable portions of Section 561 of the "Standard Specifications" and Section 46 of the "Standard Specifications of Water and Sewer Main Construction in Illinois".

Materials.

- 1) The MJ tapping sleeve shall meet or exceed all material specifications as listed below and be suitable for use with standard mechanical joint and mechanical joint resilient wedge gate valves per ANSI/AWWA C609-94. The mechanical joint outlet shall be a one-piece 304 stainless steel casting having a plain end and a mechanical joint gland TIG and MIG welded a full 360 degrees.
- 2) The tapping sleeve shall have a Mechanical Joint Outlet Gasket, Branch Sealing Gasket, and complete Circle Gasket attached to the sleeve at the factory.
- 3) The Branch Sealing Gasket and Complete Circle Gasket shall be contained within stainless steel Retaining Rings.
- 4) The tapping sleeve shall incorporate Drop-in, Square-Neck, Track-Head bolts with a minimum of two (2) longer starter bolts.
- 5) A minimum quantity of 16 drop-in bolts and 6 mechanical joint outlet 304 stainless steel bolts shall be provided.

- 6) The Branch opening shall be larger in diameter than nominal to allow the use of a full size cutter.
- 7) All welding shall be passivated so as to return the welded stainless steel to its original corrosion resistant state.
- 8) There shall be no Paper or Plastic adhesive labels attached to the tapping sleeve, any information appearing on the sleeve shall be stenciled.
- 9) The tapping sleeve shall be Factory Hydrostatically Tested on pipe to a minimum of 300 psi to verify proper fit and weld integrity with zero leakage allowed.
- 10) Sleeves shall be Cascade or Mueller stainless steel tap sleeve with mechanical joint outlet.

Material Specifications

- 1) The shell shall be 304 (18-8) stainless steel.
- 2) Mechanical joint outlet gland and plain end shall be per ANSI / AWWA – C111.10 as applicable and cast of 304 (18-8) stainless steel.
- 3) The Armor Plate shall be 304 (18-8) stainless steel.
- 4) The Lugs shall be 304 (18-8) stainless steel. The Lugs shall be welded (GMAW) to the shell.
- 5) The Nuts shall be Heavy-Hex, of 304 (18-8) stainless steel and lubricated to prevent galling or seizing.
- 6) The Bolts shall be 304 (18-8) stainless steel 5/8" NC thread.
- 7) The Gaskets shall be of virgin Nitrile (Buna-N or NBR) compounded for water service.
- 8) The gate valve used as part of the pressure connection shall be a resilient wedge epoxy coated gate valve either Mueller A2360 or Clow. All buried hardware shall be non-Ferrous material.

Installation. After the surface disinfection, the tapping sleeve shall be mounted to the main and tapping valve to form a pressure-tight connection. The installation shall be pressure tested at operating pressure plus 50 percent, to insure the integrity of the installation. This shall be a hydrostatic test, introduced through a port on the tapping machine, or through a tapped mechanical joint stainless steel plug on the outlet side of the tapping valve. The tapping machine and the tapping valve and sleeve assembly shall be externally supported so that no additional weight is placed upon the main.

Basis of Payment This work will be paid for at the contract unit price per each for PRESSURE CONNECTION, of the main size X branch size, which price shall be payment in

full for all labor, equipment, and materials necessary to complete the work specified herein including water tapping valves.

Valve vaults shall be paid for separately as VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME AND CLOSED LID.

STORM SEWERS (WATER MAIN REQUIREMENTS) (VOS)

Description. This work shall consist of the installation of watermain quality pipe in areas where the storm sewer line crosses above the watermain. All work shall be performed in accordance with Section 550 of the Standard Specifications and Section 40 of the "Standard Specifications for Water and Sewer Main Construction in Illinois," 7th edition.

Materials. All pipe materials shall conform to Section 40-2 of the Standard Specifications for Water and Sewer Main Construction in Illinois, 7th edition, except that only ductile iron pipe shall be allowed for round pipe. Elliptical pipe shall be allowed to be reinforced concrete pipe with gaskets meeting the requirements of ASTM C361 or C443 for perpendicular crossings of the watermain. The materials shall be approved by the Engineer prior to their installation. The watermain quality pipe shall be connected to the storm sewer pipe on both ends by use of non-shear mission couplings with stainless steel bands or a method approved by the Engineer. The cost of these connections shall be included in the cost of STORM SEWERS (WATER MAIN REQUIREMENTS).

Basis of Payment. This work shall be measured and paid for at the contract unit price per foot for STORM SEWERS (WATER MAIN REQUIREMENTS) of the size specified which price shall include all labor, equipment, and materials necessary to perform said work.

TEMPORARY PAVEMENT

Effective: March 1, 2003

Revised: April 10, 2008

Description. This work shall consist of constructing a temporary pavement at the locations shown on the plans or as directed by the engineer.

The contractor shall use either Portland cement concrete according to Sections 353 and 354 of the Standard Specifications or HMA according to Sections 355, 356, 406 of the Standard Specifications, and other applicable HMA special provisions as contained herein. The HMA mixtures to be used shall be specified in the plans. The thickness of the Temporary Pavement shall be as described in the plans. The contractor shall have the option of constructing either material type if both Portland cement concrete and HMA are shown in the plans.

Articles 355.08 and 406.11 of the Standard Specifications shall not apply.

The removal of the Temporary Pavement, if required, shall conform to Section 440 of the Standard Specification.

Method of Measurement. Temporary pavement will be measured in place and the area computed in square yards (square meters).

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

Removal of temporary pavement will be paid for at the contract unit price per square yard (square meter) for PAVEMENT REMOVAL.

TEMPORARY PAVEMENT (VARIABLE DEPTH) (VOS)

Description. This work shall consist of constructing, maintaining and removing variable depth temporary pavement, as directed by the Engineer and in accordance with the details in the plans. Variable depth temporary pavement shall be constructed prior to the winter shut-down.

HMA Surface Course. The Hot-Mix Asphalt surface course shall be Mix "D", N70. This work shall be constructed in accordance with the applicable portions of Section 406 of the Standard Specifications and as directed by the Engineer. The material shall conform to the applicable portions of Section 1030 of the Standard Specifications.

Maintaining the temporary pavement shall include repairing the HMA surface course when directed by the Engineer.

The temporary pavement shall be removed just prior to placing the proposed surface course, in a manner meeting the approval of the Engineer.

Method of Measurement. Variable depth temporary pavement will be measured for payment in tons per Article 406.13.

Basis of Payment. Variable depth temporary pavement will be paid for at the contract unit price per ton for TEMPORARY PAVEMENT (VARIABLE DEPTH).

Partial payment of the tonnage amount bid for variable depth temporary pavement will be paid according to the following schedule:

(a) Upon construction of the temporary pavement, sixty percent of the contract unit price per ton will be paid.

(b) Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary pavement, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary pavement.

TRAFFIC CONTROL PLAN

Effective: September 30, 1985

Revised: January 1, 2007

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

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

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

STANDARDS:

701101-05 Off-Road Operations, Multilane, 15' to 24" From Edge of Pavement
701106-02 Off-Road Operations, Multilane, More than 15' Away
701411-09 Lane Closure, Multilane, at Entrance or Exit Ramp, for Speeds >- 45 mph
701426-09 Lane Closure, Multilane, Intermittent or Moving Operation, for Speeds >= 45 mph
701427-05 Lane Closure, Multilane, Intermittent or Moving Operation, for Speeds <= 40 mph
701428-01 Traffic Control Setup and Removal Freeway/Expressway
701601-09 Urban Lane Closure, Multilane, 1W or 2W with Nontraversable Median
701602-10 Urban Lane Closure, Multilane, 2W with Bidirectional Left Turn Lane
701701-10 Urban Lane Closure, Multilane Intersection
701801-06 Sidewalk, Corner, or Crosswalk Closure
701901-08 Traffic Control Devices
704001-08 Temporary Concrete Barrier
782006 Guardrail and Barrier Wall Reflector Mounting Details

DETAILS:

Entrance and Exit Ramp Closure Details (TC-08)
Traffic Control and Protection for Side Roads, Intersections & Driveways (TC-10)
Multi-lane Freeway Pavement Marking Details (TC-12)
District One Typical Pavement Markers (TC-13)
Traffic Control and Protection at Turn Bays (To Remain Open to Traffic) (TC-14)
Pavement Marking Letters and Symbols for Traffic Staging (TC-16)
Traffic Control Details for Freeway Shoulder Closures and Partial Ramp Closures (TC-17)
Arterial Road Information Signing (TC-22)
Driveway Entrance Signing (TC-26)

SPECIAL PROVISIONS:

"Public Convenience and Safety (Dist 1)"
"Cooperation with Adjacent Contracts"

“Temporary Information Signing”
“Maintenance of Roadways”
“Maintenance of Access”
“Traffic Control and Protection (Arterials)”
“Keeping Arterial Roadways Open to Traffic (Lane Closures Only)”
“Keeping the Expressway Open to Traffic”
“Failure to Open Traffic Lanes to Traffic”
“Traffic Control and Protection (Expressways)”
“Traffic Control for Work Zone Areas”
“Speed Trailer (D1)”
“Lights on Barricades (BDE)”
“Equipment Parking and Storage (BDE)”
“Pavement Marking Removal (BDE)”
“Temporary Pavement Marking (BDE)”
“Traffic Control Devices – Cones (BDE)”

TRAFFIC CONTROL AND PROTECTION (ARTERIALS)

Effective: February 1, 1996

Revised: March 1, 2011

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

Method of Measurement: All traffic control (except Traffic Control and Protection (Expressways)) and temporary pavement markings) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

Basis of Payment: All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Temporary pavement markings will be paid for separately unless shown on a Standard.

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)

Effective: January 22, 2003

Revised: August 10, 2017

The Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards, and the District Details.

Arterial lane closures shall be in accordance with the Standard Specifications, Highway Standards, District Details, and the direction of the Engineer. The Contractor shall request and gain approval from the Engineer seventy-two (72) hours in advance of all long-term (24 hrs. or longer) lane closures.

Arterial lane closures not shown in the staging plans will not be permitted during **peak traffic volume hours**.

Peak traffic volume hours are defined as weekdays (Monday through Friday) from **6:00 AM to 8:30 AM and 4:30 PM to 6:00 PM**.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours. The parking of equipment and/or vehicles on State right-of-way will only be permitted at locations approved by the Engineer in accordance with Articles 701.08 and 701.11 of the Standard Specifications.

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified above, the Contractor shall be liable to the Department for the amount of:

One lane or ramp blocked = \$1,000

Two lanes blocked = \$2,500

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

KEEPING THE EXPRESSWAY OPEN TO TRAFFIC

Effective: March 22, 1996

Revised: January 21, 2015

Whenever work is in progress on or adjacent to an expressway, the Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards and the District Freeway details. All Contractors' personnel shall be limited to these barricaded work zones and shall not cross the expressway.

The Contractor shall request and gain approval from the Illinois Department of Transportation's Expressway Traffic Operations Engineer at www.idotlcs.com twenty-four (24) hours in advance of all daily lane, ramp and shoulder closures and 7 days in advance of all permanent and weekend closures on all Freeways and/or Expressways in District One. This advance notification is calculated based on workweek of Monday through Friday and shall not include weekends or Holidays.

LOCATION: I-290 at Woodfield

WEEKNIGHT	TYPE OF CLOSURE	ALLOWABLE LANE AND RAMP CLOSURE HOURS		
SUNDAY-THURSDAY	1 LANE/RAMP LOCAL	9:00 PM	TO	5:00 AM
	*****	*****		*****
FRIDAY	1 LANE/RAMP LOCAL	10:00 PM	TO	7:00 AM
	*****	*****		*****
SATURDAY	1 LANE/RAMP LOCAL	10:00 PM	TO	9:00 AM
	*****	*****		*****

In addition to the hours noted above, temporary shoulder and non-system interchange partial ramp closures are allowed weekdays between 9:00 A.M. and 3:00 P.M. and between 7:00 P.M. and 5:00 A.M.

Narrow Lanes and permanent shoulder closures will not be allowed between Dec. 1st and April 1st.

A Maintenance of Traffic Plan shall be submitted to the District One Expressway Traffic Control Supervisor 14 days in advance of any stages changes or full expressway closures. The Maintenance of Traffic Plan shall include, but not be limited to: lane and ramp closures, existing geometrics, and equipment and material location.

All daily lane closures shall be removed during adverse weather conditions such as rain, snow, and/or fog and as determined by the Engineer. Also, the contractor shall promptly remove their lane closures when Maintenance forces are out for snow and ice removal.

Additional lane closure hour restrictions may have to be imposed to facilitate the flow of traffic to and from major sporting events and/or other events.

All lane closure signs shall not be erected any earlier than one-half (1/2) hour before the starting hours listed above. Also, these signs should be taken down within one-half (1/2) hour after the closure is removed.

The Contractor will be required to cooperate with all other contractors when erecting lane closures on the expressway. All lane closures (includes the taper lengths) without a three (3) mile gap between each other, in one direction of the expressway, shall be on the same side of the pavement. Lane closures on the same side of the pavement with a one (1) mile or less gap between the end of one work zone and the start of taper of next work zone should be connected. The maximum length of any lane closure on the project and combined with any adjacent projects shall be three (3) miles. Gaps between successive permanent lane closures shall be no less than two (2) miles in length.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours.

The parking of equipment and/or vehicles on State right-of-way will only be permitted at the locations approved by the Engineer.

Check barricades shall be placed every 1000' within a lane closure to prevent vehicles from driving through closed lanes.

Should the Contractor fail to completely open, and keep open, the ramps to traffic in accordance with the above limitations, the Contractor shall be liable to the Department for liquidated damages as noted under the Special Provision, "Failure to Open Traffic Lanes to Traffic".

FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC

Effective: March 22, 1996

Revised: February 9, 2005

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified under the Special Provisions for "Keeping the Expressway Open to Traffic", the Contractor shall be liable to the Department for the amount of:

One lane or ramp blocked = \$1,000

Two lanes blocked = \$2,500

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)

Effective: March 8, 1996

Revised: April 1, 2019

Description. This work shall include furnishing, installing, maintaining, replacing, relocating, and removing all traffic control devices used for the purpose of regulating, warning, or directing traffic. Traffic control and protection shall be provided as called for in the plans, applicable Highway Standards, District One Expressway details, Standards and Supplemental Specifications, these Special Provisions, or as directed by the Engineer.

General. The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions on the expressway through the construction zone. The Contractor shall arrange his operations to keep the closing of lanes and/or ramps to a minimum.

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to existing warning signs and overhead guide signs during all construction operations. Warning signs and existing guide

signs with down arrows shall be kept consistent with the barricade placement at all times. The Contractor shall immediately remove, completely cover, or turn from the motorist's view all signs which are inconsistent with lane assignment patterns.

The Contractor shall coordinate all traffic control work on this project with adjoining or overlapping projects, including barricade placement necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor shall remove all traffic control devices that were furnished, installed, or maintained by him under this contract, and such devices shall remain the property of the Contractor. All traffic control devices shall remain in place until specific authorization for relocation or removal is received from the Engineer.

Additional requirements for traffic control devices shall be as follows.

(a) Traffic Control Setup and Removal. The setting and removal of barricades for the taper portion of a lane closure shall be done under the protection of a vehicle with a truck/trailer mounted attenuator and arrow board per State Standard 701428 and Section 701 of the Standard Specifications. Failure to meet this requirement will be subject to a Traffic Control Deficiency. The deficiency will be calculated as outlined in Article 105.03 of the Standard Specifications. Truck/trailer mounted attenuators shall comply with Article 1106.02(g) or shall meet the requirements of NCHRP 350 Test Level 3 with vehicles used in accordance with manufacturer's recommendations and requirements.

(b) Sign Requirements

(1) Sign Maintenance. Prior to the beginning of construction operations, the Contractor will be provided a sign log of all existing signs within the limits of the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor. All provisions of Article 107.25 of the Standard Specifications shall apply.

(2) Work Zone Speed Limit Signs. Work zone speed limit signs shall be installed as required in Article 701.14(b) and as shown in the plans and Highway Standards. Based upon the existing posted speed limit, work zone speed limits shall be established and signed as follows.

a. Existing Speed Limit of 55mph or higher. The initial work zone speed limit assembly, located approximately 4200' before the closure, and shall be 55mph as shown in 701400. Additional work zone 45mph assemblies shall be used as required according to Article 701.14(b) and as shown in the Highway Standards and plans. WORK ZONE SPEED LIMIT 55 PHOTO ENFORCED assemblies may be omitted when this assembly would normally be placed within 1500 feet of the END WORK ZONE SPEED LIMIT sign. If existing speed limit is over 65mph then additional signage should be installed per 701400.

b. Existing Speed Limit of 45mph. The advance 55mph work zone speed limit assembly shown in 701400 shall be replaced with a 45mph assembly. Additional work zone 45mph assemblies shall be used as required according to Article 701.14(b) and as shown in the Highway Standards and plans. WORK ZONE

SPEED LIMIT 55 PHOTO ENFORCED assemblies shall be eliminated in all cases. END WORK ZONE SPEED LIMIT signs are required.

- (3) Exit Signs. The exit gore signs as shown in Standard 701411 shall be a minimum size of 48 inch by 48 inch with 12 inch capital letters and a 20 inch arrow. EXIT OPEN AHEAD signs shown in Standard 701411 shall be a minimum size of 48 inch by 48 inch with 8 inch capital letters.
- (4) Uneven Lanes Signs. The Contractor shall furnish and erect "UNEVEN LANES" signs (W8-11) on both sides of the expressway, at any time when the elevation difference between adjacent lanes open to traffic equals or exceeds one inch. Signs shall be placed 500' in advance of the drop-off, within 500' of every entrance, and a minimum of every mile.
- (c) Drums/Barricades. Check barricades shall be placed in work areas perpendicular to traffic every 1000', one per lane and per shoulder, to prevent motorists from using work areas as a traveled way. Check barricades shall also be placed in advance of each open patch, or excavation, or any other hazard in the work area, the first at the edge of the open traffic lane and the second centered in the closed lane. Check barricades, either Type I or II, or drums shall be equipped with a flashing light.

To provide sufficient lane widths (10' minimum) for traffic and also working room, the Contractor shall furnish and install vertical barricades, in lieu of Type II or drums, along the cold milling and asphalt paving operations. The vertical barricades shall be placed at the same spacing as the drums.

- (d) Vertical Barricades. Vertical barricades shall not be used in lane closure tapers, lane shifts, exit ramp gores, or staged construction projects lasting more than 12 hours. Also, vertical barricades shall not be used as patch barricades or check barricades. Special attention shall be given, and ballast provided per manufacture's specification, to maintain the vertical barricades in an upright position and in proper alignment.
- (e) Temporary Concrete Barrier Wall. Prismatic barrier wall reflectors shall be installed on both the face of the wall next to traffic, and the top of sections of the temporary concrete barrier wall as shown in Standard 704001. The color of these reflectors shall match the color of the edgelines (yellow on the left and crystal or white on the right). If the base of the temporary concrete barrier wall is 12 inches or less from the travel lane, then the lower slope of the wall shall also have a 6 inch wide temporary pavement marking edgeline (yellow on the left and white on the right).
- (f) Flaggers. One flagger will be required for each separate activity of an operation that requires frequent construction vehicles to enter or leave a work zone to or from a lane open to traffic. Temporary traffic control and flagger position shall be according to District One Detail TC-18 – Expressway Flagging, or as directed by the Engineer.
- (g) Full Expressway Closures. Full Expressway Closures will only be permitted for a maximum of 15 minutes during the allowable hours listed in the Keeping the Expressway Open to Traffic Special Provision. During Full Expressway Closures, the Contractor will be required to close off all lanes except one, using Freeway Standard Closures. The Contractor will be required to provide one changeable message sign to be placed at the direction of the Engineer. The sign shall display a message as directed by the Engineer. A Maintenance of Traffic Plan shall be submitted to the District One Expressway Traffic

Control Supervisor 14 days in advance of the planned work; including all stage changes. The Maintenance of Traffic Plan shall include, but not be limited to: lane and ramp closures, existing geometrics, and equipment and material location. The District One Expressway Traffic Control Supervisor (847-705-4151) shall be contacted at least 3 working days in advance of the proposed road closure and will coordinate the closure operation with police forces.

Method of Measurement. This item of work will be measured on a lump sum basis for furnishing, installing, maintaining, replacing, relocating, and removing traffic control devices required in the plans and these Special Provisions. Traffic control and protection required under Standards 701101, 701400, 701401, 701402, 701406, 701411, 701416, 701426, 701428, 701446, 701901 and District details TC-8, TC-9, TC-17, TC-18 and TC-25 will be included with this item.

Basis of Payment.

- (a) This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS). This price shall be payment in full for all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, replace, relocate, and remove all Expressway traffic control devices required in the plans and specifications.

In the event the sum total value of all the work items for which traffic control and protection is required is increased or decreased by more than ten percent (10%), the contract bid price for TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS) will be adjusted as follows:

$$\text{Adjusted contract price} = .25P + .75P [1 \pm (X - 0.1)]$$

Where: "P" is the bid unit price for Traffic Control and Protection

$$\text{Where: "X" = } \left| \frac{\text{Difference between original and final sum total value of all work items for which traffic control and protection is required}}{\text{Original sum total value of all work items for which traffic control and protection is required.}} \right|$$

The value of the work items used in calculating the increase and decrease will include only items that have been added to or deducted from the contract under Article 104.02 of the Standard Specifications and only items which require use of Traffic Control and Protection.

Temporary traffic control costs due to delay will be paid for according to the Compensable Delay Costs (BDE) Special Provision.

- (b) The Engineer may require additional traffic control be installed in accordance with standards and/or designs other than those included in the plans. In such cases, the standards and/or designs will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required will be in accordance with Article 109.04 of the Standard Specifications.

- (c) Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. Revisions or modifications to the traffic control shown in the contract shall be submitted by the Contractor for approval by the Engineer. No additional payment will be made for a Contractor requested modification.
- (d) Temporary concrete barrier wall will be measured and paid for according to Section 704.
- (e) Impact attenuators, temporary bridge rail, and temporary rumble strips will be paid for separately.
- (f) Temporary pavement markings shown on the Standard will be measured and paid for according to Section 703 and Section 780.
- (g) All pavement marking removal will be measured and paid for according to Section 703 or Section 783.
- (h) Temporary pavement marking on the lower slope of the temporary concrete barrier wall will be measured and paid for as TEMPORARY PAVEMENT MARKING, 6".
- (i) All barrier wall reflectors will be measured and paid for according to Section 782.
- (j) The Changeable Message Sign required for Full Expressway Closures shall not be paid for separately.

TRAFFIC CONTROL FOR WORK ZONE AREAS

Effective: September 14, 1995

Revised: January 1, 2007

Work zone entry and exit openings shall be established daily by the Contractor with the approval of the Engineer. All vehicles including cars and pickup trucks shall exit the work zone at the exit openings. All trucks shall enter the work zone at the entry openings. These openings shall be signed in accordance with the details shown elsewhere in the plans and shall be under flagger control during working hours.

The Contractor shall plan his trucking operations into and out of the work zone as well as on to and off the expressway to maintain adequate merging distance. Merging distances to cross all lanes of traffic shall be no less than 1/2 mile. This distance is the length from where the trucks enter the expressway to where the trucks enter the work zone. It is also the length from where the trucks exit the work zone to where the trucks exit the expressway. The stopping of expressway traffic to allow trucks to change lanes and/or cross the expressway is prohibited.

Failure to comply with the above requirements will result in a Traffic Control Deficiency charge. The deficiency charge will be calculated as outlined in Article 105.03 of the Standard Specifications. The Contractor will be assessed this daily charge for each day a deficiency is documented by the Engineer.

SPEED DISPLAY TRAILER (D1)

Effective: April 1, 2015
Revised: January 1, 2017

Revise the third paragraph of Article 701.11 of the Standard Specifications to read:

“When not being utilized to inform and direct traffic, sign trailers, speed display trailers, arrow boards, and portable changeable message boards shall be treated as nonoperating equipment.”

Add the following to Article 701.15 of the Standard Specifications:

“(m) Speed Display Trailer. A speed display trailer is used to enhance safety of the traveling public and workers in work zones by alerting drivers of their speed, thus deterring them from driving above the posted work zone speed limit.”

Whenever the speed display trailer is not in use, it shall be considered non-operating equipment and shall be stored according to Article 701.11.”

Add the following to Article 701.20 of the Standard Specifications:

“(k) “Speed Display Trailer will NOT be paid for by separate pay item, but its costs shall be included in the contract unit price of the various traffic control pay items.

Add the following to Article 1106.02 of the Standard Specifications:

“(o) Speed Display Trailer. The speed display trailer shall consist of a LED speed indicator display with self-contained, one-direction radar mounted on an orange see-through trailer. The height of the display and radar shall be such that it will function and be visible when located behind concrete barrier.

The speed measurement shall be by radar and provide a minimum detection distance of 1000 ft (300 m). The radar shall have an accuracy of ± 1 mile per hour.

The speed indicator display shall face approaching traffic and shall have a sign legend of “YOUR SPEED” immediately above or below the speed display. The digital speed display shall show two digits (00 to 99) in mph. The color of the changeable message legend shall be a yellow legend on a black background. The minimum height of the numerals shall be 18 in. (450 mm), and the nominal legibility distance shall be at least 750 ft (250 m).

The speed indicator display shall be equipped with a violation alert that flashes the displayed detected speed when the posted limit is exceeded. The speed indicator shall have a maximum speed cutoff. On roadway facilities with a normal posted speed limit greater than or equal to 45 mph, the detected speeds of vehicles traveling more than 25mph over the work zone speed limit shall not be displayed. On facilities with normal posted speed limit of less than 45 mph, the detected speeds of vehicles traveling more than 15 mph over the work zone speed limit shall not be displayed. On any roadway facility if detected speeds are less than 25 mph, speed shall not be displayed. The display shall include automatic dimming for nighttime operation.

The speed indicator measurement and display functions shall be equipped with the power supply capable of providing 24 hours of uninterrupted service.”

LANDSCAPING / PLANTING (VOS)

General. Approval at place of growth does not preclude inspection and right of rejection at the site. Rejected plants or materials shall be removed immediately from the site and promptly replaced with plants and materials meeting the specified requirements, as determined by the Engineer.

The Contractor shall deliver all standard products in the manufacturer's original containers with seals unbroken, labeled with manufacturer's names, product names, and analysis where applicable.

All work shall be performed by a firm specializing in landscaping. The Contractor shall use an adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

Nomenclature. The botanical and common name of all plant materials shown on the drawings and required under this section are in conformance with the approved names given in "Standardized Plant Names" prepared by the American Committee on Horticultural Nomenclature. Names and varieties not included therein shall conform generally with names accepted in the nursery trade. In all cases, botanical names take precedence over common names.

Durable, legible labels stating in weather resistant ink or in an embossed process, the correct plant name, and plant size shall be securely attached to at least 1 plant from each bundle or lot.

All tags, seals, and other markers shall not be removed by the Contractor until after the final inspection and acceptance is made by the Engineer. Once the project is accepted, the Contractor shall remove all tags, seals, and other markers.

Submittals. The Contractor shall submit the following samples with copies of the manufacturer's specifications to the Engineer for approval prior to installation of any plants or materials.

- Specified Soil Mixes
- Soil Mixture Additives
- Hardwood Bark Mulch
- Topsoil

Inspection of Plant Material. Add the following to the end of Article 1081.01(c), Inspection of Plant Material:

All plant materials shall be subject to inspection and approval at the place of growth, and upon delivery for conformity to specification requirements. Approval at the place of growth shall not impair the right of the inspection and rejection upon delivery at the site or during the progress of the work for size and condition of ball, roots, canopy, diseases, insects, and latent defects or injuries. Rejected plants shall be removed immediately from the site.

Upon award of this Contract, the Contractor shall inform the Engineer of his intended sources of plant material. The Contractor shall provide the Engineer 30 calendar days advance notice of the plant material to be inspected. The Engineer will visit these sources with the Contractor to select and identify all woody plants for the project. All trees (deciduous, evergreen) and shrubs will be selected and tagged by the Engineer. The selection of materials by the Engineer shall in no way relieve the Contractor from his obligation to provide healthy plants as specified herein.

Materials for Planting. Add the following to the end of Article 1081, Materials for Planting:

Before commencing the work, all plant material shall be on order and the Contractor shall examine the site to determine that it is free of conditions which might be detrimental to proper and timely completion of the work. Start of work shall indicate acceptance of all the site conditions.

Protection During Work and Maintenance. The Contractor shall provide adequate protection during the construction period for planted areas against trespassing, erosion, and damage. Protect adjacent surfaces from damage and soiling during the work.

TREE PRESERVATION (VOS)

Add the following to the end of Article 201.05(a), Temporary Fencing:

The Contractor shall install temporary barriers necessary for the preservation of existing plant materials (not to be removed) before any work takes place at the project site. The protective fencing shall be installed in accordance with Village Ordinance 154.135(C)(4). Wooden snow fencing or brightly colored plastic construction fencing shall be installed at the periphery of the drip line of the tree or beyond to prevent the storage of vehicles or materials, and the encroachment of grading and construction equipment. All protective fencing shall be maintained to the satisfaction of the Engineer.

In the event that a tree is damaged by the Contractor during construction, the Contractor shall replace such tree with a tree of a species listed in Section IX, Item C-2 of the Village of Schaumburg Subdivision Control Ordinance #1639 as specified by the Engineer, and having a diameter not less than the tree destroyed (not to exceed 6 inches, measured at 6 inches above the ground level). Any tree that is replaced out of the neglect of the Contractor shall be replaced at no cost to the Contract. In addition, all tree trimming, limbing, root pruning, and tree preservation shall be approved by the Engineer.

GYPSUM PLACEMENT (VOS)

Description. This work shall consist of furnishing, transporting, spreading, and incorporating Gypsum into the soil in areas shown on the plans and as directed by the Engineer.

Materials. The Gypsum shall be an approved commercial grade.

Gypsum soil conditioner shall not be placed until the area designated has been shaped, trimmed, and finished in accordance with Section 212 of the Standard Specifications and any required placement of Topsoil has been completed. Prior to Gypsum placement, the area shall be disked or raked to a minimum depth of 4" and all debris and loose stones removed. The grades and condition of the area must be approved by the Engineer prior to Gypsum Placement.

The Gypsum shall be used in accordance with the manufacturer's direction on the package. Apply the Gypsum using a rotary-type spreader designed to apply granular products. Calibrate application equipment prior to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first. Apply the Gypsum at the rate of 10 lbs. per 100 square feet. After the Engineer verifies that the proper amount of Gypsum has been applied, the Contractor shall completely incorporate the Gypsum into the soil to a minimum depth of 6" by raking, disking, or rototilling to amend the existing topsoil.

After the Gypsum has been incorporated into the soil, any debris or piles of unincorporated material shall be immediately removed from the right-of-way and the area finished to the lines and grades shown of the plan and approved by the Engineer. Disposal of material shall be done in accordance with Article 202.03.

Method of Measurement. Gypsum Placement will be measured in pounds by weight of actual product used at the locations shown in the plans and listed in the special provisions, and as directed by the Engineer prior to incorporation into the soil.

Basis of Payment. This work will be paid for at the Contract Unit Price per pound for GYPSUM PLACEMENT. Payment shall include all costs for materials, equipment, and labor required to complete the work specified herein, including the cost of removing and disposing of any debris.

PERENNIAL PLANTS (VOS)

Description. Work under this item shall be performed in accordance with Section 254 of the Standard Specifications for Road and Bridge Construction except as modified herein.

Layout of Planting: Add the following to Article 254.06, Layout of Planting:

The configuration of all plant beds shall be staked or laid out by the Contractor and verified by the Engineer prior to commencing with plant bed preparation.

Planting Procedures: Add the following to Article 254.06, Planting Procedures:

When planting perennials in bed areas shown on the plans or as directed by the Engineer, the following work shall be performed prior to planting:

All existing turf shall be cut out 2" below the existing soil line, and disposed of as specified in Article 202.03, or killed using glyphosate based broad spectrum herbicide manufacturer's suggested rate 14 days prior to planting.

Compost shall be placed on the planting beds to a depth of 2" then tilled into the soil to a depth of 6" to amend the existing topsoil.

Fertilizer nutrients shall be added and applied to the perennial beds at a 5:3:2 ratio as follows:

Nitrogen Fertilizer Nutrients	90 lbs./acre
Phosphorus Fertilizer Nutrients	54 lbs./acre
Potassium Fertilizer Nutrients	36 lbs./acre

This fertilizer shall be tilled and cultivated into the soil to a depth of 6".

Gypsum shall be placed on the planting beds at the rate specified then tilled into the soil to a depth of 6" to amend the existing soil.

Mulching: Add the following to Article 254.07:

Within 24 hours, the entire perennial plant bed shall be mulched with 2" of fine grade shredded hardwood bark mulch. A mulch sample shall be submitted to the Engineer for approval 72 hours prior to placing. Care shall be taken to place the mulch so as not to smother the plants.

Pre-emergent herbicide shall be used in the perennial beds after the mulch has been properly installed. See specification for Weed Control, Pre-emergent Granular Herbicide.

Method of Measurement. Add the following to Article 254.09:

Disposal of sod, vegetative ground cover, and debris (rock, stones, concrete, etc.) shall be removed from the perennial planting bed as specified in Article 202.03.

Fertilizer nutrients will be measure for payment as specified in Article 250.09.

Compost will be measured in cubic yards placed and incorporated into the soil.

Gypsum will be measured in pounds placed and incorporated into the soil.

Basis of Payment. Add the following to Article 254.10:

Fertilizer will be paid as specified in Article 250.10.

Compost will be paid for as specified in Compost Placement at the Contract Unit Price per cubic yard for COMPOST FINISH AND PLACE, SPECIAL.

Pre-emergent herbicide will be paid for as specified in Weed Control, Pre-Emergent Granular Herbicide at the Contract Unit Price per pound for WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE.

Gypsum will be paid for at the Contract Unit Price per pound for GYPSUM PLACEMENT.

Payment for shredded hardwood bark mulch shall be included in the Contract Unit Price of the perennial plant pay item.

Disposal of sod, vegetative ground cover, and debris (rock, stones, concrete, etc.) removed from the planting bed as specified in Article 202.03 shall be included in the Contract Unit Price of the perennial plant pay item.

Payment for perennials, ground covers, and bulbs shall be made at the Contract Unit Price in place of the perennial plant pay item.

PLANTING WOODY PLANTS (VOS)

Description. Work under this item shall be performed in accordance with Section 253 of the Standard Specifications for Road and Bridge Construction except as modified herein.

Layout of Planting: Add the following to Article 253.07, Layout of Planting:

The configuration of all plant beds shall be staked or laid out by the Contractor and verified by the Engineer prior to commencing with plant bed preparation.

Planting Procedures: Add the following to Article 253.10, Planting Procedures:

When planting shrubs and trees in bed areas as shown on the plans or as directed by the Engineer, the following work shall be performed prior to planting:

All existing ground cover vegetation shall be cut out 2" below the existing soil line and disposed of as specified in Article 202.03, or killed using a glyphosate based broad spectrum herbicide at the manufacturer's suggested rate 14 days prior to planting.

Compost shall be placed on the planting beds to a depth of 2" then tilled into the soil to a depth of 6" to amend the existing topsoil.

Fertilizer nutrients shall be added and applied to the planting beds at a 5:3:2 ratio as follows:

- Nitrogen Fertilizer Nutrients 90 lbs./acre
- Phosphorus Fertilizer Nutrients 54 lbs./acre
- Potassium Fertilizer Nutrients 36 lbs./acre

This fertilizer shall be tilled and cultivated into the soil to a depth of 6".

All plant beds and individual tree saucers with a minimum diameter of 5' shall receive a hand tooled edge. Using a garden spade, the edge shall be cleanly trenched to a minimum depth of 3" with one vertical side toward the lawn areas.

Mulch Cover: Omit Article 253.11, Mulch Cover and substitute with the following:

Within 48 hours after planting, shredded hardwood bark mulch shall be placed around all plants in the entire mulched bed or saucer area specified to a depth of 3". The shredded hardwood bark shall be: free of leaf material, standard size with a minimum particle size of 1/4" and a maximum size of 1 1/4". In all areas within the project limits where there is existing plant material, all trees, shrubs, and planting beds shall be mulched according to the specifications for new plant material, included in the cost of the Contract. No weed barrier fabric will be required for tree and shrub planting. Pre-emergent herbicide will be used instead of weed barrier fabric. The pre-emergent herbicide shall be applied according to the Special Provision for Weed Control, Pre-emergent Granular Herbicide.

Wrapping of Tree Trunks: Delete Article 253.12 and substitute the following:

Wrapping of all deciduous trees (shade trees and ornamentals) shall be done immediately after planting. Trees shall be inspected for injury to trunks, disease, insect infestation, and improper pruning before wrapping. The Contractor shall be responsible for the condition of this wrapping throughout the life of this Contract. Any damage resulting from the improper installation or maintenance of this wrapping shall be the responsibility of the Contractor and such damaged trees shall be replaced by the Contractor at his expense.

Period of Establishment. Delete the second and third paragraphs of Article 253.14. of the Standard Specifications to read:

Method of Measurement. Add the following to Article 253.16:

Fertilizer nutrients will be measured for payment in place as specified in Article 250.08.

Compost will be measured in cubic yards placed and incorporated into the soil as specified in Article 211.08.

Gypsum will be measured in pounds placed and incorporated into the soil.

Basis of Payment: Add the following to Article 253.17:

Fertilizer will be paid as specified in Article 250.09.

Compost will be paid for as specified in Compost Placement at the Contract Unit Price per cubic yard for COMPOST FURNISH AND PLACE, SPECIAL.

Pre-emergent herbicide will be paid for as specified in Weed control, Pre-Emergent Granular Herbicide at the Contract Unit Price per pound for WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE.

Gypsum will be paid for at the Contract Unit Price per pound for GYPSUM PLACEMENT.

Payment for shredded hardwood bark mulch shall be included in the Contract Unit Price of the woody plant pay item.

Disposal of sod, vegetative ground cover, and debris (rock, stones, concrete, etc.) removed from the planting bed as specified in Article 202.03 shall be included in the Contract Unit Price of the woody plant pay item.

TOPSOIL AND COMPOST (VOS)

Add the following to Article 211, Topsoil and Compost:

The Contractor shall inform the Engineer of his/her intended source for topsoil. The Engineer will inspect the topsoil to ensure that it meets with the requirements of the specifications.

MEDIAN SOIL MIX FURNISH AND PLACE (VOS)

Description. Work under this item shall be performed in accordance with Section 200 of the Standard Specifications for Road and Bridge Construction except as modified herein. This work shall consist of testing, preparing, furnishing, and placing median soil including finish grading.

General Requirements. In general, the Median Soil Mix shall be 2 parts pulverized top soil and 1 part coarse sand. The sand shall be added and mixed during the pulverization process only. The sand shall be of an F2 gradation.

Submittals. Soil Testing: No median soil mix shall be delivered to the site until the Engineer has reviewed test results and has accepted the median soil mix. The Contractor shall employ a soil testing agency, acceptable to the Engineer, which uses methods approved by the Association of Agricultural Chemists. A minimum of 3 samples shall be taken from different locations of the proposed median soil source.

The median soil test report shall include the following, and the appropriate ranges are as follows:

Chemical Analysis:	HIGH	LOW
pH	7.0	6.5
Mechanical Analysis		
% clay	25%	0%
% silt	77%	45%
% sand	33%	25%

Additionally, the following variables are required*:

Cation exchange capacity (CEC)	n/a	20.0 cmolc/kg
--------------------------------	-----	---------------

Soluble salts (as measured using Saturated Media Extract (SME) testing)	3.5 mS/cm	2.0 mS/cm
Organic matter	n/a	5%

* The report shall also include recommendations to mitigate any issues from the results of these items.

The mechanical analysis should show that the % sand, % silt, and the % clay must yield a silt loam soil. See the Textural Classes diagram. To determine the class, plot a line parallel to the % clay axis starting the line at the value of the % silt. Plot another line parallel to the % sand axis starting the line at the value of the % clay. The intersection of these lines should be in the silt loam region.

Inspections. The Engineer retains the right to visually inspect the Median Soil Mix on site before placement. The Engineer may ask that the material suspected of not meeting specification be removed from the site.

The Engineer will take samples of the Median Soil Mix within 24 hours after it has been placed. A sample will be taken every 300', at a minimum of once every median, and tested by the Contractor's testing agency. Chemical and mechanical tests for the above referenced requirements shall be performed. If the Median Soil Mix in place does not meet specification, then that area or median will not be paid for. The Contractor shall remedy any discrepancies, per the soil test report recommendations, to the satisfaction of the Engineer or remove/replace Median Soil Mix with new material which meets specification, so that full payment can be made.

Preparation and Placement. Structure Adjustments: perform or coordinate final adjustments of any utility structure.

Clean medians of all trash and debris before placement of the Median Soil Mix. Remove and legally dispose of debris off site. Repair to the satisfaction of the Engineer any portion of the pipe underdrain.

Place, spread, and rough grade specified Median Soil Mix to depths specified in all areas to be planted. Place the Median Soil Mix in 2 level lifts. The first lift shall contain 2/3 of the median soil depth. After placing each lift, moisten the surface at a rate of 1 gallon of water per square foot. Allow the water to thoroughly percolate through the soil before placing the next lift. Allow for settling, and place additional planting soil as necessary. Allow for placement and mixing of compost in perennial planting areas, but place enough soil mix to meet finish grades within specified tolerances.

Rake smooth and finish grade all planted areas. The removal of excess material or the addition of median soil may be required prior to landscaping. This shall be included in the unit price for MEDIAN SOIL MIX FURNISH AND PLACE. Grading will be to a tolerance of +/- .10 foot of design grades. Grade disturbed by irrigation installation shall be restored to finish grade and raked smooth.

All debris, litter, tire tracks, dirt, and unintended materials shall be removed, raked, swept or washed off all landscape, hard median surfaces, and pavement on a daily basis.

The material shall be installed to the shape shown on the plans or as directed by the Engineer. The minimum thickness shall be 24”.

Method of Measurement. Median Soil Mix Furnish and Place will be measured for payment in cubic yards at the locations shown in the plans and as directed by the Engineer.

Basis of Payment. Median Soil Mix Furnished and Placed will be paid for at the Contract Unit Price per cubic yard for MEDIAN SOIL MIX FURNISH AND PLACE.

COMPOST FURNISH AND PLACE, SPECIAL (VOS)

Description. Work under this item shall be performed in accordance with Section 200 of the Standard Specifications for Road and Bridge Construction except as modified herein. This work shall consist of furnishing, transporting, spreading, and incorporating landscape compost into soil in areas shown on the plans and as directed by the Engineer.

Materials. Add the following to Article 1081.05(b) Topsoil and Compost:

The Contractor shall inform the Engineer of his intended source for the landscape compost. The Engineer will inspect the landscape compost to ensure that it meets with the requirements of the specifications. The compost shall be a mixture of decomposed grass clippings, small branches, and leaves. Said mixture shall be screened and free of refuse, stone, clumps, roots, large branches, clay, and other foreign material. The compost shall be of such consistency that it can be readily incorporated with the topsoil.

Compost shall not be placed until the area designated has been shaped, trimmed, and finished in accordance with Section 212 of the Standard Specifications, and any required placement of topsoil has been completed. Prior to compost placement, the area shall be disked or raked to a minimum depth of 2” and all debris and loose stones removed. The grades and condition of the area must be approved by the Engineer prior to Compost Placement.

The compost shall be placed in the planting beds to a 2” depth and shall meet finish grades within specified tolerances. After the Engineer verifies that the proper compost depth has been applied, the Contractor shall completely incorporate the compost into the soil to a minimum depth of 6” by raking, disking or rototilling to amend the existing topsoil.

After the compost has been incorporated into the soil, any debris or piles of unincorporated material shall be immediately removed from the finished area to the lines and grades shown on the plan and approved by the Engineer. Disposal of material shall be done in accordance with Article 202.03.

Method of Measurement. Compost Furnish and Place will be measured in square yards at the locations listed in the special provisions and as directed by the Engineer prior to incorporation into the soil.

Basis of Payment. This work will be paid for at the Contract Unit Price per square yard for COMPOST FURNISH AND PLACE, SPECIAL. Payment shall include all costs for materials, equipment, and labor required to complete the work specified herein, including the cost of removing and disposing of any debris.

SODDING, SALT TOLERANT (VOS)

Description. Work under this item shall be performed in accordance with Section 252 of the Standard Specifications for Road and Bridge Construction except as modified herein.

Sod: Add the following to Article 1081.03:

Sod shall be cleanly cut, either by hand or machine, to a minimum uniform thickness of 1" but of not more than 2", to a uniform width of 18", and in strips of not less than 3'-0" nor more than 6'-0" in length. Edges of sod shall be straight.

Sodding Time: Add the following to Article 252.04:

Sod shall be delivered to the site within 24 hours of harvest at the sod nursery. All sod installation shall be complete within 36 hours of harvest from the sod nursery. The Contractor shall submit a ticket from the sod nursery clearly stating the date and time of day that harvest took place.

Transportation: Add the following to Article 252.05:

Care shall be taken to retain the native soil on the roots during the process of stripping, transporting, and placing sod. Sod shall be cut and transported only when moisture conditions are favorable for correct handling, and shall be protected by a suitable canvas or other wind-resistant material while in transit. Dumping of sod from vehicles on the areas of delivery will not be permitted. Sod shall be delivered within 24 hours from time of cutting. Sod which has been damaged in transit or in handling, including drying out, shall be rejected and removed from the site immediately.

Placing Sod: Delete paragraph 1 of Article 252.06 and substitute the following:

Sod shall be of type specified, laid smoothly, edge to edge in close contact on the prepared surface, with joints staggered. Sod shall be pressed into setting bed immediately by tamping or rolling with approved equipment to eliminate air pockets and to produce an even surface. Where grades are such that the flow of water will be over sodded areas and onto paved areas, after compaction, the sod shall be placed flush with the pavement or drainage structures.

Inspection: Add the following to article 252.11:

Sod shall have been grown on a well-drained, fertile, sandy loam (not peat) soil. Sod shall be cut or stripped from living thickly matted turns of firmly rooted specified turf type. The consistency of adherent soil shall be such that it will not break, crumble, or tear during handling and placing of the sod.

Maintenance of Sodded Areas: Add the following to Article 252:

Maintenance of sodded areas by the Contractor shall consist of watering, weeding, 3 mowings, repair of erosion, spraying the sodded areas to keep them free of insects and diseases, and re-sodding as necessary to establish a uniform stand of turf. The Contractor shall provide general care for sodded areas until the time of knitting, or a period of not less than 6 weeks. Prior to acceptance, sodded areas shall be mowed at least 3 times by the Contractor to maintain healthy vigorous growth. At no time shall the turf be mowed shorter than 2" or the average height allowed to become more than 4". Debris encountered during the mowing and/or overseeding operation shall be removed and disposed in accordance with Article 250.05. Damage to the sodded areas, such as ruts or wheel tracks more than 2" in depth, shall be repaired by the Contractor to the satisfaction of the Engineer. If noxious weeds start growth which threatens to smother the species grass, they shall be removed or sprayed as directed by the Engineer, and the vacant spots filled with new sod, if necessary. All necessary weed control applications and re-sodding are included in the cost for sodding.

Method of Measurement: Add the following to Article 252.12:

Payment for maintenance of sodded areas shall be included in the Contract Unit Price of SODDING, SALT TOLERANT.

WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE (VOS)

Description: This work shall consist of spreading a pre-emergent granular herbicide in areas as shown on the plans or as directed by the Engineer. This item will be used in mulched plant beds and mulch rings.

Materials: The pre-emergent granular herbicide shall contain the chemicals Trifluralin 2% active ingredient and Isoxaben with 0.5% active ingredient. The herbicide label shall be submitted to the Engineer for approval at least seventy-two (72) hours prior to application.

Method: The pre-emergent granular herbicide shall be used in accordance with the manufacturer's directions on the package. The granules will be applied within 4 days after planting or mulching. If the herbicide is applied 5 days after planting or mulching, it is considered ineffective and shall not be measured and/or paid for.

Apply the granular herbicide using a drop or rotary-type designed to apply granular herbicide or insecticides. Calibrate application equipment to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. Avoid skips or overlaps as poor weed control or crop injury may occur. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first. Apply the granular herbicide at the rate of 2.3 lbs/1000 square feet.

Method of Measurement. Pre-emergent granular herbicide will be measured in place in Pounds of Pre-emergent Granular Herbicide applied. Areas treated 5 days or more after planting or placing mulch shall not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per pound of WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE which price shall include all materials, equipment, and labor necessary to complete the work as specified.

IRRIGATION SYSTEM SPECIAL (VOS)

This item of work shall consist of furnishing all work and materials, appliances, tools, equipment, facilities, transportation, and services necessary for and incidental to performing all operations in connection with the installation of underground sprinkler irrigation system complete, as shown on the drawings and/or specified herein, in accordance with Sections 561, 562, 563, and 565 of the Standard Specifications and the Standard Construction Details, except as herein modified. When the term "Contractor" is used in this section, it shall refer to the irrigation Contractor.

Quality Assurance

The following Codes, Regulations, Reference Standards, and Specifications apply to work included in this section: ASTM: D2241, D2464, D2466, D2564, and D855. Unless otherwise noted on the plans, all materials shall be new and unused.

Warranty. The Manufacturer shall warranty material for 1 year including replacement of defective materials.

Submittals

The Contractor shall submit shop drawings or manufacturer's "cut sheet" for each type of sprinkler head, pipe, controller, valves, check valve assemblies, valve boxes, wire, conduit, fittings, and all other types of fixtures and equipment which he proposes to install on the job. The submittal shall include the manufacturer's name, model number, equipment capacity, and manufacturer's installation recommendation, if applicable, for each proposed item.

No partial submittal will be accepted and submittals shall be neatly bound into a brochure and logically organized. After the submittal has been approved, substitutions will not be allowed except by written consent of the Engineer. Shop drawings shall include dimensions, elevations, construction details, arrangements, and capacity of equipment, as well as manufacturer's installation recommendations.

Codes/Permits

All work under this section shall comply with the provisions of these Specifications, as illustrated on the accompanying drawings, or as directed by the Engineer and shall satisfy all applicable local codes, ordinances, or regulations of the governing bodies and all authorities having jurisdiction over this Project.

Installation of equipment and materials shall be done in accordance with requirements of the National Electrical Code, Village of Schaumburg Plumbing Code, and standard plumbing procedures. The drawings and these Specifications are intended to comply with all the

necessary rules and regulations; however, some discrepancies may occur. The Contractor shall immediately notify the Engineer in writing of the discrepancies and apply for an interpretation. Should the discovery and notification occur after the execution of a Contract, any additional work required for compliance with the regulations shall be paid for as covered by these Contract documents.

The Contractor shall give all necessary notices, obtain all permits, and pay all costs in connection with his work; file with all governmental departments having jurisdiction; obtain all required certificates of inspection for his work and deliver to the Engineer.

The Contractor shall include in the work any labor, materials, services, apparatus, or drawings in order to comply with all applicable laws, ordinances, rules, and regulations whether or not shown on the drawings and/or specified.

Existing Utilities Location and Elevation

Locations and elevations of various utilities included with the scope of this work have been obtained from the most reliable sources available and should serve as a general guide without guarantee to accuracy. The Contractor shall examine the site and verify to his own satisfaction the locations and elevation of all utilities and availability of utilities and services required. The Contractor shall inform himself/herself as to their relation to the work and the submission of bids shall be deemed as evidence thereof. The Contractor shall repair, at his/her own expense, and to the satisfaction of the Engineer, for damage to any utility shown or not shown on the plans.

Should utilities not shown on the plans be found during excavations, the Contractor shall promptly notify the Engineer for instructions as to further action.

The Contractor shall make necessary adjustments in the layout as may be required to connect to existing stub outs, should such stub outs not be located exactly as shown and as may be required to work around existing work, at no increase in cost. All such work will be recorded on record drawings and turned over to the Engineer prior to final acceptance.

Record Drawings

Record dimensioned locations and depths for each of the following:

1. Point of connection.
2. Sprinkler pressure line routing (provide dimensions for each 100 lineal feet (maximum) along each routing, and for each change in directions).
3. Gate valves.
4. Sprinkler control valves (buried only).
5. Control wire routing.
6. Other related items as may be directed by the Engineer.

Locate all dimensions from 2 permanent points (buildings, monuments, sidewalks, curbs, or pavements). Record all changes which are made from the Contract drawings, including changes in the pressure and non pressure lines. Record all required information on a set of blackline prints of the Contract drawings. Do not use these prints for any other purpose.

Maintain information daily. Keep Contract drawings at the work site at all times and available for review by the Engineer.

When record drawings have been approved by the Engineer, transfer all information to a set of reproducible mylars using permanent India ink. Changes using ballpoint pen are not acceptable. Make dimensions accurately at the same scale used on original drawings, or larger. If photo reduction is required to facilitate controller chart housing, notes or dimension must be a minimum 1/4" in size.

Reproducible mylars will be furnished by the Engineer to the Contractor. The Engineer's costs for printing and handling shall be paid by the Contractor, and the cost shall be included in the cost of IRRIGATION SYSTEM SPECIAL.

Controller Charts

Do not prepare charts until record drawings have been approved by the Engineer. Provide 1 controller chart for each automatic controller installed. Chart may be a reproduction of the record drawing, if the scale permits fitting the controller door. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.

Chart shall be blackline print of the actual system, showing the area covered by that controller.

Identify the area of coverage of each remote control valve, using a distinctly different pastel color, drawn over the entire area of coverage.

Following approval of charts by the Engineer, they shall be hermetically sealed between 2 layers of 20 mil. thick plastic sheet. Charts must be completed and approved prior to final acceptance of the irrigation system.

Operating and Maintenance Manuals

Provide individual bound manuals detailing operating and maintenance requirements for irrigation systems. Manuals shall be delivered to the Engineer no later than 10 days prior to completion of work. Provide descriptions of all installed materials and systems in sufficient detail to permit maintenance personnel to understand, operate, and maintain the equipment.

Provide the following in each manual:

1. Index sheet, stating Irrigation Contractor's name, address, telephone number, and name of person to contact.
2. Duration of Guarantee period.
3. Equipment list providing the following for each item:
 - a. Manufacturer's name.
 - b. Make and model number.
 - c. Name and address of local manufacturer's representative.
 - d. Spare parts list in detail.
 - e. Detailed operating and maintenance instructions of major equipment.

Checklist

Provide a signed and dated checklist, and deliver to the Engineer prior to final acceptance of the work. Use the following format:

1. Plumbing permits: if none required, so note.
2. Material approvals: approved by and date.

3. Pressure line tests: by whom and date.
4. Record Drawings: received by and date.
5. Controller charts: received by and date.
6. Materials furnished: received by and date.
7. Operation and maintenance manuals: received by and date.
8. System and equipment operation instructions: received by and date.
9. Manufacturer's warranties if required: received by and date.
10. Written guarantee: received by and date.
11. Lowering of heads in lawn areas: if incomplete, so state.

Excavation and Trenching

The Contractor shall perform all excavation to the depth indicated in these Specifications and Contract drawings. The banks of trenches shall be kept as nearly vertical as practicable. Trenches shall be wide enough to allow a minimum of 4" between parallel pipelines or electrical wiring. Where rock excavation is required, or where stones are encountered in the bottom of the trench that would create a concentrated pressure on the pipe, the rock or stones shall be removed to a depth of 6" minimum below the trench depth indicated. The overdepth rock excavation and all excess trench excavation shall be backfilled with loose, moist earth or sand, thoroughly tamped. Whenever wet or otherwise unstable soil that is incapable of properly supporting the pipe is encountered in the trench bottom, such shall be removed to a depth and length required, and the trench backfilled to trench bottom grade as hereinafter specified, with coarse sand, fine gravel, or other suitable material.

Bottom of trench grade shall be continued past ground surface deviations to avoid air pockets and low collection points in the line. The minimum cover specifications shall govern regardless of variations in ground surface profile and the occasional deeper excavation required at banks and other field conditions. Excavation shall be such that a uniform trench grade variation will occur in all cases where variations are necessary.

Trench excavation shall comprise the satisfactory removal and disposition of all materials, and shall include all shoring and sheeting required to protect the excavation and to safeguard employees.

During excavation, material suitable for backfilling shall be stockpiled in an orderly manner a sufficient distance back from edge of trenches to avoid overloading and prevent slides or cave-ins. Material unsuitable for backfilling shall be wasted as directed by the Engineer. When excavated material is of a rocky nature and the topsoil or any other layer of excavated material is suitable for pipe bedding and backfill in the vicinity of the pipe, such material shall be separately stockpiled for use in such bedding and pipe backfill operations, unless satisfactory imported material is used. All excavations and backfill shall be unclassified and covered in the basic bid. No additional compensation shall be allowed for rock encountered.

Restore all surfaces, existing underground installations, etc., damaged or cut as a result of the excavations to their original conditions in a manner acceptable to the Engineer.

Hydrostatic Tests

Pressure Test: After the pipe is laid, the joints completed, and the trench partially backfilled, leaving the joints exposed for examination, the newly laid piping or any valved section of main pressure line piping shall, unless otherwise specified, be subjected for 4 hours to a

hydrostatic pressure test of normal city water pressure. Each valve shall be opened and closed during the test. Enclosed pipe, joints, fittings, and valves shall be carefully examined during the partially open trench test. Joints showing visible leakage shall be replaced or remade, as necessary. Cracked or defective pipe, joints, fittings, or valves discovered in consequence of this pressure test shall be repeated until the test results are satisfactory. All replacement and repair shall be at Contractor's cost.

Water For Testing

Unless noted otherwise on the plans or elsewhere, furnish all water necessary for testing, flushing, and jetting.

Backfill and Compaction

After system is operating and required tests and inspections have been made, the irrigation trenches shall be carefully backfilled with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, gravel, soft shale, or other approved materials, free from large clods of earth or stone. Rock, broken concrete, or pavement, and large boulders shall not be used as backfill material. The backfill shall be thoroughly compacted and evened with the adjacent soil level.

Compact trenches in areas to be planted by thoroughly flooding the backfill. Compact all other areas by flooding or hand tamping. The jetting process may be used in areas when flooding. Backfill for all trenches, regardless of the type of pipe covered, shall be compacted to a minimum of 90% density. Any trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth required for compaction, then refilled and compacted with the surface restored to the required grade and left in a completed surface condition as described above. This no-settlement clause shall extend over the entire warranty period.

Specifically tamp backfill under heads and around the flange of heads for 1' by a suitable means after trench backfill has dried from flooding to prevent heads loosening in the ground.

Irrigation pipe trenches made within 2' of pavement or in the shoulder pavement shall be backfilled with granular material and compacted to the satisfaction of the Engineer. All labor and material necessary to complete the backfilling operations shall be considered included in the Contract Unit Price for IRRIGATION SYSTEM SPECIAL.

PVC Sleeves.

All irrigation piping which is under existing or proposed pavement, including: roadways, sidewalks, bike paths, etc., shall be protected with PVC sleeving. The sleeves shall be sized a minimum of two times the diameter of the proposed irrigation pipe (example: 1" irrigation pipe = min. 2" PVC sleeve). All sleeves shall extend into landscape areas beyond the pavement a minimum of 12". All PVC sleeves shall be considered included in the Contract Unit Price for IRRIGATION SYSTEM SPECIAL.

Final Adjustment

After installation has been completed, make final adjustment of sprinkler system prior to Engineer's final inspection. Completely flush system to remove debris from lines by removing nozzle from heads on ends of lines and turning on system. Check sprinklers for proper operation and proper alignment for direction of throw. Check each section for operating pressure and balance to other sections by use of flow adjustment on top of each valve.

Check nozzling for proper coverage. Prevailing wind conditions may indicate that arc or angle of spray should be other than as shown on drawings. In this case, change nozzles to provide correct coverage and furnish record data to the Engineer with each change.

After system is thoroughly flushed and ready for operation, each section of sprinklers shall be adjusted to control pressure at heads. Use the following method, 1 section at a time:

1. Remove last head on section and install a temporary riser above grade. Install tee with pressure gauge attached on top of riser and reinstall head with nipple onto tee.
2. Correct operating pressure at last head of each section to match manufacturer's specifications.
3. After replacing head, at grade, tamp thoroughly around head.

Valve and Valve Box Placement

All manual, electric, and quick coupling valves shall be in boxes, and shall be set with a minimum of 6" of space between their top surface and the bottom of the valve box. Valves shall be fully opened and fully closed to ensure that all parts are in operating condition. Valve boxes shall be set plumb, vertical, and concentric with the valve stem. Any valve box which has moved from this required position so as to prevent the use of the operating wheel of the valve shall be reset by the Contractor at his own expense. A minimum of 9" of gravel shall be placed below all valve boxes. The cost of the gravel shall be included in the cost of the valve box being installed. All valve boxes not specifically called out on the plans shall be considered included in the cost of IRRIGATION SYSTEM SPECIAL.

Cleanup

The work site shall be thoroughly cleaned of all waste materials and all unused or salvaged materials, equipment, tools, etc. After completion of the work, areas disturbed shall be leveled and the work site shall be raked clean and left in an orderly condition.

Electric Remote Control Valve

Electric remote control valves shall have plastic bodies and covers and shall be globe type diaphragm valves of normally closed design. Electric remote control valves shall be Rain Bird 1-1/2" PEB series electric valves, per Village standards. Electric valves operated by the TBOS controller shall be installed with latching solenoids.

Operation shall be accomplished by means of integrally mounted latching AC solenoid. Solenoid coil shall be potted in epoxy resin within a plastic coated stainless steel housing. Solenoids shall be completely waterproof, suitable for direct underground burial. A flow stem adjustment shall be included in each valve.

Electric remote control valves shall be located and sized as shown on the plans. All electrical connections shall be made when the weather is dry with connection kits as specified, in strict accordance with manufacturer's recommended procedures. All remote control valves shall be installed in a horizontal position, in accordance to the manufacturer's published installation instructions.

Irrigation Controller

The electric irrigation controllers shall be capable of operating the number of stations as indicated on the drawings. The system is designed to operate only 1 section valve at a time,

unless otherwise noted. Irrigation controllers shall be Toro DDCWP Controller, per Village standards.

Operation of the controller shall be fully automatic, incorporating one 24 hour clock and 14 day calendar per controlled number of electric valves shown on the plan. The controller shall be capable of repeating watering cycles as required with a maximum delay between the ending of 1 cycle and the beginning of the next not to exceed 2 hours. The controller shall provide optional semiautomatic operation whereby the automatic cycle may be started independent of the clock and manual operation whereby any station may be operated by hand independent of all timing mechanism. The choice of automatic day or hour programming shall be available to the operator on the face of the control panel without the use of tools. The controller shall be installed in valve box which has been sized appropriately to accommodate valves and controller.

Low Voltage Wire

All wire shall be single strand solid copper, minimum 14 gauge with type UF insulation which is Underwriters Laboratory approved for direct underground burial when used in a National Electrical Code Class 2 Circuit (30 volts or less) as per Articles 725 and 300. Voltage drop shall be taken into consideration.

All wire shall be color coded so that the common wire shall have white insulation and the signal wires shall have red insulation. All wire connectors shall have a 2 piece PVC housing which, when filled with resin epoxy and pressed together, forms a permanent, 1 piece, moisture proof wire splice. All connectors shall be UL listed, rated 600 volt, for PVC insulated wire. No wire splices shall be buried.

Low voltage wire shall be installed between the irrigation controllers and the electric valves. It shall be the responsibility of the Contractor to furnish and install the proper size wire with the required number of conductors on each of the low voltage circuits from the master control center to the various electric remote control valves. Consideration shall be given to each circuit for allowance of voltage drop and economy consistent with accepted practices of electrical installation.

All control wire less than 500' in length shall be continuous without splices or joints from the controller to the valves. Connections to the electric valves shall be made within 18" of the valve using connectors specified, unless otherwise approved by the Engineer in writing.

All control wires shall be installed at least 18" deep. The Contractor shall obtain the Engineer's approval for wire routing when installed in a separate ditch. Control wires may be installed in a common ditch with piping; however, wires must be installed a minimum of 4" below or to 1 side of piping. All wire passing under existing or future paving, sidewalk, construction, etc., shall be encased in PVC Schedule 40 conduit extending at least 2' beyond edges of paving, sidewalks, or construction.

Polyvinyl Chloride (PVC) Pipe

PVC pipe shall be manufactured in accordance with ASTM Standards noted herein.

Marking and Identification: PVC pipe shall be continuously and permanently marked with following information: Manufacturer's name, size, type of pipe, and material, SDR number, Product Standard number, and the NSF (National Sanitation Foundation) Seal.

PVC pipe fittings: Shall be of the same material as the PVC pipe specified and compatible with PVC pipe furnished. Solvent weld type shall be Schedule 40.

Lateral PVC Pipe: Shall be Class 200 solvent weld, SDR21, PS 2270 for all sizes 3/4 – 2”.

Mainline PVC Pipe: Shall be SDR 80 for all sizes 3” and greater.

Flexible PVC Risers (Nipples): All flexible PVC nipples shall be made from virgin PVC material, and shall comply with ASTM D2287, shall be tested at 200 P.S.I. static pressure for 2 hours and have a quick burst rating of a minimum 400 P.S.I. Flexible PVC pipe nipples shall be factory assembled only.

Design Pressure: This irrigation system shall be designed to operate with a minimum static inlet water pressure of 50 psi at the point of connection. The Contractor shall take a pressure reading prior to beginning construction. If the pressure reading is less than above, the Contractor shall notify the Engineer.

Contractor Responsibility: The Contractor shall not willfully install the irrigation system as shown on the shop drawings when it is obvious in the field that obstructions, grade differences or discrepancies in equipment usage, area dimensions, or water pressure exist that might not have been considered in the engineering. Such obstructions or differences shall be brought to the attention of the Engineer in writing. In the event this notification is not performed, the Contractor shall assume full responsibility for any revision necessary.

Staking. Before installation is started, place a stake or flag where each sprinkler is to be located, in accordance with drawing. Staking shall be approved by the Engineer before proceeding.

Piping Layout: Piping layout is diagrammatic. Route piping around existing trees and shrubs in such a manner as to avoid damage to plantings. Do not dig within the ball of newly planted trees or shrubs.

In areas where trees are present, trenches will be adjusted on site to provide a minimum clearance of 4 times the trunk diameter of the tree (at its base) between any tree and any trench.

All material and equipment shall be delivered to the worksite in unbroken reels, cartons, or other packaging to demonstrate that such material is new and of a quality and grade in keeping with the intent of these specifications.

Pipe Installation

Sprinkler Mains: Sprinkler mains are that portion of piping from water source to electric valves. This portion of piping is subject to surges since it is a closed portion of the sprinkler system. Sprinkler mains shall be installed in a trench with a minimum of 18” of cover.

Lateral Piping: Lateral piping is that portion of piping from electrical valve to sprinkler heads. This portion of piping is not subject to surges since it is an "open end" portion of the sprinkler system. Lateral piping shall be installed in a trench with a minimum of 12" of cover.

Where the plans call for continuous irrigation pipe to be placed beneath the roadway, sidewalk, curbing, brick pavers or other hard surface, the Contractor shall furnish and install by directional bore laid prior to placement of hard surface, a continuous PVC Schedule 40 pipe or IDOT approved jointed pipe sleeve under the roadway structure. The pipe sleeve shall be a minimum of twice the inside diameter of the pipe which will be inside the sleeve. The irrigation pipe sleeve shall also be approved by the Engineer prior to installation and shall be considered included in the cost of IRRIGATION SYSTEM SPECIAL.

Remove lumber, rubbish, and rocks from trenches. Provide firm, uniform bearing for entire length of each pipeline to prevent uneven settlement. Wedging or blocking of pipe will not be permitted. Remove foreign matter or dirt from inside of pipe before welding, and keep piping clean during and after laying pipe.

PVC pipe shall not be installed where there is water in the trench, nor shall PVC pipe be laid when temperature is 40° F or below or when rain is imminent. PVC pipe will expand and contract as the temperature changes. Therefore, pipe shall be snaked from side to side of trench bottom to allow for expansion and contraction.

PVC Pipe and Fitting Assembly

Solvent: Use only solvent recommended by manufacturer to make solvent welded joints following standards noted herein. Thoroughly clean pipe and fittings of dirt, dust, and moisture with an approved PVC primer before applying solvent.

PVC to Metal Connection: Work metal connections first. Use a non hardening pipe dope or thread seal tape on threaded PVC to metal joints. Use only light wrench pressure.

Threaded PVC Connections: Where required, use threaded PVC adapters into which pipe may be welded.

Pop-Up Spray Heads

Spray heads shall have a pop up heights as specified in the plans. All heads shall be Rain Bird brand products at sizes specified, per Village standards. The sprinkler body and all related parts shall be plastic cyclac or polycarbonate. They shall have a spring retraction for positive return action of the pop-up nozzle. The spring for retraction and the adjustable nozzle screw shall be made of corrosion resistant materials.

Provide heads and nozzles as specified and install in locations as shown on the Contract Drawings. Pop-up spray heads shall be installed to lateral piping as detailed on the Contract drawings. Heads shall be installed with underside of flange flush with the finished grade. The Contractor shall be required to adjust heads as necessary after establishment of grass or other plant material.

Basis of Payment. This work will be paid for at the lump sum price for IRRIGATION SYSTEM SPECIAL which price shall be payment in full for all labor, material, equipment, and services necessary for providing the landscape irrigation systems in a serviceable, fully

operational manner, including, but not limited to, excavation and backfilling, furnishing and installing the piping system, spray heads, wiring, solenoid control valves, isolation valves, valve boxes and automatic controls, electrical connections, system testing and maintenance, owner personnel training, piping and equipment identification, plumbing permits and inspection fees, valve tags and charts, and all supports, sleeves, fittings, valves, meters, and accessories.

WATER SERVICE LINE, 1 1/2" (VOS)

Description. This work shall consist of extending water service for the proposed irrigation system. The Contractor shall provide all necessary labor, materials, and equipment to trench the water pipe as shown on the plan sheets.

The Contractor shall excavate a trench to the required depth as provided by the standard detail, avoiding any existing utilities that may be present and making any necessary adjustments to the route of the water service, as approved by the Engineer. The Contractor then shall place Type K Copper Water Piping in the trench. Any required copper water fittings also shall be considered included as part of this work. Once the pipe is in place and any fittings have been tightened, the trench shall be backfilled. Existing excavated material may be used in open areas; however, if under an improved surface or utility or within 2 feet of the roadway, the Engineer may require trench backfill. The Contractor shall demonstrate to the Engineer that the system piping is without leak.

Materials for this item, Type K Copper Water piping and fittings shall meet all applicable AWWA Specifications. Trench backfill shall meet the material specifications of the IDOT Standard Specification for Road Construction.

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

Basis of Payment. This work shall be paid for at the contract unit price per foot for WATER SERVICE LINE, 1 1/2", which price shall include all labor, excavation, backfill, materials, equipment, connections and adjustments, and trench backfill as directed by the Engineer necessary to complete the work. Any dewatering or sheeting required to do the work as specified shall not be paid for separately but will be included in the cost of the contract unit price of the item.

RPZ BACKFLOW PREVENTER

Description. This work shall consist of installing a new backflow preventer for the future irrigation system from the water service, including the backflow preventer, backflow preventer enclosure, quick connect valve, and up to 20' of Type K Copper Water Piping, as shown on the detail in the plans.

General Requirements:

A double gate valve, double check assembly shall be located and sized as shown on the plans. The backflow preventer shall be Febco, model 825YA. Construction shall be all brass for sizes 3/4- 2 inches. This assembly shall conform to the Village Plumbing Codes.

Backflow Preventer (RPZ). A double gate valve, double check assembly shall be located and sized as shown on the plans. The backflow preventer shall be Febco, model 825YA, per Village standards. Construction shall be all brass for sizes 3/4- 2 inches. This assembly shall conform to the Village Plumbing Codes.

Backflow Preventer Enclosure. The Backflow Preventer shall include an enclosure constructed of fiberglass to completely cover and protect the backflow preventer and associated plumbing. The enclosure shall be sized appropriately to allow for additional space around backflow preventer for routine maintenance. The backflow preventer enclosure shall be Hot Box, HB1, green color. The enclosure shall be mounted on a 4" concrete pad poured with expansion joints around the piping. Concrete pad shall be installed such that the top of the pad is level with the adjacent grade. The enclosure shall be attached to the pad using stainless steel anchor bolts.

The cost of labor and material to install the backflow preventer enclosure shall be included in the cost of the backflow preventer.

Quick Coupling Valve. Quick coupling valves shall be composed of a bronze cast body with anti-rotation wings and a non-potable lavender plastic cover. The valve shall accept a single lug 3/4 inch bronze valve key for operation. Provide one Buckner, QB33NPAR07, QB33SK07 coupler and QHS0707 hose swivel elbow for each backflow preventer shown on the plans.

Quick coupling valves shall be installed inside valve boxes which are sized large enough to operate valve coupler. The coupler shall be installed with the underside of flange flush with the finished grade inside the valve box.

Trench backfill required for the copper piping shall be in accordance with section 208 of the Standard Specifications but shall be included in the cost of this item.

Method of Measurement. This work will be measured per each RPZ BACKFLOW PREVENTER, 1 1/2", of the type indicated.

Basis of Payment. This work shall be paid for at the contract unit price for each RPZ BACKFLOW PREVENTER, 1 1/2" of the type indicated. Price shall include backflow preventer (RPZ), enclosure, concrete base, locks, keys, pipe caps, installation of 1 1/2" Type K copper piping from the Backflow Preventer to the Quick Couple, quick couple, valve box and all other work required to complete this item. Any dewatering or sheeting required to do the work as specified shall not be paid for separately but will be incidental to the contract unit price of the item.

WATER SERVICE CONNECTION, 1 ½" (VOS)

Description. This work shall consist of connecting a new water service line for the irrigation system to the proposed/existing water main. The new connection shall be made at the existing corporation stop abandoned as part of REMOVE EXISTING IRRIGATION SYSTEM. At locations where an existing connection is not available, this work shall include tapping the main with a new corporation stop.

The water service connection shall include connecting to the existing corporation stop or tapping the main, installation of up to 20' of Type K Copper Water Piping, installation of the curb stop, and up to 20' of Type K Copper Water Piping, as shown on the detail in the plans.

If the Engineer determines that a new corporation stop is required, re-tapping of the main shall be included in the cost of WATER SERVICE CONNECTION, 1 ½". The size of the water main to be tapped needs to be verified by the Contractor.

Water service connections shall be Type K Copper Water Piping meeting specifications of ASTM B-88 and B-251. Water service connections over 2" in diameter shall be copper and shall comply with all specifications for water mains, fittings, valve vaults, and appurtenances. All taps made into cast iron water main 4" in diameter shall incorporate an approved tapping clamp. All copper connections shall be made with flared joints. Compression type joints shall be allowed underground off the corporation stop and roadway key stop. All water services shall have a minimum of 5'6" of cover over the service. At the time of construction, all water services shall be left completely exposed until a representative of the Village of Schaumburg has inspected same.

Twenty-four hours notice is required for such inspection. At the time the inspection is made, a representative of the Contractor shall be present. The Contractor shall give 24 hours notice to the Water Department of the Village (847.923.6612), before any water main is to be tapped. At the time the tap is made, a representative of the Contractor shall be present. All water services 4" or larger shall be subjected to a hydrostatic pressure test of 150 psi gauged for a period of not less than 1 hour. Such hydrostatic test shall be witnessed by an authorized representative of the Village of Schaumburg.

When a water service is installed beneath existing roadways, sidewalks, and driveways which are not being reconstructed, the pipe shall be installed by pushing or augering a hole beneath said roadway, sidewalk, and driveway and installing the water service pipe through the hole. Under no circumstances will a service be allowed under the length of a sidewalk or driveway. Steel casing of water service may be required as coordinated with the Director of Public Works or his/her authorized representative. In all residential or commercial developments, water service taps must be made before pressure testing.

Corporation Stop. If a new corporation stop is required, the corporation stop shall be Mueller Company H-1500, Oraseal, or Ford F-600 and shall be installed by tapping the water main with an approved tapping machine. The tap shall be made in the upper third of the main, as close to 45° angle as is practical. A tap into the top of the main will not be permitted. The service box shall be made in the United States.

Curb Stop (Buffalo Box). The curb stop shall be Mueller Company M-15154 or Ford B44-444, with a Mueller H-10302 cast iron service box. Only cast iron buffalo style boxes and lids are allowed. The round way key stop shall be located within the parkway in a plastic valve box and approved by the Director of Public Works or his authorized representative. The cover of the buffalo box shall have the word "Water" cast therein. The Contractor shall record the location of each buffalo box and tap in relation to the nearest corner lot line. Two copies of this record shall be filed with the Village prior to final inspection.

Valve Boxes. A box shall be provided for all valves. Valve boxes shall be made of high strength plastic suitable for turf irrigation purposes. Boxes shall be suitable in size and configuration for the operability and adjustment of the valve. Extension sections will be used as appropriate to the depth of piping. All valve box covers shall bolt down or have locking mechanisms and shall be colored green or brown as selected by the Village Engineer. All Valve Boxes shall be included in the cost of WATER SERVICE CONNECTION, 1 1/2".

The Contractor shall contact the Water Superintendent of the Village of Schaumburg, when water service installations are completed and installed, in conformance with the specifications, to set up final inspection for the Village acceptance and future maintenance of the installation. Prior to the final inspection, the Contractor shall see that all on-surface water appurtenances are clearly visible, locatable, and operable.

Any excavation, shoring and backfill required to install this item shall be included.

Trench backfill shall be in accordance with section 208 of the Standard Specifications but shall be included in the cost of this item.

Basis of Payment: This work shall be paid for at the contract unit price per each for WATER SERVICE CONNECTION, 1 1/2", which price shall include all labor, excavation, backfill, materials, equipment, connections and adjustments, and trench backfill as directed by the Engineer necessary to complete the work. Any dewatering or sheeting required to do the work as specified shall not be paid for separately but will be included in the contract unit price of the item.

MAST ARM SIGN PANELS

Effective: May 22, 2002

Revised: July 1, 2015

720.01TS

Add the following to Article 720.02 of the Standard Specifications:

Sign stiffening channel systems shall be aluminum and meet the requirements of ASTM 6261-T5. Sign mounting banding, buckles and buckle straps shall be manufactured from AISI 201 stainless steel.

TRAFFIC SIGNAL GENERAL REQUIREMENTS

Effective: May 22, 2002
Revised: March 25, 2016
800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current IMSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of IDOT District One approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically through the District's SharePoint System unless directed otherwise by the Engineer. Electronic material submittals shall follow the District's Traffic Operations Construction Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same

- manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
 3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
 4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
 5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
 6. Partial or incomplete submittals will be returned without review.
 7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
 8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
 9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
 10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
 11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
 12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
 13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment

required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.

- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor's inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department's highway system at any time without notification.

- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the Equipment Supplier prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will attempt to full-fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Department. The Department will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Department as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.
8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

“When the work is complete, and seven days before the request for a final inspection, the reduced-size set of contract drawings, stamped “RECORD DRAWINGS”, shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible.”

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

“In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets

- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	- 87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	- 87.792571
01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	- 87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	- 87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	- 87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	- 87.769876
01/01/2015	POST (Post)		41.651848	- 87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	- 87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	- 87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	- 87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	- 87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can

begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

Delete the last sentence of the 3rd paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

OPTIMIZE TRAFFIC SIGNAL SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

800.02TS

Description.

This work shall consist of optimizing a closed loop traffic signal system.

OPTIMIZE TRAFFIC SIGNAL SYSTEM applies when a new or existing closed loop traffic signal system is to be optimized and a formal Signal Coordination and Timing (SCAT) Report is to be prepared. The purpose of this work is to improve system performance by optimizing traffic signal timings, developing a time of day program and a traffic responsive program.

After the signal improvements are completed, the signal system shall be optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as noted herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank a CD, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

- (a) The following tasks are associated with OPTIMIZE TRAFFIC SIGNAL SYSTEM.
1. Appropriate signal timings and offsets shall be developed for each intersection and appropriate cycle lengths shall be developed for the closed loop signal system.
 2. Traffic counts shall be taken at all intersections after the permanent traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday and on a Saturday or Sunday, as directed by the Engineer, to account for special traffic generators such as shopping centers, educational institutes and special event facilities. The turning movement counts shall identify cars, and single-unit and multi-unit heavy vehicles.
 3. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.

4. A traffic responsive program shall be developed, which considers both volume and occupancy. A time-of-day program shall be developed for used as a back-up system.
 5. Proposed signal timing plan for the new or modified intersection shall be forwarded to IDOT for review prior to implementation.
 6. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations. The consultant shall respond to IDOT comments and public complaints for a minimum period of 90 days from date of timing plan implementation.
 7. Speed and delay studies shall be conducted during each of the count periods along the system corridor in the field before and after implementation of the proposed timing plans for comparative evaluations. These studies should utilize specialized electronic timing and measuring devices.
- (b) The following deliverables shall be provided for OPTIMIZE TRAFFIC SIGNAL SYSTEM.
1. Consultant shall furnish to IDOT one (1) copy of a SCAT Report for the optimized system. The SCAT Report shall include the following elements:

<p>Cover Page in color showing a System Map</p> <p>Figures</p> <ol style="list-style-type: none"> 1. System overview map – showing system number, system schematic map with numbered system detectors, oversaturated movements, master location, system phone number, cycle lengths, and date of completion. 2. General location map in color – showing signal system location in the metropolitan area. 3. Detail system location map in color – showing cross street names and local controller addresses. 4. Controller sequence – showing controller phase sequence diagrams.
<p>Table of Contents</p>
<p>Tab 1: Final Report</p> <ol style="list-style-type: none"> 1. Project Overview 2. System and Location Description (Project specific) 3. Methodology 4. Data Collection 5. Data Analysis and Timing Plan Development 6. Implementation <ol style="list-style-type: none"> a. Traffic Responsive Programming (Table of TRP vs. TOD Operation) with am, md, and pm cycle lengths 7. Evaluation <ol style="list-style-type: none"> a. Speed and Delay runs
<p>Tab 2. Turning Movement Counts</p> <ol style="list-style-type: none"> 1. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)
<p>Tab 3. Synchro Analysis</p> <ol style="list-style-type: none"> 1. AM: Time-Space diagram in color, followed by intersection Synchro report (Timing report) summarizing the implemented timings. 2. Midday: same as AM 3. PM: same as AM 4. Special weekend or off-peak traffic generators (shopping centers, educational facilities, arenas, etc.): same as AM
<p>Tab 4: Speed, Delay Studies</p> <ol style="list-style-type: none"> 1. Summary of before and after runs results in two (2) tables showing travel time and delay time. 2. Plot of the before and after runs diagram for each direction and time period.
<p>Tab 5: Environmental Report</p> <ol style="list-style-type: none"> 1. Environmental impact report including gas consumption, NO2, HCCO, improvements.
<p>Tab 6: Electronic Files</p> <ol style="list-style-type: none"> 1. Two (2) CDs for the optimized system. The CDs shall include the following elements: <ol style="list-style-type: none"> a. Electronic copy of the SCAT Report in PDF format b. Copies of the Synchro files for the optimized system c. Traffic counts for the optimized system d. New or updated intersection graphic display files for each of the system intersections and the system graphic display file including system detector locations and addresses.

Basis of Payment.

The work shall be paid for at the contract unit each for OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein for the entire traffic signal system. Following the completion of traffic counts, 25 percent of the bid price will be paid. Following the completion of the Synchro analysis, 25 percent of the bid price will be paid. Following the setup and fine tuning of the timings, the speed-delay study, and the TRP programming, 25 percent of the bid price will be paid. The remaining 25 percent will be paid when the system is working to the satisfaction of the engineer and an approved report and CD have been submitted.

SERVICE INSTALLATION (TRAFFIC SIGNALS)

Effective: May 22, 2002

Revised: June 15, 2016

805.01TS

Revise Section 805 of the Standard Specifications to read:

Description.

This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the "District One Standard Traffic Signal Design Details".

General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company to the Engineer and Area Traffic Signal Maintenance and Operations Engineer. The service agreement and sketch shall be submitted for signature to the IDOT's Traffic Operations Programs Engineer.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
 1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the vendor.
 2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated

from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

3. All enclosures shall include a green external power indicator LED light with circuitry as shown in the Electrical Service-Panel Diagram detail sheet. For pole mounted service enclosures, the power indicator light shall be mounted as shown in the detail. For ground mounted enclosures, the power indicator light shall be mounted on the side of the enclosure most visible from the major roadway.
- c. Electric Utility Meter Housing and Riser. The electric meter housing and meter socket shall be supplied and installed by the contractor. The contractor is to coordinate the work to be performed and the materials required with the utility company to make the final connection at the power source. Electric utility required risers, weather/service head and any other materials necessary for connection shall also be included in the pay item. Materials shall be in accordance with the electric utility's requirements. For ground-mounted service, the electric utility meter housing shall be mounted to the enclosure. The meter shall be supplied by the utility company. Metered service shall not be used unless specified in the plans.
- d. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be $5n$ seconds and operate within a range of $-40C$ to $+85C$. The surge protector shall be UL 1449 Listed.
- e. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- f. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.

- g. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
- h. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.
- i. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS

Effective: May 22, 2002

Revised: July 1, 2015

806.01TS

Revise Section 806 of the Standard Specifications to read:

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. This work shall be in accordance with IDOT's District One Traffic Signal Design Details.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
 - 1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
 - 2. Equipment grounding conductors shall be bonded, using a UL Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A UL listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations including spare or empty conduits.
 - 3. All metallic and non-metallic raceways shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.

4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.

COILABLE NON-METALLIC CONDUIT

Effective: May 22, 2002

Revised: July 1, 2015

810.01TS

Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC).

General.

The CNC installation shall be in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Add the following to Article 811.03 of the Standard Specifications:

On temporary traffic signal installations with detector loops, CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans

Basis of Payment.

All installations of CNC for loop detection shall be included in the contract and not paid for separately.

UNDERGROUND RACEWAYS

Effective: May 22, 2002

Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125”) thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

HANDHOLES

Effective: January 01, 2002

Revised: July 1, 2018

814.01TS

Description.

Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches (762 mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters. Only handholes serving ~~IDOT~~ traffic signal equipment shall have this label. Handhole covers for Red Light Running Cameras shall be labeled "RLRC".

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

"Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units."

Add the following to Article 814.03 of the Standard Specifications:

"(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk."

Cast-In-Place Handholes.

All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (305mm).

Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16 inch (11 mm) diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy duty hand holes shall be 6 inches (152 mm).

Precast round handholes shall be only produced by an approved precast vendor.

Materials.

Add the following to Section 1042 of the Standard Specifications:

“1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e).”

FIBER OPTIC TRACER CABLE

Effective: May 22, 2002

Revised: July 1, 2015

817.02TS

The cable shall meet the requirements of Section 817 of the Standard Specifications, except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600V, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.
3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.
4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.

2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.
12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISITNG FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

TRAFFIC SIGNAL PAINTING

Effective: May 22, 2002

Revised: July 1, 2015

851.01TS

Description.

This work shall include surface preparation, powder coated finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the vendor's facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts.

Surface Preparation.

All weld flux and other contaminates shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

Painted Finish.

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 °F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 °F.

The finish paint color shall be one of the vendor's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the vendor's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the vendor and approved by the Engineer. If while at the vendor's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

Warranty.

The Contractor shall furnish in writing to the Engineer, the paint vendor's standard warranty and certification that the paint system has been properly applied.

Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW COMBINATION MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW COMBINATION MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, or PAINT NEW TRAFFIC SIGNAL POST of the length specified, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

FULL-ACTUATED CONTROLLER AND CABINET

Effective: January 1, 2002

Revised: July 1, 2018

857.02TS

Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications, as modified herein, including malfunction management unit, load switches and flasher relays, with all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing a(n) "Econolite" brand traffic actuated solid state controller.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

For installation as a stand-alone traffic signal, connected to a closed loop system or integrated into an advance traffic management system (ATMS), controllers shall be Econolite Cobalt or Eagle/Siemens M52 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment suppliers will be allowed. Unless specified otherwise on the plans or these specifications, the controller shall be of the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON. A removable controller data key shall also be provided. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events and shall inhibit simultaneous display of circular yellow and yellow arrow indications.

For integration into an ATMS such as Centrac, Tactics, or TransSuite, the controller shall have the latest version of NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing close loop management communications.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (1) Revise "conflict monitor" to read "Malfunction Management Unit"
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Shall be a 120VAC Single phase Modular filter Plug-in type, supplied from an approved vendor.

- (b) (8) BIU – shall be secured by mechanical means.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200 watt, thermostatically-controlled, electric heater.
- (b) (12) Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch (38mm) deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches (610mm) wide.
- (b) (14) Plan & Wiring Diagrams – 12” x 15” (305mm x 406mm) moisture sealed container attached to door.
- (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel – Provide a nonconductive shield.
- (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET; FULL-ACTUATED CONTROLLER AND TYPE V CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET; FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL); FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET (SPECIAL).

MASTER CONTROLLER

Effective: May 22, 2002

Revised: July 1, 2018

860.01TS

General.

This work shall consist of furnishing and installing a master controller, meeting the requirements of the current District One Traffic Signal Special Provisions 857.01TS FULL-ACTUATED CONTROLLER (SPECIAL), 857.02TS FULL-ACTUATED CONTROLLER AND CABINET, and 857.02TS RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET, including all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing a(n) "Econolite" brand master controller.

Materials and Installation.

Revise Articles 860.02 and 860.03 of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment supplier will be allowed. Only NEMA TS 2 Type 1 Eagle/Siemens and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in Section 863 of the Standard Specifications include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Upon request by the Engineer, each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on CD, DVD, or other suitable media approved by the Engineer, and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for use in monitoring the system.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District

One staff. This telephone line may be coupled with a DSL line and a phone filter to isolate the dial-up line. An E911 address is required.

The cabinet shall be provided with an Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum and shall be capable of speeds to 38,400 or above as technology allows. The controller, when installed in an Ethernet topology, may operate non-serial communications.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer modem. It shall be a US robotics 33.6K baud rate or equal.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact Teresa Caldwell, Business Services Manager in the District One Business Services Section at (847) 705-4010 to request a phone line installation. A follow-up contact shall include all required information pertaining to the phone installation and should be made as soon as possible or within one week after the initial request has been made. A copy of this contact must be emailed by the Contractor to the Traffic Signal Systems Engineer. The required information to be supplied shall include (but not limited to): An E911 address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.

The usual time frame for the activation of the phone line will vary after the Business Services Section has received the Contractor's information and will depend on location and existing available facilities. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor as soon as possible. The contractor shall provide the Administrative Support Manager with an expected installation date

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

Basis of Payment.

This work will be paid for at the contract unit price each for MASTER CONTROLLER or MASTER CONTROLLER (SPECIAL).

UNINTERRUPTABLE POWER SUPPLY, SPECIAL

Effective: January 1, 2013

Revised: May 19, 2016

862.01TS

This work shall be in accordance with section 862 of the Standard Specification except as modified herein

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of 6 (six) hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTABLE POWER SUPPLY, SPECIAL.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet, where applicable. For Super-P (Type IV) and Super-R (Type V) cabinets, the battery cabinet is integrated to the traffic signal cabinet, and shall be included in the cost for the traffic signal cabinet of the size and type indicated on the plans.

The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

Installation.

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and an Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract. A concrete apron shall be provided and be in accordance with Articles 424 and 202 of the Standard Specifications. The concrete apron shall also, follow the District 1 Standard Traffic Signal Design Detail, Type D for Ground Mounted Controller Cabinet and UPS Battery Cabinet.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the UPS including the addition of alarms.

Materials.

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive or double conversion and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection(s) normal traffic signal operating load. The UPS must be able to maintain the intersection's normal operating load plus 20 percent (20%) of the intersection's normal operating load. When installed at a railroad-interconnected intersection the UPS must maintain the railroad pre-emption load, plus 20 percent (20%) of the railroad preemption-operating load. The total connected traffic signal load shall not exceed the published ratings for the UPS.

The UPS shall provide a minimum of 6 (six) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 1000 W active output capacity, with 86 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, cabinet heaters, service receptacles, luminaires, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

End of paragraph 1074.04(b)(2)e

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

- j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall include standard RS-232 and internal Ethernet interface.
- (10) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate. Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.
- (11) The bypass switch shall include an internal power transfer relay that allows removal of the battery back-up unit, while the traffic signal is connected to utility power, without impacting normal traffic signal operation.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

(9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of 6 (six) hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

(10) Battery Heater mats shall be provided, when gel cell type batteries are supplied.

Add the following to the Article 1074.04 of the Standard Specifications:

(e) Warranty. The warranty for an uninterruptable power supply (UPS) and batteries (full replacement) shall cover a minimum of 5 years from date the equipment is placed in operation.

(f) Installation. Bypass switch shall completely disconnect the traffic signal cabinet from the utility provider.

(g) The UPS shall be set-up to run the traffic signal continuously, without going to a red flashing condition, when switched to battery power unless otherwise directed by the Engineer. The Contractor shall confirm set-up with the Engineer. The continuous operation mode when switched to battery may require modification to unit connections and these modifications are included in the unit price for this item.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL. Replacement of Emergency Vehicle Priority System confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item. The concrete apron and earth excavation required shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item.

FIBER OPTIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

871.01TS

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 871.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be 24 Port Fiber Wall Enclosure, unless otherwise indicated on plans. The fiber optic cable shall provide twelve fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped.. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

Testing shall be in accordance with Article 801.13(d). Electronic files of OTDR signature traces shall be provided in the Final project documentation with certification from the Contractor that attenuation of each fiber does not exceed 3.5 dB/km nominal at 850nm for multimode fiber and 0.4 bd/km nominal at 1300nm for single mode fiber.

ELECTRIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

Delete “or stranded, and No. 12 or” from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

GROUNDING EXISTING HANDHOLE FRAME AND COVER

Effective: May 22, 2002

Revised: July 1, 2015

873.02TS

Description.

This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details," and applicable portions of the Standard Specifications and District One Traffic Signal Special Provisions 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS and 817.01TS GROUNDING CABLE.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty UL listed grounding compression terminal. The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminates. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C

Effective: January 1, 2013

Revised: July 1, 2015

873.03TS

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

Basis of Payment.

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.

TRAFFIC SIGNAL POST

Effective: May 22, 2002

Revised: July 01, 2015

875.01TS

Add the following to Article 1077.01 (c) of the Standard Specifications:

Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.01 (d) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

MAST ARM ASSEMBLY AND POLE

Effective: May 22, 2002

Revised: July 01, 2015

877.01TS

Revise the second sentence of Article 1077.03 (a)(3) of the Standard Specifications to read:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer.

Add the following to Article 1077.03 (a)(3) of the Standard Specifications:

If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

CONCRETE FOUNDATIONS

Effective: May 22, 2002

Revised: July 01, 2015

878.01TS

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. (300 mm) at the threaded end.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

Add the following to the first paragraph of Article 878.05 of the Standard Specifications:

The price shall include a concrete apron in front of the cabinet and UPS as shown in the plans or as directed by the engineer.

**LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED
LED SIGNAL HEAD**

Effective: May 22, 2002

Revised: July 1, 2015

880.01TS

Materials.

Add the following to Section 1078 of the Standard Specifications:

1. LED modules proposed for use and not previously approved by IDOT District One will require independent testing for compliance to current VTCSH-ITE standards for the product and be Intertek ETL Verified. This would include modules from new vendors and new models from IDOT District One approved vendors.
2. The proposed independent testing facility shall be approved by IDOT District One. Independent testing must include a minimum of two (2) randomly selected modules of each type of module (i.e. ball, arrow, pedestrian, etc.) used in the District and include as a minimum Luminous Intensity and Chromaticity tests. However, complete module performance verification testing may be required by the Engineer to assure the accuracy of the vendor's published data and previous test results. An IDOT representative will select sample modules from the local warehouse and mark the modules for testing. Independent test results shall meet current ITE standards and vendor's published data. Any module failures shall require retesting of the module type. All costs associated with the selection of sample modules, testing, reporting, and retesting, if applicable, shall be the responsibility of the LED module vendor and not be a cost to this contract.
3. All signal heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signals heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.
4. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 7 years from the date of traffic signal TURN-ON. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 7 years of the date of traffic signal TURN-ON shall be replaced or repaired. The vendor's written warranty for the LED signal modules shall be dated, signed by a vendor's representative and included in the product submittal to the State.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.
7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

4. The LEDs utilized in the modules shall be AlInGaP technology for red and InGaN for green and amber indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

6. LED arrows shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.
2. Retrofit modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.

1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

Basis of Payment.

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Revise the second paragraph of Article 880.04 of the Standard Specifications to read:

If the work consists of retrofitting an existing polycarbonate traffic signal head with light emitting diodes (LEDs), it will be paid for as a SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for removal of the existing module, furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections in each signal face and the method of mounting.

LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

881.01TS

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with glossy yellow or black polycarbonate housings. All pedestrian head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Materials.

Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.

3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.
4. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
5. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
6. The next cycle, following the preemption event, shall use the correct, initially programmed values.
7. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
8. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
9. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
10. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.
11. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
12. In the event of a power outage, light output from the LED modules shall cease instantaneously.
13. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
14. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Basis of Payment.

Add the following to the first paragraph of Article 881.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Add the following to Article 881.04 of the Standard Specifications:

If the work consists of retrofitting an existing polycarbonate pedestrian signal head and pedestrian countdown signal head with light emitting diodes (LEDs), it will be paid for as a PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition.

TRAFFIC SIGNAL BACKPLATE

Effective: May 22, 2002

Revised: July 1, 2015

882.01TS

Delete 1st sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be louvered, formed ABS plastic".

Add the following to the third paragraph of Article 1078.03 of the Standard Specifications. The retroreflective backplate shall not contain louvers.

Delete second sentence of the fourth paragraph of Article 1078.03 the Standard Specifications.

Add the following to the fourth paragraph of Article 1078.03 of the Standard Specifications:

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the vendor's recommendations. The retroreflective sheeting shall be installed under a controlled environment at the vendor/equipment supplier before shipment to the contractor. The formed plastic backplate shall be prepared and cleaned, following recommendations of the retroreflective sheeting manufacturer.

DETECTOR LOOP

Effective: May 22, 2002

Revised: July 1, 2018

886.01TS

Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall mark the proposed loop locations and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4424 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

Installation.

Revise Article 886.04 of the Standard Specifications to read:

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a water proof tag, from an approved vendor, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop cable.
- (b) Loop sealant shall be two-component thixotropic chemically cured polyurethane from an approved vendor. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.
- (c) Preformed. This work shall consist of furnishing and installing a rubberized or cross linked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:
- (d) Preformed detector loops shall be installed in the sub-base under the Portland cement concrete pavement. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.

- (e) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. CNC, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.
- (f) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 5/8 inch (16 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating or a similarly sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed, and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of eight turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Method of Measurement.

Add the following to Article 886.05 of the Standard Specifications:

Preformed detector loops will be measured along the detector loop embedded in the pavement, rather than the actual length of the wire. Detector loop measurements shall include the saw cut and the length of the detector loop wire to the edge of pavement. The detector loop wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. CNC, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

RADAR VEHICLE DETECTION SYSTEM

Effective: July 01, 2015

Revised: May 9, 2017

886.03TS

Description.

This work shall consist of furnishing and installing a radar vehicle detection system as specified and/or as shown on the plan. This pay item shall include all necessary work and equipment required to have a fully operational system including but not limited to the detector unit/s, the interface unit and all the necessary hardware, cable and accessories required to complete the installation in accordance with the manufacturer's specifications.

The radar vehicle detection system shall work under all weather conditions, including rain, freezing rain, snow, wind, dust, fog, and changes in temperature and light. It shall work in an ambient temperature range of -34 to 74 degrees Celsius. It shall have a max power output of 75 watts or less.

The radar vehicle detection system shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation. The radar vehicle detection system shall provide a minimum of one interface unit that has Ethernet connectivity, surge protection and shall be capable of supporting a minimum of 2 detector units.

The stop bar radar vehicle detection system shall have true presence capabilities in which it can detect stopped, slow moving or turning vehicles similar to the Department's in-pavement detection. This is especially important at side streets where driveways are near the intersection. The radar shall be able to drop the call if the vehicle leaves the detection zone. A manufacture statement confirming proper operation is required along each catalog cut submittal. The Department will not allow substitutes for other types of detection.

The far back radar detection shall have a detection range of 400 feet or better.

A representative from the supplier of the radar vehicle detection system shall supervise the installation and testing of the radar vehicle detection system and shall be present at the traffic signal turn-on inspection. Once the radar vehicle detection system is configured, it shall not need reconfiguration to maintain performance, unless the roadway configuration or the application requirements change.

The mounting location/s of the detector unit/s shall be per the manufacturer's recommendations. If an extension mounting assembly is needed, it shall be included in this item. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of wires.

The radar vehicle detection system shall be warranted, free from material and workmanship defects for a period of two years from final inspection.

Basis of Payment.

This work shall be paid for at the contract unit price each for RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR; RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, FAR BACK; RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR AND FAR BACK, the price of which shall include the cost for all of the work and material described herein and includes furnishing, installing, delivery, handling, testing, set-up and all appurtenances and mounting hardware necessary for a fully operational radar vehicle detection system.

EMERGENCY VEHICLE PRIORITY SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

887.01TS

Revise Section 887 of the Standard Specifications to read:

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

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

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

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

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. Any required modifications to the traffic signal controller shall be included in the cost of the LIGHT DETECTOR AMPLIFIER. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

ACCESSIBLE PEDESTRIAN SIGNALS

Effective: April 1, 2003

Revised: July 1, 2015

888.02TS

Description.

This work shall consist of furnishing and installing pedestrian push button accessible pedestrian signals (APS) type. Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements.

The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications.

A pushbutton locator tone shall sound at each pushbutton with volume settings a maximum of 5 dBA louder than ambient sound.

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message.

A clear, verbal message shall be used to communicate the pedestrian walk interval. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name." Walk Sign is on to cross "Street Name." No other messages shall be used to denote the WALK interval.

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

Pedestrian Pushbutton.

Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED indicator shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street. The recorded messages and roadway designations shall be confirmed with the engineer and included with submitted product data.

Signage.

A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall be one of the following standard MUTCD designs: R10-3b, R10-3d, or R10-3e.



R10-3b



R10-3d



R10-3e

Tactile Arrow.

A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided either on the pushbutton or its sign.

Vibrotactile Feature.

The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Training.

The Contractor shall provide APS onsite training for Department personnel and person(s) or group that requested the installation of the APS. APS features and operation shall be demonstrated during the training. The training shall be presented by the APS equipment supplier. Time, date, and location of the training and demonstration shall be coordinated with the Engineer.

Basis of Payment.

This work will be paid for at the contract unit price each for a pedestrian push button, ACCESSIBLE PEDESTRIAN SIGNALS type and shall include furnishing, installation, mounting hardware, message programming, and training.

TEMPORARY TRAFFIC SIGNAL INSTALLATION

Revise Section 890 of the Standard Specifications to read:

Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptable power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System.

General.

Only an approved controller equipment supplier will be allowed to assemble temporary traffic signal and railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.

(a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment supplier will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications and as modified herein.
2. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the District approved closed loop equipment suppliers will be approved for use at temporary traffic signal locations. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with the latest version software installed at the time of the signal TURN-ON.

- (b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
- (c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 806 of the Standard Specifications and shall meet the requirements of the 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS special provision.
- (d) Traffic Signal Heads. All traffic signal sections shall be 12 inches (300 mm). Pedestrian signal sections shall be 16 inch (406mm) x 18 inch (457mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. If no traffic staging is in place or will not be staged on the day of the turn on, the temporary traffic signal shall have the signal head displays, signal head placements and controller phasing match the existing traffic signal or shall be as directed by the engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
- (e) Interconnect.
1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.
 2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect, including any required fiber splices and terminations, shall be installed into the temporary controller cabinet as per the notes or details on the

plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project. Any temporary signal within an existing closed loop traffic signal system shall be interconnected to that system using similar brand control equipment at no additional cost to the contract.

3. Temporary wireless interconnect. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This work shall include all temporary wireless interconnect components, at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This work shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:
 - a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
 - b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
 - c. Antennas (Omni Directional or Yagi Directional)
 - d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
 - e. Brackets, Mounting Hardware, and Accessories Required for Installation
 - f. RS232 Data Cable for Connection from the radio to the local or master controller
 - g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed or existing master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the vendors recommendations.

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.
- (g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed at all approaches of the intersection and as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. An equipment supplier shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.
- (h) Uninterruptable Power Supply. All temporary traffic signal installations shall have Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the temporary traffic signal cabinet and shall be according to the applicable portions of Section 862 of the Standard Specifications and as modified in 862.01TS UNINTERRUPTABLE POWER SUPPLY, SPECIAL Special Provision.
- (i) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost. Any intersection regulatory signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer. If Illuminated Street Name Signs exist they shall be taken down and stored by the contractor and reflecting street name signs shall be installed on the temporary traffic signal installation.
- (j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation

replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

- (k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and 850.01TS MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION Special Provisions. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).

- (l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, Special Provisions and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aurally suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.

- (m) Temporary Portable Traffic Signal for Bridge Projects.
 - 1. The controller and cabinet shall be NEMA type designed for NEMA TS2 Type 1 operation. Controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.
 - 2. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
 - 3. General.
 - a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.

- b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.
- c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
- d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.
- e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
- f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11.

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, the temporary wireless interconnect system, temporary fiber optic interconnect system, uninterruptable power supply, all material required, the installation and complete removal of the temporary traffic signal, and any changes required by the Engineer. Each intersection will be paid for separately.

TEMPORARY TRAFFIC SIGNAL TIMING

Effective: May 22, 2002

Revised: July 1, 2015

890.02TS

Description.

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings.
- (b) Consultant shall be responsible for making fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (c) Consultant shall provide monthly observation of traffic signal operations in the field.
- (d) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (e) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.
- (f) Return original timing plan once construction is complete.

Basis of Payment.

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

LED INTERNALLY ILLUMINATED STREET NAME SIGN

Effective: May 22, 2002

Revised: July 1, 2018

891.02TS

Description.

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

Materials.

The illuminated street name sign shall be as follows.

(a) Description.

The LEDs shall be white in color. The LED internally illuminated street name sign shall display the designated street name clearly and legibly in the daylight hours without being energized and at night when energized. White translucent Type ZZ reflective sheeting sign faces with the street name applied in transparent green shall be installed on the street sign acrylic panels which shall be affixed to the interior of the sign enclosure. Sheeting material shall be of one continuous piece. Paneling shall not be allowed. Hinged door(s) shall be provided for easy access to perform general cleaning and maintenance operations. Illumination shall occur with LED Light Engine as specified.

(b) Environmental Requirements.

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

(c) General Construction.

1. The LED components, power supply, and wiring harness shall be arranged as to allow for maintenance, up to and including the replacement of all three components. The LED Light Engine shall be mounted in the top and/or bottom of the sign housing and no components of the light source shall sit between the sign faces.
2. The assembly and manufacturing processes of the LED Light Engine shall be designed to ensure that all LED and electronic components are adequately supported to withstand mechanical shocks and vibrations in compliance with the specifications of the ANSI C136.31-2001 standards.

(d) Mechanical Construction.

1. The sign shall be constructed using a weatherproof, aluminum housing consisting of an extruded aluminum with the maximum sign dimensions of 30" in height, 96" in length, 10.75" in depth (including the drip edge) and shall not weight more than 110 pounds. All housing corners are continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal.
2. The sign doors shall be continuous TIG welded along the two corners with the other two screwed together to make one side of the door removable for installation of the sign face.

The door is fastened to the housing on the bottom by a full length stainless steel hinge. The sign shall also be fabricated in a way to ensure that no components fall out while a technician is opening or working inside the sign enclosure. The door shall be held secure onto a 1" wide by 5/32" thick neoprene gasket by an appropriate number of quarter-turn fasteners to form a watertight seal between the door and the housing.

3. The sign face shall be constructed of .125" white translucent polycarbonate or acrylic. Sign legend shall be according to D1 Mast Arm Mounted Street Name Sign detail and MUTCD. The sign face legend background shall consist of translucent Type ZZ white reflective sheeting and transparent green film applied to the front of the sign face. The legend shall be framed by a white border. A logo symbol and/or name of the community may be included with approval of the Engineer.
 4. All fasteners and hardware shall be corrosion resistant stainless steel. No special tools shall be required for routine maintenance.
 5. All wiring shall be secured by insulated wire compression nuts or barrier type terminal blocks.
 6. A wire entrance junction box shall be supplied with the sign assembly. The box may be supplied mounted to the exterior or interior of the sign and shall provide a weather tight seal.
 7. A photoelectric switch shall be mounted inside control cabinet to control lighting functions for day and night display. Each sign shall be individually fused.
 8. Brackets and Mounting: LED internally illuminated street name signs will be factory drilled to accommodate mast arm two-point support assembly mounting brackets unless indicated otherwise in the plans.
- (e) Electrical.
1. Photocell shall be rated 105-305V, turn on at 1.5 fcs. with a 3-5 second delay. A manufacturer's warranty of six (6) years shall be provided. Power consumption shall be no greater than 1 watt at 120V.
 2. The LED Light Engine shall operate from a 60 +/- 3 cycle AC line power over a voltage range of 80 to 135 Vac rms. Fluctuations in line voltage over the range of 80 to 135 Vac shall not affect luminous intensity by more than +/- 10%.
 3. Total harmonic distortion induced into the AC power line by the LED Light Engine, operated at a nominal operating voltage and at a temperature of +25°C (+77°F), shall not exceed 20%.
 4. The LED Light Engine shall cycled ON and OFF with a photocell as shown on the detail sheet and shall not exceed 120 Watts. The signs shall be installed such that they are not energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power supply (UPS).

- (f) Photometric Requirements.

1. The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m².
2. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.
3. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.

(g) Quality Assurance.

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

Installation.

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

Basis of Payment.

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

~~The illuminated street name sign cable will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, STREET NAME SIGN, NO. 14 3C, TYPE SOOW, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.~~

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

Effective: May 22, 2002

Revised: July 1, 2015

895.02TS

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide one hard copy and one electronic file of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned according to these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up or delivery of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

ELECTRIC UTILITY SERVICE CONNECTION

Description. This item shall consist of payment for work performed by the Village's electrical maintenance contractor associated with the transfer of the existing traffic signal installation or existing lighting installation to the Contractor.

CONSTRUCTION REQUIREMENTS

General. It shall be the Contractor's responsibility to contact the Village to schedule the maintenance transfer. The Contractor shall coordinate his work fully with the Village's electrical maintenance contractor as to the work required and the timing of the transfer.

Method Of Payment. The Contractor will be reimbursed to the exact amount of money as billed by the Village's maintenance contractor for their services. Work provided by the Contractor for the temporary traffic signal work will be paid separately as described under the pay items TEMPORARY TRAFFIC SIGNAL INSTALLATION and/or MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

For bidding purposes, this item shall be estimated as \$5,000.

Basis Of Payment. This work will be paid for at the contract lump sum price for ELECTRIC UTILITY SERVICE CONNECTION which shall be reimbursement in full for the Village's electrical maintenance contractor charges.

REMOVE EXISTING DOUBLE HANDHOLE

Description. This work shall consist the removal and disposal of an existing double handhole at the locations shown on the plans. All work shall be in accordance with Article 895.05 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per each for REMOVE EXISTING DOUBLE HANDHOLE which price shall be payment in full for removal of an existing double handhole, disposal of all debris and backfilling the remaining void as described herein.

VIDEO DETECTION SYSTEM COMPLETE INTERSECTION (VOS)

Description.

This work shall consist of furnishing and installing a system that monitors vehicles on a roadway via the processing of video and/or radar images and that provides detector outputs to a traffic signal controller. This work shall consist of furnishing and installing video cameras, cables, video processors, a controller interface unit, and a remote communication module to operate the video vehicle detection system at one signalized intersection. An extension pole for mounting video cameras, when needed or directed by the engineer, shall be included in this item.

Materials.

The Video Detection System Complete Intersection shall be an *Iteris Vantage Vector*. All the cables from the detection cameras to the traffic signal cabinet and within the traffic signal cabinet itself shall be included in the cost of this item.

Software designed for local or remote connection and providing video capture, real-time detection indication and detection zone modification capability shall be provided with the system. The VDS shall accept new detection patterns from an external computer through the Ethernet port when the external computer uses the correct communications protocol for downloading detection patterns. Placement of detection zones shall be by means of a PC with a Windows operating system, a keyboard, and a mouse or monitor and mouse. The PC monitor shall be able to show the detection zones superimposed on images of traffic scenes.

Installation.

The Video Detection System will be installed in accordance with the manufacturer's recommendations and according to the VantageNext Specification (Document No. 4020005, Rev. C, 7/7/2017 or subsequent revision). A representative from the supplier of the vehicle detection system shall supervise the installation and testing of the vehicle detection system and shall be present at the traffic signal turn-on inspection.

The mounting location/s of the detector unit/s shall be per the manufacturer's recommendations. If an extension mounting assembly is needed, it shall be included in this item. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of wires.

Training shall be available to personnel of the contracting agency in the operation, set up, and maintenance of the video detection system. Installation or training support shall be provided by a factory-authorized representative and shall be a minimum IMSA-Level II Traffic Signal Technician certified.

Warranty, Service, & Support.

For a minimum of three (3) years, the supplier shall warrant the video detection system. During the warranty period, technical support shall be available from the supplier and updates to the VDP software shall be available without charge. The supplier shall maintain a program for technical support and software updates following expiration of the warranty period. This program shall be available to the contracting agency in the form of a separate agreement for continuing support.

Basis of Payment.

This item will be paid for at the contract unit price per each for VIDEO DETECTION SYSTEM COMPLETE INTERSECTION. The unit price shall include all associated equipment, hardware, cables, materials and labor required to install the system at one signalized intersection and in operation to the satisfaction of the Engineer.

CABLE, SPECIAL (VOS)

Description. This work shall consist of furnishing and installing electrical cable, no. 14 3C, type SOOW for internally illuminated street name signs installed at existing and/or proposed traffic signal installations. The work includes installation of the electrical cables in existing conduit and/or new conduit. The electric cable shall have three (3) stranded conductors colored black, white, and green with synthetic rubber insulation (EPDM) that is oil and water resistant. The cable shall meet the requirements of the manufacturer of the internally illuminated street name sign.

Basis of Payment. The Illuminated street name sign cable will be paid for at the contract unit price per Foot for CABLE, SPECIAL which price shall be payment in full for furnishing and installing the cable and making all electrical connections.

GENERAL ELECTRICAL REQUIREMENTS (VOS)

This special provision replaces Articles 801.01 – 801.07, 801.09 – 801-16 of the Standard Specifications.

Definition. Codes, standards, and industry specifications cited for electrical work shall be by definition the latest adopted version thereof, unless indicated otherwise.

Materials by definition shall include electrical equipment, fittings, devices, motors, appliances, fixtures, apparatus, all hardware and appurtenances, and the like, used as part of, or in connection with, electrical installation.

Standards of Installation. Materials shall be installed according to the manufacturer's recommendations, the NEC, OSHA, the NESC, and AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

All like materials shall be from the same manufacturer. Listed and labeled materials shall be used whenever possible. The listing shall be according to UL or an approved equivalent.

Safety and Protection. Safety and protection requirements shall be as follows.

Safety. Electrical systems shall not be left in an exposed or otherwise hazardous condition. All electrical boxes, cabinets, pole handholes, etc. which contain wiring, either energized or non-energized, shall be closed or shall have covers in place and be locked when possible, during nonworking hours.

Protection. Electrical raceway or duct openings shall be capped or otherwise sealed from the entrance of water and dirt. Wiring shall be protected from mechanical injury.

Equipment Grounding Conductor. All electrical systems, materials, and appurtenances shall be grounded. Good ground continuity throughout the electrical system shall be assured, even though every detail of the requirements is not specified or shown. Electrical circuits shall have a continuous insulated equipment grounding conductor. When metallic conduit is used, it shall be bonded to the equipment grounding conductor, but shall not be used as the equipment grounding conductor.

Detector loop lead-in circuits, circuits under 50 volts, and runs of fiber optic cable will not require an equipment grounding conductor.

Where connections are made to painted surfaces, the paint shall be scraped to fully expose metal at the connection point. After the connection is completed, the paint system shall be repaired to the satisfaction of the Engineer.

Bonding of all boxes and other metallic enclosures throughout the wiring system to the equipment grounding conductor shall be made using a splice and pigtail connection. Mechanical connectors shall have a serrated washer at the contact surface.

All connections to structural steel or fencing shall be made with exothermic welds. Care shall be taken not to weaken load carrying members. Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate a mechanical connection. The epoxy coating shall be repaired to the satisfaction of the Engineer. Where connections are made to insulated conductors, the connection shall be wrapped with at least four layers of electrical tape extended 6 in. (150 mm) onto the conductor insulation.

Submittals. At the preconstruction meeting, the Contractor shall submit a written listing of manufacturers for all major electrical and mechanical items. The list of manufacturers shall be binding, except by written request from the Contractor and approval by the Engineer. The request shall include acceptable reasons and documentation for the change.

Major items shall include, but not limited to the following:

Type of Work (discipline)	Item
All Electrical Work	Electric Service Metering Emergency Standby System Transformers Cable Unit Duct Splices Conduit Surge Suppression System
Lighting	Tower Pole Luminaire Foundation Breakaway Device Controllers Control Cabinet and Peripherals
ITS	Controller Cabinet and Peripherals CCTV Cameras Camera Structures Ethernet Switches Detectors Detector Loop Fiber Optic Cable

Within 30 calendar days after contract execution, the Contractor shall submit, for approval, one copy each of the manufacturer's product data (for standard products and components) and detailed shop drawings (for fabricated items). Submittals for the materials for each individual pay item shall be complete in every respect. Submittals which include multiple pay items shall have all submittal material for each item or group of items covered by a particular specification, grouped together and the applicable pay item identified. Various submittals shall, when taken together, form a complete coordinated package. A partial submittal will be returned without review unless prior written permission is obtained from the Engineer.

The submittal shall be properly identified by route, section, county, and contract number.

The Contractor shall have reviewed the submittal material and affixed his/her stamp of approval, with date and signature, for each individual item. In case of subcontractor submittal, both the subcontractor and the Contractor shall review, sign, and stamp their approval on the submittal.

Illegible print, incompleteness, inaccuracy, or lack of coordination will be grounds for rejection.

Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations.

The Engineer will review the submittals for conformance with the design concept of the project according to Article 105.04 and the following. The Engineer will stamp the drawings indicating their status as "Approved", "Approved as Noted", "Disapproved", or "Information Only". Since the Engineer's review is for conformance with the design concept only, it shall be the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, or layout drawings by the Engineer's approval thereof. The Contractor shall still be in full compliance with contract and specification requirements.

All submitted items reviewed and marked "Disapproved" or "Approved as Noted" shall be resubmitted by the Contractor in their entirety, unless otherwise indicated within the submittal comments.

Work shall not begin until the Engineer has approved the submittal. Material installed prior to approval by the Engineer, will be subject to removal and replacement at no additional cost to the Department.

Unless otherwise approved by the Engineer, all of the above items shall be submitted to the Engineer at the same time. Each item shall be properly identified by route, section, and contract number.

Certifications. When certifications are specified and are available prior to material manufacture, the certification shall be included in the submittal information. When specified and only available after manufacture, the submittal shall include a statement of intent to furnish certification. All certificates shall be complete with all appropriate test dates and data.

Authorized Project Delay. See Article 801.08

Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition."

Marking Proposed Locations for Highway Lighting System. The Contractor shall mark or stake the proposed locations of all poles, cabinets, junction boxes, pull boxes, handholes, cable routes, pavement crossings, and other items pertinent to the work. A proposed location inspection by the Engineer shall be requested prior to any excavation, construction, or installation work after all proposed installation locations are marked. Any work installed

without location approval is subject to corrective action at no additional cost to the Department.

Inspection of electrical work. Inspection of electrical work shall be according to Article 105.12 and the following.

Before any splice, tap, or electrical connection is covered in handholes, junction boxes, light poles, or other enclosures, the Contractor shall notify and make available such wiring for the Engineer's inspection.

Maintenance and Responsibility During Construction.

Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance of the existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere and will be paid for separately

The proposed lighting system must be operational prior to opening the roadway to traffic unless temporary lighting exists which is designed and installed to properly illuminate the roadway.

Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.

Damage to Electrical Systems. Should damage occur to any existing electrical systems through the Contractor's operations, the Engineer will designate the repairs as emergency or non-emergency in nature.

Emergency repairs shall be made by the Contractor, or as determined by the Engineer, the Department, or its agent. Non-emergency repairs shall be performed by the Contractor within six working days following discovery or notification. All repairs shall be performed in an expeditious manner to assure all electrical systems are operational as soon as possible. The repairs shall be performed at no additional cost to the Department.

Lighting. An outage will be considered an emergency when three or more lights on a circuit or three successive lights are not operational. Knocked down materials, which result in a danger to the motoring public, will be considered an emergency repair.

Temporary aerial multi-conductor cable, with grounded messenger cable, will be permitted if it does not interfere with traffic or other operations, and if the Engineer determines it does not require unacceptable modification to existing installations.

Testing. Before final inspection, the electrical work shall be tested. Tests may be made progressively as parts of the work are completed, or may be made when the work is complete. Tests shall be made in the presence of the Engineer. Items which fail to test satisfactorily shall be repaired or replaced. Tests shall include checks of control operation, system voltages, cable insulation, and ground resistance and continuity.

Village of Schaumburg system requirements:

- **Contractor shall hire a private company to conduct testing of entire lighting system.**
- **Tests shall be made in the presence of the Engineer and Village Staff**

The forms for recording test readings will be available from the Engineer in electronic format. The Contractor shall provide the Engineer with a written report of all test data including the following:

- Voltage Tests
- Amperage Tests
- Insulation Resistance Tests
- Continuity tests
- Detector Loop Tests

Lighting systems. The following tests shall be made.

- (1) Voltage Measurements. Voltages in the cabinet from phase to phase and phase to neutral, at no load and at full load, shall be measured and recorded. Voltage readings at the last termination of each circuit shall be measured and recorded.
- (2) Insulation Resistance. Insulation resistance to ground of each circuit at the cabinet, with all loads connected, shall be measured and recorded.

On tests of new cable runs, the readings shall exceed 50 megohms for phase and neutral conductors with a connected load over 20 A, and shall exceed 100 megohms for conductors with a connected load of 20 A or less.

On tests of cable runs which include cables which were existing in service prior to this contract, the resistance readings shall be the same or better than the readings recorded at the maintenance transfer at the beginning of the contract. Measurements shall be taken with a megohm meter approved by the Engineer.

- (3) Loads. The current of each circuit, phase main, and neutral shall be measured and recorded. The Engineer may direct reasonable circuit rearrangement. The current readings shall be within ten percent of the connected load based on material ratings.

- (4) Ground Continuity. Resistance of the system ground as taken from the farthest extension of each circuit run from the controller (i.e. check of equipment ground continuity for each circuit) shall be measured and recorded. Readings shall not exceed 2.0 ohms, regardless of the length of the circuit.
- (5) Resistance of Grounding Electrodes. Resistance to ground of all grounding electrodes shall be measured and recorded. Measurements shall be made with a ground tester during dry soil conditions as approved by the Engineer. Resistance to ground shall not exceed 10 ohms.

ITS. The following test shall be made in addition to the lighting system test above.

Detector Loops. Before and after permanently securing the loop in the pavement, the resistance, inductance, resistance to ground, and quality factor for each loop and lead-in circuit shall be tested. The loop and lead-in circuit shall have an inductance between 20 and 2500 microhenries. The resistance to ground shall be a minimum of 50 megohms under any conditions of weather or moisture. The quality factor (Q) shall be 5 or greater.

Fiber Optic Systems. Fiber optic testing shall be performed as required in the fiber optic cable special provision and the fiber optic splice special provision.

All test results shall be furnished to the Engineer seven working days before the date the inspection is scheduled.

Contract Guarantee. The Contractor shall provide a written guarantee for all electrical work provided under the contract for a period of six months after the date of acceptance with the following warranties and guarantees.

- (a) The manufacturer's standard written warranty for each piece of electrical material or apparatus furnished under the contract. The warranty for light emitting diode (LED) modules, including the maintained minimum luminance, shall cover a minimum of 60 months from the date of delivery.
- (b) The Contractor's written guarantee that, for a period of six months after the date of final acceptance of the work, all necessary repairs to or replacement of said warranted material or apparatus for reasons not proven to have been caused by negligence on the part of the user or acts of a third party shall be made by the Contractor at no additional cost to the Department.
- (c) The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of six months after final acceptance of the work.

The warranty for an uninterruptable power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years.

Record Drawings. Alterations and additions to the electrical installation made during the execution of the work shall be neatly and plainly marked in red by the Contractor on the full-

size set of record drawings kept at the Engineer's field office for the project. These drawings shall be updated on a daily basis and shall be available for inspection by the Engineer during the course of the work. The record drawings shall include the following:

- Cover Sheet
- Summary of Quantities, electrical items only
- Legends, Schedules and Notes
- Plan Sheet
- Pertinent Details
- Single Line Diagram
- Other useful information useful to locate and maintain the systems.

Any modifications to the details shall be indicated. Final quantities used shall be indicated on the Summary of Quantities. Foundation depths used shall also be listed.

As part of the record drawings, the Contractor shall inventory all materials, new or existing, on the project and record information on inventory sheets provided by the Engineer.

The inventory shall include:

- Location of Equipment, including rack, chassis, slot as applicable.
- Designation of Equipment
- Equipment manufacturer
- Equipment model number
- Equipment Version Number
- Equipment Configuration
 - Addressing, IP or other
 - Settings, hardware or programmed
- Equipment Serial Number

The following electronic inventory forms are available from the Engineer:

- Lighting Controller Inventory
- Lighting Inventory
- Light Tower Inspection Checklist
- ITS Location Inventory

The information shall be entered in the forms; handwritten entries will not be acceptable; except for signatures. Electronic file shall also be included in the documentation.

When the work is complete, and seven days before the request for a final inspection, the set of contract drawings, stamped "**RECORD DRAWINGS**", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy's for review and approval.

In addition to the record drawings, PDF copies of the final catalog cuts which have been Approved and Approved as Noted with applicable follow-up shall be submitted along with the

record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible. Hard copies of the catalog are not required with this submittal.

The Contractor shall provide two sets of electronically produced drawings in a moisture proof pouch to be kept on the inside door of the controller cabinet or other location approved by the Engineer. These drawings shall show the final as-built circuit orientation(s) of the project in the form of a single line diagram with all luminaires numbered and clearly identified for each circuit.

Final documentation shall be submitted as a complete submittal package, i.e. record drawings, test results, inventory, etc. shall be submitted at the same time. Partial piecemeal submittals will be rejected without review. A total of five hardcopies and CDROMs of the final documentation shall be submitted.

GPS Documentation. In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following electrical components being installed, modified or being affected in other ways by this contract:

- All light poles and light towers.
- Handholes and vaults.
- Junction Boxes
- Conduit roadway crossings.
- Controllers.
- Control Buildings.
- Structures with electrical connections, i.e. DMS, lighted signs.
- Electric Service locations.
- CCTV Camera installations.
- Roadway Surveillance installations.
- Fiber Optic Splice Locations.
- Fiber Optic Cables. Coordinates shall be recorded along each fiber optic cable route every 200 feet.
- All fiber optic slack locations shall be identified with quantity of slack cable included. When sequential cable markings are available, those markings shall be documented as cable marking into enclosure and marking out of enclosure.

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

1. District
2. Description of item
3. Designation
4. Use
5. Approximate station
6. Contract Number

7. Date
8. Owner
9. Latitude
10. Longitude
11. Comments

A spreadsheet template will be available from the Engineer for use by the Contractor.

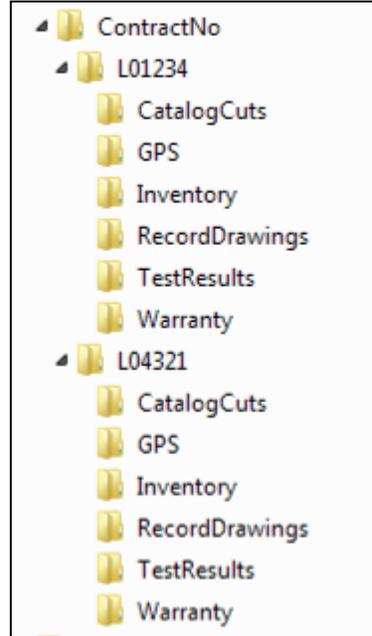
Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 20 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified. **Data collection prior to the submittal and review of the sample data of existing data points will be unacceptable and rejected.**

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have minimum 5 meter accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

The documents on the CD shall be organized by the Electrical Maintenance Contract Management System (EMCMS) location designation. If multiple EMCMS locations are within the contract, separate folders shall be utilized for each location as follows:



Extraneous information not pertaining to the specific EMCMS location shall not be included in that particular folder and sub-folder.

The inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.

The Final Acceptance Documentation Checklist shall be completed and is contained elsewhere herein.

All CD's shall be labeled as illustrated in the CD Label Template contained herein.

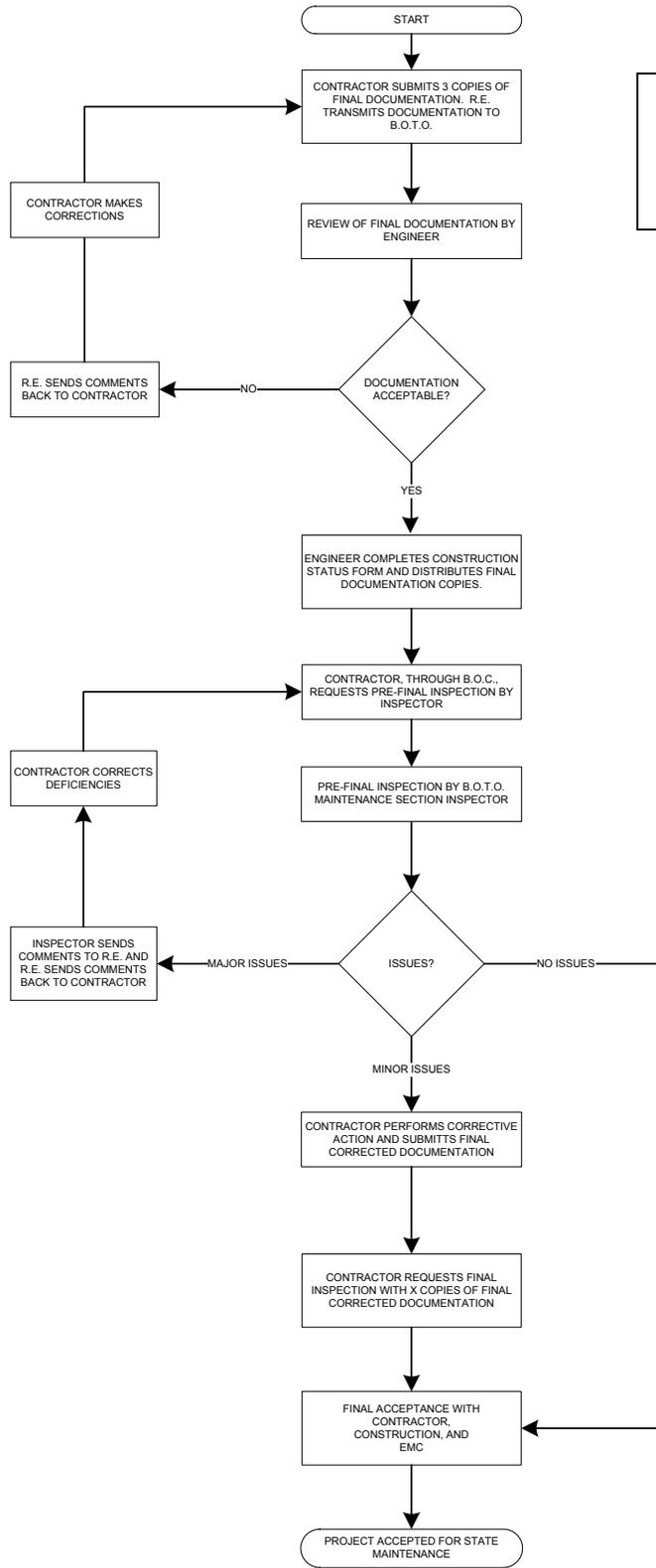
Acceptance. Acceptance of electrical work will be given at the time when the jurisdictional agency (Department or Village of Schaumburg) assumes the responsibility to protect and maintain the work according to Article 107.30 or at the time of final inspection.

When the electrical work is complete, tested, and fully operational, the Contractor shall schedule an inspection for acceptance with the Engineer no less than seven working days prior to the desired inspection date. The Contractor shall furnish the necessary labor and equipment to make the inspection.

Village of Schaumburg Requirements: When the electrical work is complete, tested, and fully operational, the Contractor shall coordinate the 7 day burn in period for the entire system with the Engineer and Village Staff. At the end of the burn in period the systems shall be inspected for acceptance. Any failure in a system shall be repaired and the 7 day burn in for the entire system begins again. Maintenance transfer shall be completed upon Village acceptance of the inspection. The Contractor shall furnish the necessary labor and equipment to make the inspection.

A written record of the test readings taken by the Contractor according to Article 801.13 shall be furnished to the Engineer seven working days before the date the inspection is scheduled. Inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.

**FLOW CHART FOR
 STATE
 MAINTAINED
 SYSTEMS ONLY.**



Final Acceptance Documentation Checklist

LOCATION	
Route	Common Name
Limits	Section
Contract #	County
Controller Designation(s)	EMC Database Location Number(s)

ITEM	Contractor (Verify)	Resident Engineer (Verify)
Record Drawings -Four hardcopies (11" x 17") -Scanned to two CD-ROMs	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Field Inspection Tests -Voltage -Amperage -Cable Insulation Resistance -Continuity -Controller Ground Rod Resistance (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
GPS Coordinates -Excel file (Check Special Provisions, Excel file scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Job Warranty Letter (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Catalog Cut Submittals -Approved & Approved as Noted (Scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Controller Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Light Tower Inspection Form (If applicable, Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>

Four Hardcopies & scanned to two CD's shall be submitted for all items above. The CD ROM shall be labeled as shown in the example contained herein.

General Notes:

Record Drawings – The record drawings should contain contract cover sheet, summary of quantities showing all lighting pay item sheets, proposed lighting plans and lighting detail sheets. Submit hardcopies 11 x 17 size. Include the original “red-ink” copy. The red-ink markup should be neatly drawn. Record drawings copies should be legible. Blurred copies will not be acceptable. Temporary lighting plans and removal lighting plans should not be part of the set.

Field Inspection Tests – Testing should be done for proposed cables. Testing shall be per standard specifications. Forms shall be neatly filled out.

GPS Coordinates – Check special provisions “General Electrical Requirements”. Submit electronic “EXCEL” file.

Job Warranty Letter – See standard specifications.

Cutsheet Submittal – See special provisions “General Electrical Requirements”. Scan Approved and Approved as Noted cutsheets.

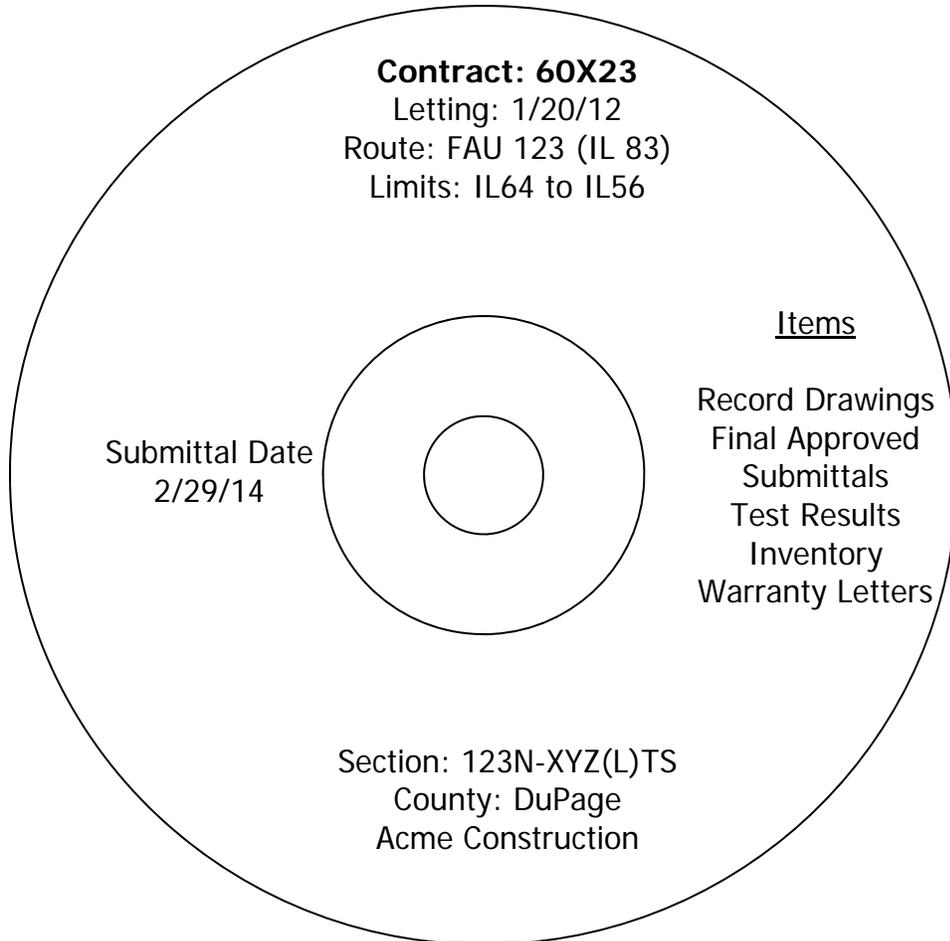
Lighting Inventory Form – Inventory form should include only proposed light poles, proposed light towers, proposed combination (traffic/light pole) lighting and proposed underpass luminaires.

Lighting Controller Inventory Form – Form should be filled out for only proposed lighting controllers.

Light Tower Safety Inspection Form – Form should be filled out for each proposed light tower.

CD LABEL FORMAT TEMPLATE.

Label must be printed; hand written labels are unacceptable and will be rejected.



UNDERGROUND RACEWAYS

Effective: March 1, 2015

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125”) thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

UNIT DUCT

Effective: January 1, 2012

Revise the first paragraph of Article 810.04 to read:

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

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

General:

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

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

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

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

Dimensions:

Duct dimensions shall conform to the standards listed in ASTM D2447. Submittal information shall demonstrate compliance with these requirements.

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

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

Marking:

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

Performance Tests:

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

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
35	1.25	4937	1110
41	1.5	4559	1025

WIRE AND CABLE

Effective: January 1, 2012

Add the following to the first paragraph of Article 1066.02(a):

“The cable shall be rated at a minimum of 90°C dry and 75°C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals.”

Revise the Aerial Electric Cable Properties table of Article 1066.03(a)(3) to read:

Aerial Electric Cable Properties

Phase Conductor			Messenger wire		
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

Add the following to Article 1066.03(b) of the Standard Specifications:

“Cable sized No. 2 AWG and smaller shall be U.L. listed Type RHH/RHW and may be Type RHH/RHW/USE. Cable sized larger than No. 2 AWG shall be U.L. listed Type RHH/RHW/USE.”

Revise Article 1066.04 to read:

“Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is “Palomino”. The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474.”

Revise the second paragraph of Article 1066.05 to read:

“The tape shall have reinforced metallic detection capabilities consisting of a

woven reinforced polyethylene tape with a metallic core or backing.”

UNDERPASS LUMINAIRE, HPS, STAINLESS STEEL HOUSING

Effective: January 1, 2012

1. Description. This item shall consist of furnishing, testing as required, and installing a luminaire suitable for roadway underpasses as specified herein.
2. General.
 - 2.1 The luminaire shall be optically sealed, mechanically strong and easy to maintain.
 - 2.2 All wiring within the fixture shall have a minimum temperature rating of 125° C. In addition, the unit shall be designed to allow for a maximum supply wire rating of 90° C.
 - 2.3 All hardware of the housing, reflector, and ballast assembly shall be captive
 - 2.4 The luminaire shall be UL Listed for Wet Locations.
 - 2.5 The underpass luminaire shall be suitable for lighting a roadway underpass at approximate mounting height of 16 feet from a position suspended directly above the roadway.
 - 2.6 The luminaire shall be certified by the U.L. testing laboratory to meet the IP66 criteria of the International Electro technical Commission Standard 529.
3. Housing.
 - 3.1 The housing shall be stainless steel and be made of 16 gauge minimum thickness stainless steel, Type 304, #2B finish.
 - 3.2 Since the installed location of the luminaires has severe space limitations that prohibit servicing the luminaire from the top or side of the fixture, the luminaire must be serviceable from the bottom of the housing when in the installed position. Both ballast and optical compartments must be serviceable from the bottom of the fixture. Fixtures which open from the top or sides are not acceptable.
 - 3.3 The housing shall have a maximum width of 13"
 - 3.4 All internal and external hardware, unless specifically specified otherwise, shall be made of stainless steel.

3.5 Stainless Steel Housing

- 3.5.1 The stainless steel housing, and lens frame shall be made of 16 gauge minimum thickness stainless steel, Type 304 #2B.
- 3.5.2 All housing and frame components shall be cut within with a laser with a positioning accuracy of +/- .004" for assembly accuracy and machine welded to minimize irregularities in the weld joint.
- 3.5.3 All seams in the housing enclosure shall be welded by continuous welding. Stainless steel weld wire shall be used for all welds. A sample weld shall be submitted for review and approval.
- 3.5.4 The luminaire lens shall be flush, within 3.1 mm (0.122"), of the lens frame.
- 3.5.5 The lens frame shall be flat and the frame and luminaire housing shall not have any protruding flanges.
- 3.5.6 The lens frame assembly shall consist of a one-piece 16 gauge 304 stainless steel external frame with the lens facing toward the housing and a 16 gauge 304 stainless internal frame with the legs facing away from the housing. The internal frame shall have seam welded corners for added strength. The two panels will sandwich the glass lens and be fastened together with the use of no less than 10 #10 stainless steel fasteners.
- 3.5.7 The lens frame and the door frame shall each be secured through the use of two stainless steel draw latches secured to the fixture housing.
- 3.5.8 When in open position, it shall be possible to un-hinge and remove the lens frame for maintenance. The lens frame hinge shall be stainless steel and designed so that there must be a conscious action of the maintenance personnel to remove the lens frame. The frame hinging method shall not be designed so that bumping the frame accidentally could allow the frame to fall to the roadway surface. The removal method must be accomplished without the use of tools or hardware. The hinge pin shall be a minimum of 6.35 mm (0.250") in diameter. The pin shall be spring loaded and retractable with a safety catch to hold the pin in the retracted position for ease of maintenance.
- 3.5.9 The suspended housing shall be divided into two compartments, one for the ballast and optical assembly, the other for wire connections. The optical chamber shall be sealed from the environment. The wire portal between compartments shall be sealed so as to prevent air exchange through the portal. There shall be an internally mounted breather mechanism to allow internal and external air pressure to equalize without permitting dust or water into the unit.
- 3.5.10 The ballast and all electrical equipment shall be mounted to a removable aluminum chassis with a minimum thickness of 3.175, (0.125"). The chassis shall be held in place with captive stainless steel hardware. The hardware

shall include a bracket that can be loosened and shifted to allow the chassis to pivot away from fastened position for removal. The splice box shall include a heavy-duty 3 pole terminal block to accommodate #6 conductors and a KTK 2 amp fuse with HPC fuse holder or approved equal. Quick-connect power distribution terminal blocks shall be a molded thermoset plastic, rated 70A, 600V and have 3 poles, each with (4) .250 quick connect terminals. Operating temperature rating to be 150° C. Input wire size shall accommodate #2-#14 AWG. Torque rating shall be 45 in./lb. Maximum. Agency approvals shall be UL E62622; CSA LR15364.

3.5.11 Ballast compartment surfaces shall be deburred and free of sharp edges, points or corners that may come in contact with installers or service personnel.

4. Gasketing:

- 4.1 The junction between the lens frame and the ballast housing door and the housing shall be sealed with a one-piece vulcanized or molded high temperature solid silicone rubber gasket with the equivalent of a 60 Shore A durometer rating. The gasket between the lens frame and the luminaire housing shall be securely attached by mechanical means, such a retaining lip to prevent the movement of the gasket. The gasket may not be secured by adhesive means exclusively. The lens and ballast housing doors shall be designed and constructed so they seal to the gasket on a flat surface. The frame shall not seal to the gasket using the edge of leg on a doorframe. The lens shall be sealed inside of the lens frame with the use of a one-piece solid silicone rubber gasket with ribbed flanges and a rating of 60 Shore A Durometer
- 4.2 The junction between conduit connections to the luminaire and the lens frame junction to the housing shall withstand entry of water when subjected to a water jet pressure of 207 kPa (30 lbs. Per sq. inch), tested under laboratory conditions. Submittal information shall include data relative to gasket thickness and density and the means of securing it in place.

5. Mounting Brackets

- 5.1 The brackets shall be properly sized to accommodate the weight of the luminaire with calculations or other suitable reference documentation submitted to support the material choice.
- 5.2 The luminaire shall have an opening in the housing for installation (by others) of a 28.1 mm (3/4 inch) diameter flexible conduit. The location of the opening will be determined by the Engineer during the shop drawing review.

6. Lamp Socket:

- 6.1 The lamp socket shall be a 4KV pulse rated mogul type, porcelain glazed enclosed, and be provided with grips, or other suitable means to hold the lamp against

vibration. The rating of the socket shall exceed the lamp starting voltage, or starting pulse voltage rating.

- 6.2 If the lamp socket is of the sealed removable type, proper alignment of the socket shall be provided and molded into the socket assembly and indicated in a contrasting color.
- 6.3 If the lamp socket is adjustable, the factory setting must be indicated legibly in the luminaire housing.

7. ANSI Identification Decal:

A decal, complying to ANSI standard C136-15 for luminaire wattage and distribution type, shall be factory attached permanently to the luminaire. The information contained in the decal shall enable a viewer, from the ground level, to identify the lamp wattage and type of luminaire distribution.

8. Optical Assembly:

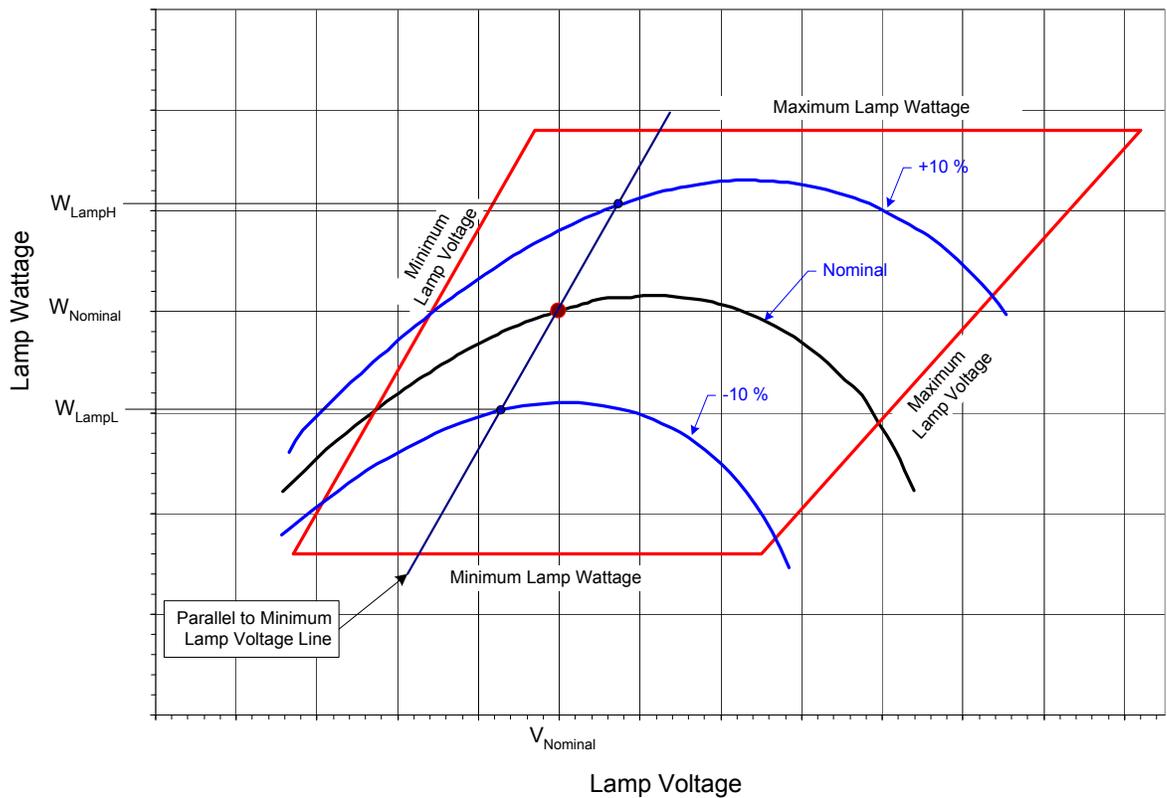
- 8.1 Lens and Lens Frame. The lens shall be made of crystal clear, impact and heat resistant tempered glass a minimum of 6.35 mm (0.25") thick. The lens shall be held in such a manner as to allow for its expansion and contraction, due to temperature variation. The lens shall be a flat glass design.
- 8.2 Reflector:
 - 8.2.1 The reflector shall be hydro formed aluminum, 0.063" thick, bright-dip and clear anodized finish.
 - 8.2.2 The reflector shall be secured with a stainless steel aircraft cable during maintenance operations.
 - 8.2.3 If the reflector has multiple light distribution positions, each position must have positive stop/mounting with the original factory distribution identified.
 - 8.2.4 The luminaire shall be photometrically efficient. Luminaire efficiency, defined by the I.E.S. as "the ratio of luminous flux (lumens) emitted by a luminaire to that emitted by the lamp or lamps used within", shall not be less than 67%. Submittal information shall include published efficiency data.
 - 8.2.5 The reflector, the refractor or lens, and the entire optical assembly shall not develop any discoloration over the normal life span of the luminaire.
 - 8.2.6 The reflector shall not be altered by paint or other opaque coatings which would cover or coat the reflecting surface. Control of the light distribution by any method other than the reflecting material and the aforementioned clear protective coating that will alter the reflective properties of the reflecting surface is unacceptable

9. Ballast:

- 9.1 The ballast shall be a High Pressure Sodium, high power factor, lead type, Isolated Regulator Ballast (CWI) or a Constant Wattage Auto-regulator (CWA), for operation on a nominal 240 volt system.
- 9.2 The ballast shall be designed to furnish proper electrical characteristics for starting and operating a high pressure sodium vapor lamp of the specified rating at ambient temperatures of -29 degrees to +40 degrees C. The ballast windings shall be adequately impregnated and treated for protection against the entrance of moisture, insulated with Class H insulation, and able to withstand the NEMA standard dielectric test.
- 9.3 The ballast shall include an electronic starting assembly. The starter assembly shall be comprised of solid state devices capable of withstanding ambient temperatures of 85 degrees C. The starter shall provide timed pulsing with sufficient follow-through current to completely ionize and start all lamps. Minimum amplitude of the pulse shall be 2,500 volts, with a width of one (1) microsecond at 2,250 volts, and shall be applied within 20 electrical degrees of the peak of the open circuit voltage wave with a repetition rate as recommended by the lamp manufacturer for the 60 cycle wave. The lamp peak pulse current shall be a minimum of 0.2 amperes. Proper ignition shall be provided over a range of input voltage from 216 to 264 volts. The starter component shall be field replaceable and completely interchangeable with no adjustment necessary for proper operation. The starter component shall have push-on type electrical terminations to provide good electrical and mechanical integrity and ease of replacement. Terminal configuration shall preclude improper insertion of plug-in components. The starter circuit board shall be treated in an approved manner to provide a water and contaminant-resistant coating.
- 9.4 The ballast shall have an overall power factor of at least 0.9 when operated under rated lamp load.
- 9.5 The ballast shall withstand a 2,500 volt dielectric test between the core and windings without damage to the insulation.
- 9.6 The ballast shall not subject the lamp to a crest factor exceeding 1.8 and shall operate the lamp without affecting adversely the lamp life and performance.
- 9.7 The ballast shall be designed to ANSI Standards and shall be designed and rated for operation on a nominal 240 volt system. The ballast shall provide positive lamp ignition at the input voltage of 216 volts. It shall operate the lamp over a range of input voltages from 216 to 264 volts without damage to the ballast. It shall provide lamp operation within lamp specifications for rated lamp life at input design voltage range. Operating characteristics shall produce output regulation not exceeding the following values:

Nominal Ballast Wattage	Maximum Ballast Regulation
400	25%
310	26%
250	22%
150	22%
70	17%

For this measure, regulation shall be defined as the ratio of the lamp watt difference between the upper and lower operating curves to the nominal lamp watts; with the lamp watt difference taken within the ANSI trapezoid at the nominal lamp operating voltage point parallel to the minimum lamp volt line:



$$\text{Ballast Regulation} = \frac{W_{LampH} - W_{LampL}}{W_{LampN}} \times 100$$

where:

W_{LampH} = lamp watts at +10% line voltage (264v)

W_{LampL} = lamp watts at - 10% line voltage (216v)

W_{lampN} = lamp watts at 240v"

9.8 Ballast losses, based on cold bench tests, shall not exceed the following values:

Nominal Ballast Wattage	Maximum Ballast Losses
400	16.0%
310	19.0%
250	17.5%
150	26.0%
70	34.0%

Ballast losses shall be calculated based on input watts and lamp watts at nominal system voltage as indicated in the following equation:

$$\text{Ballast Losses} = \frac{W_{Line} - W_{Lamp}}{W_{Lamp}} \times 100$$

where:

W_{line} = line watts at 240v

W_{lamp} = lamp watts at 240v

- 9.9 Ballast output to lamp. At nominal system voltage and a lamp voltage of 52v, the ballast shall deliver a lamp wattage within $\pm 4\%$ of the nominal lamp wattage. For a 70w luminaire, the ballast shall deliver 70 watts $\pm 4\%$ at a lamp voltage of 52v for the nominal system voltage of 240v.
- 9.10 Ballast output over lamp life. Over the life of the lamp the ballast shall produce an average of the nominal lamp rating $\pm 5\%$. Lamp wattage readings shall be taken at 5-volt increments throughout the ballast trapezoid. The lamp wattage values shall then be averaged within the trapezoid and shall be within $\pm 5\%$ of the nominal ballast rating. Submittal documents shall include a tabulation of the lamp wattage vs. lamp voltage readings.
- 9.11 The ballast shall be integral to the luminaire. The ballast components shall be mounted on a removable door or on a removable mounting tray. The ballast tray or mounting door shall be manufactured with dissimilar metal conflicts kept to a minimum.
- 9.12 Ballast wiring and lamp socket wiring shall be connected by means of keyed plugs. Upon unplugging the ballast wiring the entire ballast assembly shall be removable for maintenance. The plugs shall not be interchangeable to avoid improper connection of the assemblies.
- 9.13 The mounting adjustments and wiring terminals shall be readily accessible. The removable door or pad shall be secure when fastened in place and all individual components shall be secure upon the removable element. Upon ballast assembly removal, each component shall be readily removable for replacement.
- 9.14 The luminaire shall be completely wired. All wiring connections within the luminaire shall be made with insulated compression connectors or insulated terminal blocks.

An insulated terminal block shall be provided to terminate the incoming supply wires. The terminal block shall be rated for 600 volts and shall accommodate wire sizes from #10 to #6 AWG. The use of "wire nuts" is unacceptable. A ground terminal shall be provided for the connection of a ground wire.

- 9.15 Ballast and lamp Leads shall not be smaller than #16 AWG conductors rated at a minimum temperature rating of 90° C.
- 9.16 All wires shall be coded by tagging and/or color coding for proper identification. A complete legible permanently attached wiring diagram (no smaller than 3" x 4" with a min. font size of 8 pts.) coordinated with the wire identifications shall be displayed at the convenient location on the interior of the luminaire. The wiring diagram shall be oriented so that it is right side up and readable when the luminaire is in the installed position.
- 9.17 The ballast shall not be excessively noisy. Noticeable noisy ballasts, as determined by the Engineer, shall be replaced at no additional cost to the State.
- 9.18 The ballast shall provide lamp operation within lamp specifications for the rated lamp life at the input design voltage range. It shall have a 6 month operation capability with a cycling lamp.
- 9.19 Submittal information shall include manufacturer's literature and data to confirm compliance with all specified requirements including an ANSI Standard Ballast Characteristic Graph (Trapezoid) diagram, with all items clearly identified.

10. Photometric Performance:

- 10.1 The luminaire photometric performance shall produce results equal to or better than those listed in the included Luminaire Performance Table. Submittal information shall include computer calculations based on the controlling given conditions which demonstrate achievement of all listed performance requirements. The computer calculations shall be done according to I.E.S. recommendations and the submitted calculations shall include point-by-point illuminance, luminance and veiling luminance as well as listings of all indicated averages and ratios as applicable. Calculations shall be performed with AGI32. The program used to perform the calculations shall be identified on the submittal. The submittal data shall also include all photometric calculations files with the proposed photometric data on a CD ROM. The performance requirements shall define the minimum number of decimal places used in the calculations. Rounding of calculations shall not be allowed.
- 10.2 In addition to computer printouts of photometric performance, submittal information shall include: Descriptive literature; an Isofootcandle chart of horizontal lux (footcandles); Utilization curve; Isocandela diagram; Luminaire classification per ANSI designation; Candlepower values at every 2.5 degree intervals; Candlepower tables are to be provided on CD ROM in the IES format as specified in IES publication LM-63.

IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE #5
1 Lane Cross Section

GIVEN CONDITIONS		
ROADWAY DATA	Pavement Width	11 ft
	Number of Lanes	1
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
LIGHT POLE DATA	Mounting Height	12 ft
	Mast Arm Length	0 ft
	Pole Set-Back From Edge of Pavement	2 ft
LUMINAIRE DATA	Lamp Type	HPS
	Lamp Lumens	9,500
	I.E.S. Vertical Distribution	Medium
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	IV
	Total Light Loss Factor	0.65
LAYOUT DATA	Spacing	20 ft
	Configuration	Single Side
	Luminaire Overhang over edge of pavement	-2 ft

NOTE: Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS		
--------------------------	--	--

NOTE: These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

ILLUMINATION	Ave. Horizontal Illumination, E_{AVE}	4 fc
	Uniformity Ratio, E_{AVE}/E_{MIN}	3.0:1
LUMINANCE	Average Luminance, L_{AVE}	
	Uniformity Ratio, L_{AVE}/L_{MIN}	
	Uniformity Ratio, L_{MAX}/L_{MIN}	
	Veiling Luminance Ratio, L_v/L_{AVE}	

11. Independent Testing:

- 11.1 Independent testing of luminaires shall be required whenever the quantity of luminaires of a given wattage and distribution, as indicated on the plans, is 50 or more. For each luminaire type to be so tested, one luminaire plus one luminaire for each 50 luminaires shall be tested. Example: *A plan quantity of 75 luminaires would dictate that 2 to be tested; 135 luminaires would dictate that three be tested.*
- 11.2 The Contractor shall be responsible for all costs associated with the specified testing, including but not limited to shipping, travel and lodging costs as well as the costs of the tests themselves, all as part of the bid unit price for this item. Travel, lodging and other associated costs for travel by the Engineer shall be direct-billed to or shall be pre-paid by the Contractor, requiring no direct reimbursement to the Engineer or the independent witness, as applicable.
- 11.3 Commitment to test. The Vendor shall select one of the following options for the required testing with the Engineer's approval:
- a. Engineer Factory Selection for Independent Lab: The Contractor may select this option if the luminaire manufacturing facility is within the state of Illinois. The Contractor shall propose an independent test laboratory for approval by the Engineer. The selected luminaires shall be marked by the Engineer and shipped to the independent laboratory for tests.
 - b. Engineer Witness of Independent Lab Test: The Contractor may select this option if the independent testing laboratory is within the state of Illinois. The Engineer shall select, from the project luminaires at the manufacturer's facility or at the Contractor's storage facility, luminaires for testing by the independent laboratory.
 - c. Independent Witness of Manufacturer Testing: The independent witness shall select from the project luminaires at the manufacturer's facility or at the Contractor's storage facility, the luminaires for testing. The Contractor shall propose a qualified independent agent, familiar with the luminaire requirements and test procedures, for approval by the Engineer, to witness the required tests as performed by the luminaire manufacturer. The independent witness shall:
 - ▶ Have been involved with roadway lighting design for at least 15 years.
 - ▶ Not have been the employee of a luminaire or ballast manufacturer within the last 5 years.
 - ▶ Be a member of IESNA in good standing.
 - ▶ Provide a list of professional references.
 - d. Engineer Factory Selection and Witness of Manufacturer Testing: The Contractor may select this option if the manufacturing facility is within the state of Illinois. At the manufacturer's facility, the Engineer shall select the

luminaires to be tested and shall be present during the testing process. The Contractor shall schedule travel by the Engineer to and from the Manufacturer's laboratory to witness the performance of the required tests.

In all cases, the selection of luminaires shall be a random selection from the entire completed lot of luminaires required for the contract. Selections from partial lots will not be allowed. The selection of the testing option shall be presented with the information submitted for approval. The proposed independent laboratory or independent witness shall be included with that information. The selection of the testing option shall be presented with the information submitted for approval. The proposed independent laboratory or independent witness shall be included with that information.

- 11.4 The testing performed shall include photometric, electrical, heat and water jet testing.
- 11.5 Photometric testing shall be in accordance with IES recommendations except that the selected luminaire(s) shall be tested as manufactured without any disassembly or modification and, as a minimum shall yield an isofootcandle chart, with max candela point and half candela trace indicated, an isocandela diagram, maximum plane and cone plots of candela, a candlepower table (house and street side), a coefficient of utilization chart, a luminous flux distribution table, and complete calculations based on specified requirements and tests.
- 11.6 Electrical testing shall conform to NEMA and ANSI standards and as a minimum, shall yield a complete check of wiring connections, a ballast dielectric test, total ballast losses in watts and percent of input, a lamp volt-watt trace, regulation data, a starter test, lamp current crest factor, power factor (minimum over the design range of input voltage at nominal lamp voltage) and, a table of ballast characteristics showing input amperes, watts and power factor, output volts, amperes, watts and lamp crest factor as well as ballast losses over the range of values required to produce the lamp volt-watt trace. Ballast test data shall also be provided in an electronic format acceptable to the Engineer to demonstrate compliance with sections 9.7, 9.8, 9.9 and 9.10.
- 11.7 Heat Testing. Heat testing shall be conducted to ensure that the luminaire complies with UL 1572. An ambient temperature of 40 degrees centigrade (104 degrees F) shall be used for the test.
- 11.8 Water spray test. The luminaires must pass the following water spray test.:

A spray apparatus consisting of four spray nozzles set at an angle of 30 degrees from the vertical plane space 30 inches apart on a 2 inch pipe, each delivering 12 gallons of water per minute at a minimum of 100 psi at each nozzle in a 90 degree cone. A water pressure gauge shall be installed at the first nozzle.

The luminaires shall be mounted in a ceiling configuration and with each nozzle set a distance of 18 inches below the fixture in the vertical plane and 18 inches away in the horizontal plane from the fixture lens, apply spray for a duration of 3 minutes at

a minimum of 100 psi. When opened, the fixture shall not show any signs of leakage.

The above test shall be repeated in the opposite horizontal plane from the fixture lens with no signs of leakage.

The summary report and the test results shall be certified by the independent test laboratory or the independent witness, as applicable, and shall be sent by certified mail directly to the Engineer. A copy of this material shall be sent to the Contractor and luminaire manufacturer at the same time.

- 11.9 Should any of the tested luminaires of a given distribution type and wattage fail to satisfy the specifications and perform according to approved submittal information, the luminaire of that distribution type and wattage shall be unacceptable and be replaced by alternate equipment meeting the specifications with the submittal and testing process repeated in their entirety; or corrections made to achieve required performance. In the case of corrections, the Vendor shall advise the Engineer of corrections made and shall request a repeat of the specified testing and, if the corrections are deemed reasonable by the Engineer, the testing process shall be repeated. The number of luminaires to be tested shall be the same quantity as originally tested. Luminaires which are not modified or corrected shall not be re-tested without prior approval from the Engineer.

Coordination shall be the Vendor's responsibility. Failure to coordinate arrangements and notice shall not be grounds for additional compensation or extension of time.

Submittal information shall include a statement of intent to provide the testing as well as a request for approval of the chosen laboratory.

12. Installation.

- 12.1 Underpass luminaires shall be either attached to structures (such as piers, etc.) or suspended from structures (such as bridge decks) as indicated or implied by the configuration on the Plans. Mounting, including all hardware and appurent items, shall be included as part of this item.
- 12.2 Unless otherwise indicated, suspended underpass luminaires shall be installed one-inch above the lowest underpass beam and shall be mounted using vibration dampening assemblies. All mounting hardware shall be corrosion resistant and shall be stainless steel unless otherwise indicated.
- 12.3 The Engineer reserves the right to select the final light distribution pattern, luminaire aiming angle and change it as deemed necessary to produce the proper pavement luminance.
- 12.4 Surface mounted luminaires, all luminaires not mounted on suspension rods, shall have one-inch thick stainless steel spacers installed between the luminaire and the deck or wall.

13. Guarantee.

The Vendor shall provide a written guarantee for materials, and workmanship for a period of 6 months after final acceptable of the lighting system.

14. Documentation.

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operation of the equipment shall be delivered to the Engineer.

The manufacturer shall have been incorporated for at least five years and shall have at least five years in the design and manufacturing of roadway underpass lighting. The manufacturer shall provide evidence of financial strength to finance the production of the project by submitting the name of at least three projects completed in the previous calendar year of greater than \$250,000 each. All steel used in the project shall be certified to be provided domestically, and all fixture components used shall be manufactured domestically.

15. Method of Measurement. Luminaires shall be counted, each.

16. Basis of Payment. This item shall be paid at the contract unit price each for **UNDERPASS LUMINAIRE**, of the wattage specified, **HIGH PRESSURE SODIUM VAPOR**, which shall be payment in full for the material and work described herein.

PROTECTION AND MAINTENANCE OF EXISTING UNDERPASS LUMINAIRES

Effective: July 1, 2012

Description: This item shall consist of providing protection, temporary support, removal and reattachment as required, of the existing underpass lighting system. The system consists of, but not limited to, luminaires, junction boxes, raceways, support equipment and conductors. Any wiring required to maintain the operation of the underpass or other circuits feed through the underpass lighting system shall be included in this item.

Materials. Materials shall be according to the following Articles of Section 1000 - Materials

Item	Article/Section
(a) Electric Raceway Material.....	1088
(b) Conductors.....	1066.02
(c) Insulation.....	1066.03

CONSTRUCTION REQUIREMENTS

General. Before performing any work, an inventory of all missing hardware of the existing lighting system shall be taken jointly by the Contractor and the Engineer.

Protection During Deck Reconstruction: Luminaires, junction boxes, and conduit hangers attached to the bridge deck shall be removed prior to the removal of the existing bridge deck. The luminaires, junction boxes and the conduits shall be temporarily supported during bridge deck reconstruction. The method of support shall be structurally equivalent to the existing system and shall be approved by the Engineer. Existing vertical clearances shall be maintained at all times.

The underpass luminaires and hardware shall be protected from overhead debris during the removal and reconstruction of the bridge deck. The underpass luminaire protection shall be coordinated with the protective shield as described elsewhere in these Special Provisions.

The underpass lighting system shall be protected from spills and over-spray during any painting operations. Spills and over-spray shall be removed by the Contractor at no additional expense to the State. If spills or over-spray occur on the luminaire lens, the luminaire lens shall be replaced with new lens from the luminaire manufacturer at no additional cost to the State.

Prior to bridge deck removal the Contractor shall measure and log the location of all existing conduit and luminaire hangers for reattachment purposes. Upon completion of the bridge deck reconstruction, the existing underpass lighting system shall be permanently reattached at these locations. New heavy duty expansion anchors, as approved by the Engineer, shall be used. New hangers may be installed at the option of the Contractor. The new hangers shall be equivalent to the existing hangers or as approved by the Engineer. The cost of the new expansion anchors and hangers shall be included in this pay item.

Protection During concrete repair: Luminaires, junction boxes, and conduit attached to any structural concrete walls and or bridge deck shall be temporarily supported during the concrete repair. The method of support shall be structurally equivalent to the existing system and shall be approved by the Engineer. Existing clearances shall be maintained at all times.

Prior to any equipment or raceway removal the Contractor shall measure and log the location of all existing equipment for reattachment purposes. Upon completion of the concrete repair, the existing equipment shall be permanently reattached at these locations. New heavy duty expansion anchors, as approved by the Engineer, shall be used. The new hangers shall be equivalent to the existing hangers or as approved by the Engineer. The cost of the new expansion anchors and hangers shall be included in this pay item.

Damage to Underpass Lighting System: Should the lighting system be damaged through the Contractor's operations, repairs shall be made by the Contractor at no additional cost to the State.

All repairs shall be performed expeditiously and shall be approved by the Engineer. The Contractor shall conduct his work in a manner as not to keep out of service any of the lighting between 4:00 PM and 8:00 AM. All lights shall be tested daily and any necessary repairs shall be made immediately without delay.

Damaged cable shall be replaced in complete spans, no underground splices will be allowed. Temporary aerial quadraplex cable may be used to maintain luminaires operational provided it does not interfere with traffic or other operations as determined by the Engineer.

Grounding of Existing Lighting System: As indicated on the plans, the Contractor shall furnish and install a grounding conductor for the underpass lighting system in all existing conduits, junction boxes and luminaires. The ground conductor shall be a 1/C #10 AWG EPR (Type-RHW) green insulated conductor. The new ground conductor shall be connected to the existing ground conductor in the main junction box. The cost of this work shall be included in this pay item.

The continuity and continued operation of the adjacent lighting system shall be the responsibility of the Contractor. Any temporary wiring required to comply with this requirement shall be included in this item.

Basis of Payment: This work shall be paid for at the contract lump sum price for **PROTECT AND MAINTAIN EXISTING UNDERPASS LUMINAIRE**, which shall be payment for the work as described herein and as indicated in the plans.

MAINTENANCE OF LIGHTING SYSTEMS (VOS)

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

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

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

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

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

Maintenance of Existing Lighting Systems

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

Extent of Maintenance.

Partial Maintenance. Unless otherwise indicated, if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits within the project limits. The project limits are defined as those limits indicated in the contract plans. Equipment outside of the project limits, on the affected circuits shall be maintained

and paid for under Article 109.04. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer. The unaffected circuits and the controller will remain under the maintenance of the State.

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

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

Maintenance of Proposed Lighting Systems

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

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

Lighting System Maintenance Operations

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

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

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

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

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

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

The Village reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Unpaid bills will be deducted from any monies owed to the Contractor.

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

Operation of Lighting

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

Method of Measurement

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

Basis of Payment. Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for **MAINTENANCE OF LIGHTING SYSTEM.**

LUMINAIRE INSTALLATION (VOS)

Description. This work shall consist of furnishing and installing LED lighting units as specified herein.

Materials. The luminaires shall be as specified by the types described below. Luminaires shall be in compliance with ANSI C136.37.

Material for the LED luminaire shall be according to the following.

Type 1 – Philips Lumec Transit Series Model number TR20-009 – 135W80LED4K-R-LE2S-VOLT-BE6TX

Optics

- IP66 rated
- Type II light distribution per IESNA classification.

Performance

- Rated for -40°C to 55°C ambient air temperature range
- Color temperature of 4000K
- Fixture wattage of 130 watts

Electronic Drivers

- Performance package for Luminaire Installation, Type 1 is 130 watt luminaire, 80 high performance LED with drive current of 580 mA and 13,122 lumens.
- LED light engines are rated = 100,000 hours at 25°C, L70. Electric driver has a rated life of 100,000 hours at a 25°C ambient.
- Minimum of ANSI C62.41 10kV/10kA level of surge protection.

Housing

- Lumec Transit Series TR20 is 30” diameter at the lens x 27-9/16” high with an approximate weight of 40 lbs.
- Hood is cast 356 aluminum dome, mechanically assembled on the luminaire.
- Skirt is spun 1100-0 aluminum, mechanically assembled on the luminaire.
- Color: Lumec Ocean Blue BE6TX (color must be approved with local agencies before purchasing)

Finish

- Housing is polyester powder-coated for durability and corrosion resistance.

Warranty

- The warranty for LED luminaires and all of their components shall cover a minimum of ten years from the date of delivery.

Type 2 – American Electric Lighting Autobahn Series Model number ATB2 80BLEDE85 MVOLT R3 BK-BL-NL-HK-P7-SH

Optics

- IP66 rated
- Type III light distribution per IESNA classification.

Performance

- Rated for -40°C to 40°C ambient air temperature range
- Color temperature of 4000K
- Fixture wattage of 214 watts

Electronic Drivers

- Performance package for Luminaire Installation, Type 2 is 214 watt luminaire, 80B LED chips with drive current of 850 mA and 26,879 lumens.
- LED light engines are rated > 100,000 hours at 25°C, L70. Electric driver has a rated life of 100,000 hours at a 25°C ambient.
- Minimum of ANSI C136.2 10V/5kA SPD level of surge protection.

Housing

- Autobahn Series ATB2 is 31" long x 14" wide x 4" high with an approximate weight of 21 lbs.
- Die cast aluminum housing.
- Color: Black (color must be approved with local agencies before purchasing)
- The luminaire shall include a fully prewired, 7 pin twist lock ANSI C136-41 – compliant receptacle. Unused pins shall be connected as directed by the Manufacturer and approved by the Engineer. A shorting cap shall be provided with the luminaire.
- All luminaires shall be vibration tested and pass ANSI C136.31 requirements. Luminaires shall be rated for "3G" peak acceleration. Vibration testing shall be run using the same luminaire in all three axes.

Finish

- Housing is polyester powder-coated for durability and corrosion resistance.
- Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 7 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (operate per ASTM B117)

Warranty

- All electrical components warranted for minimum of 10 years

Submittal Requirements. The Contractor shall submit, for approval, an electronic version of all associated luminaire IES files, AGi32 files and the TM-21 or TM-28 calculator spreadsheet with inputs and reports associated with the project luminaires. The Contractor shall also provide (as a minimum) an electronic (PDF) version of each of 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.
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 (lpw).
4. Initial delivered lumens at the specified color temperature, drive current, and ambient temperature.

5. Computer photometric calculation reports as specified and in the luminaire performance table.
6. TM-15 BUG rating report.
7. Isofootcandle chart with max candela point and half candela trace indicated.
8. Documentation of manufacturers experience and verification that luminaires were assembled in the U.S.A. as specified.
9. Supporting documentation of compliance with ANSI standards as well as UL listing as specified.
10. Supporting documentation of laboratory accreditations and certifications for specified testing as indicated.
11. Thermal testing documents as specified.
12. IESNA LM-79, LM-80 (or LM-84) and TM-21 (or TM-28) reports as specified.
13. Salt fog test reports and certification as specified.
14. Vibration Characteristics Test Reports and certification as specified.
15. Ingress Protection Test Reports as specified.
16. Written warranty.

No luminaire testing according to Article 1067.01(h) will be required.

**IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE
 ROADWAY LIGHTING**

Luminaire Installation, Type 1

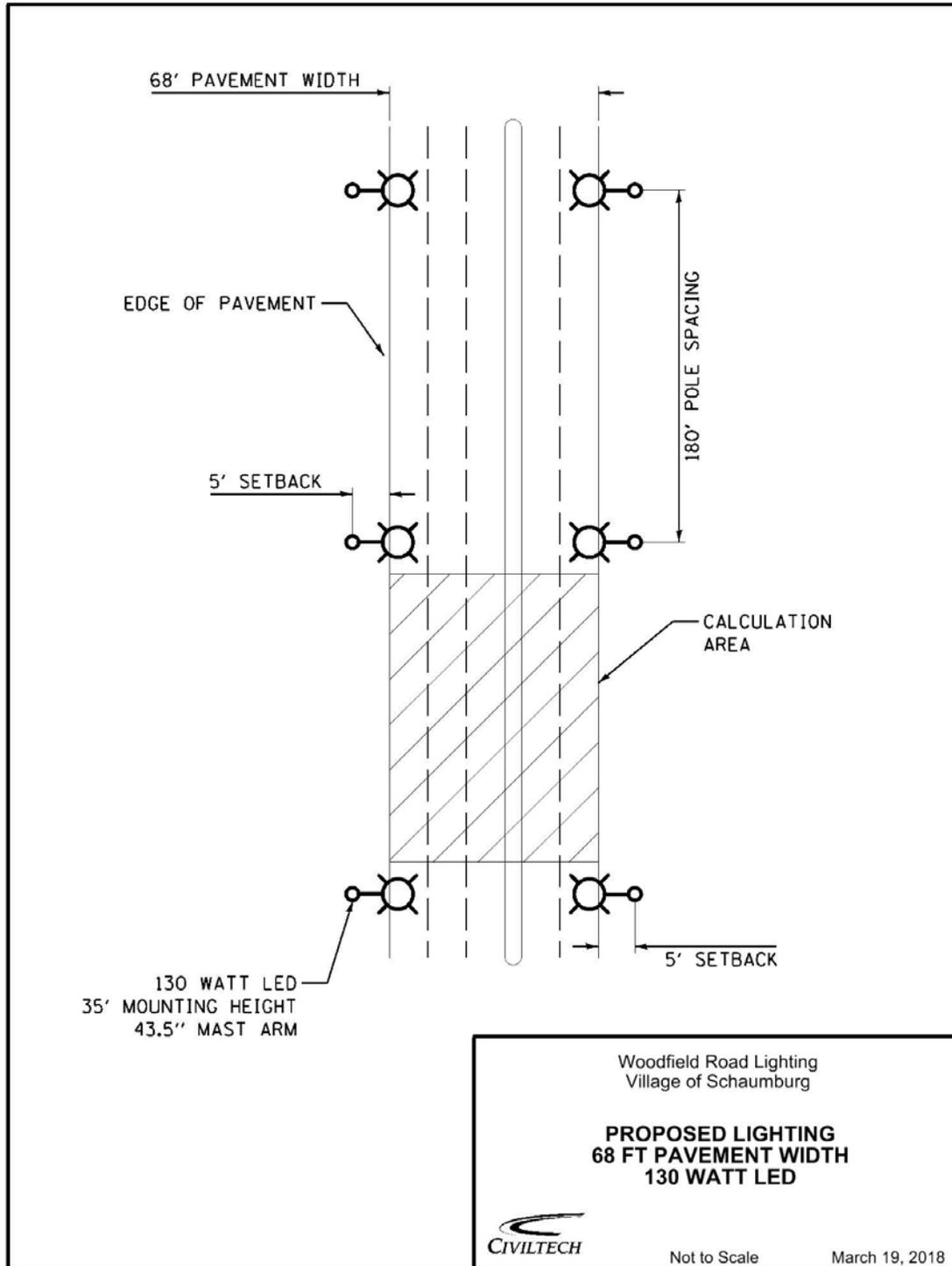
GIVEN CONDITIONS		
ROADWAY DATA	Pavement Width	(ft) <u>68</u>
	Number of Lanes	<u>5</u>
	Median Width	<u>none</u>
	I.E.S. Surface Classification	<u>R3</u>
	Q-Zero Value	<u>.07</u>
LIGHT POLE DATA	Mounting Height	(ft) <u>35</u>
	Mast Arm Length	(in) <u>43.5</u>
	Pole Set-Back From Edge Of Pavement	(ft) <u>5</u>
	LUMINAIRE DATA	
Lumens	<u>13,122</u>	
BUG Rating	<u>B3 – U1 – G2 (Max)</u>	
I.E.S. Vertical Distribution	<u>Medium</u>	
I.E.S. Lateral Distribution	<u>Type II</u>	
Total Light Loss Factor	<u>0.70</u>	
LAYOUT DATA	Spacing	(ft) <u>180</u>
	Configuration	<u>Opposite</u>
	Luminaire Overhang over EOP	(ft) <u>1.4</u>

NOTE: Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS

NOTE: These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

ROADWAY	Average Luminance, L_{AVE}		Cd/m^2 (Max)
LUMINANCE		0.6	Cd/m^2 (Min)
	Uniformity Ratio, L_{AVE}/L_{MIN}	3.5	(Max)
	Uniformity Ratio, L_{MAX}/L_{MIN}	6.0	(Max)
	Veiling Luminance Ratio, L_V/L_{AVE}	0.4	(Max)



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 before it is approved. 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. 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 3 ampere.

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.

Basis of Payment. This work will be paid for at the contract unit price per each as LUMINAIRE INSTALLATION, TYPE as specified in the contract plans which shall include all labor, material and equipment necessary to complete the work as specified.

LIGHT POLE, SPECIAL (VOS)

Description. This item shall consist of furnishing and installing light poles as specified herein, and as shown on the contract drawings. Installation shall be per Section 830 of the Standard Specification. This item shall include all the internal wiring, fusing, anchor bolts, and the hardware required for final attachment to the foundation as shown in the drawings.

The pole shall be a round tapered 10" to 5-9/16" aluminum 6063-T6 tubing, having a 0.25" wall thickness with a factory assembled copper ground lug. The pole shaft is welded to both the bottom and top of the anchor plate and shall have a reinforcing sleeve inside the bottom of the pole. The top of pole shaft has a constant diameter of 5-9/16" OD for the clamp on bracket arm. The pole shall have a maintenance opening centered 20" from the bottom of the anchor plate, complete with a weatherproof aluminum cover and a ground lug. The bolt circle is 14-1/2".

The pole shall meet the current AASHTO requirements and shall be UL Listed.

The arm of the pole is Lumec UN clamp on bracket arm. It is 43-1/2" long made from extruded aluminum 6063-T4 welded. The mounting arm clamp made of cast 356 aluminum, mechanically fastened the 5-9/16" diameter pole by stainless steel bolts and nuts. The bracket arm will be mounted 3'-8" (44") below the top of the pole. A GFCI weather resistant receptacle with in use weatherproof cover shall be installed 25'-6" from the top of the transformer base.

The light pole and bracket arm shall be painted ocean blue textured BE6TX polyester powder coated paint. The color will be approved by the Village of Schaumburg before ordering.

Basis of Payment. This work will be paid for at the contract unit price per each for LIGHT POLE, Special, and shall include all labor, material and equipment necessary to perform the work as specified in the plan documentation and as herein specified.

BREAKAWAY DEVICE, TRANSFORMER BASE, SPECIAL (VOS)

Description. This work shall consist of furnishing and installing a light pole breakaway device according to Section 838 of the Standard Specification and the details shown in the contract plans.

The breakaway device shall be transformer base 9 inches high with a bolt circle capable of handling 14-1/2" bolt circle. A bonding jumper wire from the light pole ground lug will ground the breakaway transformer base. The area where the ground wire attaches to the transformer base must be scratched to ensure an effective bond.

The breakaway transformer base shall match the color of the pole and bracket arm It shall be polyester powder coated matching the pole color (ocean blue textured BE6TX). The color will be approved by the Village of Schaumburg before ordering.

Basis of Payment. This item will be paid for at the contract unit price each for BREAKAWAY DEVICE, TRANSFORMER BASE, SPECIAL, and shall include all hardware, accessories, labor and equipment necessary to perform the work in accordance to the Standard Specification, the plan documentation and as herein specified.

REMOVAL OF LIGHTING UNIT, SALVAGE (VOS)

Description. This work shall consist of the removal of existing lighting system as described in Section 842 of the Standard Specification and as specified herein and shown in the contract plans.

The poles, mast arms, luminaires and cables in the light poles shall be removed and shall remain the property of the Village of Schaumburg. These items shall be delivered and unloaded at the Village of Schaumburg Public Works, 714 Plum Grove Road, Schaumburg or as directed by the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVAL OF LIGHTING UNIT, SALVAGE, and shall include all labor, material and equipment necessary to perform the work as specified in the plan documentation and as herein specified.

REMOVAL OF POLE FOUNDATION (VOS)

Description. This work shall consist of the removal and disposal of existing lighting foundations according to Section 842 of the Standard Specification and as herein specified.

The existing concrete foundation shall be completely removed. The removed material shall be disposed of according to Article 202.03 and the void caused by the removal of the foundation shall be backfilled according to Article 841.02.

Basis of Payment. This work shall be paid for at the contract unit price per each for REMOVAL OF POLE FOUNDATION, which price shall include all labor, material and equipment necessary to perform the work as specified herein.

REMOVE ELECTRIC CABLE FROM CONDUIT (VOS)

Description. This work shall consist of removing existing electric cable as described in Section 895 of the Standard Specification and as specified herein.

All existing electric cable removed from conduit shall be remain the property of the Village of Schaumburg. The shall be delivered and unloaded at the Village of Schaumburg Public Works, 714 Plum Grove Road, Schaumburg or as directed by the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per foot for REMOVE ELECTRIC CABLE FROM CONDUIT, and shall include all labor, material and equipment necessary to perform the work as specified in the plan documentation and as herein specified.

REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE (VOS)

Description. This work shall consist of the removal of existing lighting controller as described in Section 845 of the Standard Specification except as specified herein.

The lighting controller cabinet, including enclosed electrical equipment, shall be removed without being damaged. The lighting controller shall remain the property of the Village of Schaumburg and shall be delivered and unloaded at the Village of Schaumburg Public Works, 714 Plum Grove Road, Schaumburg or as directed by the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE, and shall include all labor, material and equipment necessary to perform the work as specified in the plan documentation and as herein specified.

LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET (VOS)

Description. This work shall consist of excavating, constructing, and backfilling offset light pole foundations in accordance with Section 836 of the Standard Specifications except as specified herein this special provision, and the details shown in the plans. Offset foundations shall be installed at locations where the utility conflict can be resolved by laterally offsetting the drilled shaft of the foundation.

The determination of foundation type shall be made in the field by the Engineer, based upon the actual locations of utilities. Payment will be made according quantity of each foundation type installed, and no additional compensation will be allowed for subtractions or additions to contract quantities for the various foundation types.

Excavation, including shoring, material disposal, and pumping, bailing or otherwise draining the excavated area shall not be paid for separately, but shall be included in the contract unit price for offset foundations.

Backfilling and thoroughly compacting material conforming to Article 1004 and shall not be paid for separately, but shall be considered as included in the contract unit price for offset foundations. Concrete shall cure in accordance with Article 1020.13 before being backfilled.

Basis of Payment. Offset foundations will be measured for payment in accordance with Article 836.04 of the Standard Specifications, and paid at the contract unit price per foot for LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET.

TEMPORARY LIGHTING CONTROLLER (VOS)

Description. This work shall consist of furnishing and installing an electrical controller as specified in Section 825 of the Standard Specifications and as specified herein.

The temporary lighting controller shall be 120/240 volt, 100 amps, single phase and 3 wires. The enclosure and control components may be used (not new) but must be able to function properly and safely according to Section 1068 of the Standard Specification and the National Electrical Code (NEC). The temporary lighting will be controlled by photocell mounted on the cabinet, there will be 4 - 30 amp double pole circuit breakers, and the cabinet and control components must be grounded.

The removal of the temporary lighting controller shall not be paid for separately but shall be included in this pay item. The temporary lighting controller shall not be removed until the proposed lighting is in place and the proposed lighting controller is functioning.

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY LIGHTING CONTROLLER, and shall include all material, labor and equipment necessary to perform the work as specified in the plan documentation and as herein specified.

TEMPORARY WOOD POLE (VOS)

Description. This work shall consist of furnishing and installing a temporary wood pole according to Section 830 of the Standard Specifications and as specified herein and shown in the plans.

The wood pole material shall be according to Illinois Department of Transportation Standard Specifications for Road and Bridge Construction in Article 1069.04. The wood pole shall be installed according to Illinois Department of Transportation Standard Specifications for Road and Bridge Construction in Article 830.03 (c) and 830.04.

When specified in the contract plans, a 15 foot truss style mast arm shall be installed on a temporary wood pole with all the necessary hardware and accessories required. The mast arm shall be set at right angles to the centerline of the pavement.

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY WOOD POLE, 60 FT., CLASS 4, 15 FT MAST ARM, which price shall be payment in full for the material including guy wire, excavation, labor, and equipment necessary to complete the work described herein.

TEMPORARY LUMINAIRE (VOS)

Description. This work shall consist of furnishing and installing a temporary luminaire per Section 821 except as revised in this special provision and the details in the plan.

Add the following to first paragraph of Article 1067(c) of the Standard Specifications:

“The reflector shall not be altered by paint or other opaque coatings which would cover or coat the reflecting surface. Control of the light distribution by any method other than the reflecting material and the aforementioned clear protective coating that will alter the reflective properties of the reflecting surface is unacceptable”

Add the following to Article 1067(f) of the Standard Specifications:

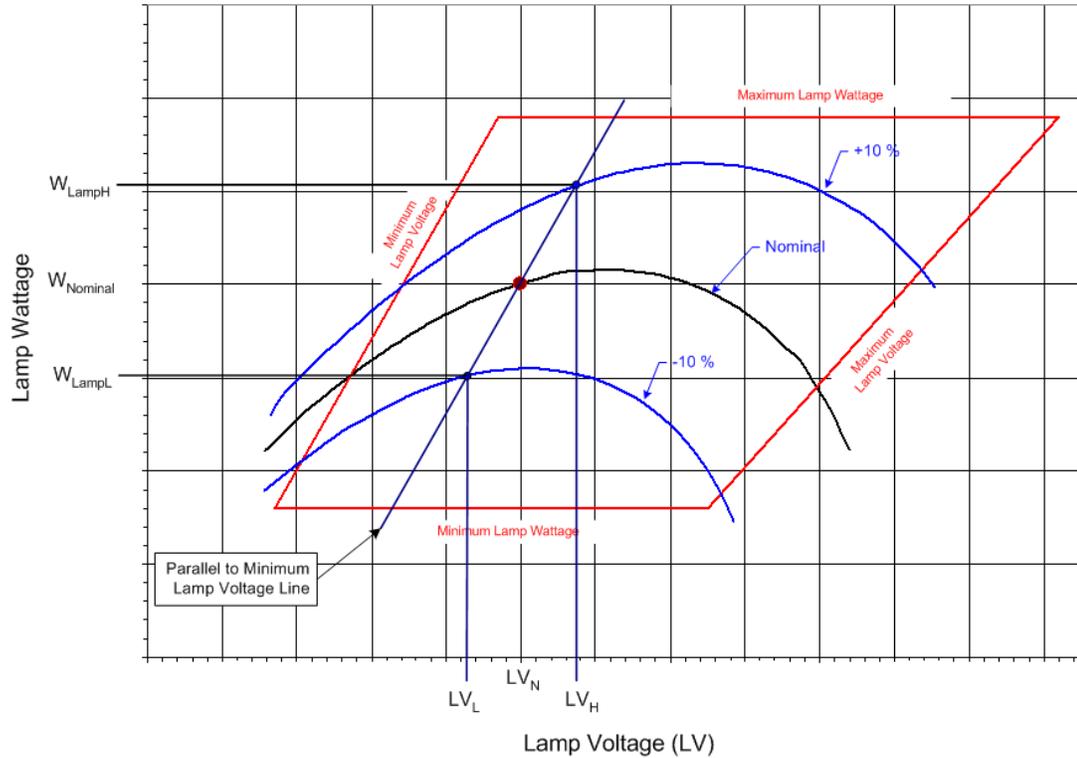
“The ballast shall be a High Pressure Sodium, high power factor, constant wattage auto-regulator, lead type (CWA) for operation on a nominal 240 volt system.”

Revise Article 1067(f)(1) of the Standard Specifications to read:

“The high pressure sodium, auto-regulator, lead type (CWA) ballast shall be designed to ANSI Standards and shall be designed and rated for operation on a nominal 240 volt system. The ballast shall provide positive lamp ignition at the input voltage of 216 volts. It shall operate the lamp over a range of input voltages from 216 to 264 volts without damage to the ballast. It shall provide lamp operation within lamp specifications for rated lamp life at input design voltage range. Operating characteristics shall produce output regulation not exceeding the following values:

Nominal Ballast Wattage	Maximum Ballast Regulation
750	25%
400	26%
310	26%
250	26%
150	24%
70	18%

For this measure, regulation shall be defined as the ratio of the lamp watt difference between the upper and lower operating curves to the nominal lamp watts; with the lamp watt difference taken within the ANSI trapezoid at the nominal lamp operating voltage point parallel to the minimum lamp volt line:



$$\text{Ballast Regulation} = \frac{W_{LampH} - W_{LampL}}{W_{LampN}} \times 100$$

where:

W_{LampH} = lamp watts at +10% line voltage when Lamp voltage = LV_H

W_{LampL} = lamp watts at - 10% line voltage when lamp voltage = LV_L

W_{lampN} = lamp watts at nominal lamp operating voltage = LV_N

Wattage	Nominal Lamp Voltage, LV_N	LV_L	LV_H
750	120v	115v	125v
400	100v	95v	105v
310	100v	95v	105v
250	100v	95v	105v
150	55v	50v	60v
70	52v	47v	57v

Ballast losses, based on cold bench tests, shall not exceed the following values:

Nominal Ballast Wattage	Maximum Ballast Losses
750	15%
400	20%
310	21%
250	24%
150	26%
70	34%

Ballast losses shall be calculated based on input watts and lamp watts at nominal system voltage as indicated in the following equation:

$$\text{Ballast Losses} = \frac{W_{Line} - W_{Lamp}}{W_{Lamp}} \times 100$$

where:

W_{line} = line watts at nominal system voltage

W_{lamp} = lamp watts at nominal system voltage

Ballast output to lamp. At nominal system voltage and nominal lamp voltage, the ballast shall deliver lamp wattage with the variation specified in the following table.

Nominal Ballast Wattage	Output to lamp variation
750	± 7.5%
400	± 7.5%
310	± 7.5%
250	± 7.5%
150	± 7.5%
70	± 7.5%

Example: For a 400w luminaire, the ballast shall deliver 400 watts ±7.5% at a lamp voltage of 100v for the nominal system voltage of 240v which is the range of 370w to 430w.

Ballast output over lamp life. Over the life of the lamp the ballast shall produce average output wattage of the nominal lamp rating as specified in the following table. Lamp wattage readings shall be taken at 5-volt increments throughout the ballast trapezoid. Reading shall begin at the lamp voltage (L_v) specified in the table and continue at 5 volt increments until the right side of the trapezoid is reached. The lamp wattage values shall then be averaged and shall be within the specified value of the nominal ballast rating. Submittal documents shall include a tabulation of the lamp wattage vs. lamp voltage readings.

Nominal Ballast Wattage	LV Readings begin at	Maximum Wattage Variation
750	110v	± 7.5%
400	90v	± 7.5%
310	90v	± 7.5%
250	90v	± 7.5%
150	50v	± 7.5%
70	45v	± 7.5%

Example: *For a 400w luminaire, the averaged lamp wattage reading shall not exceed the range of ±7.5% which is 370w to 430w*

Delete Article 1067.01(h) of the Standard Specifications.

Revise Article 1067.06(a)(1) of the Standard Specifications to read:

“The lamps shall be of the clear type and shall have a color of 1900° to 2200° Kelvin.”

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT.

TEMPORARY ELECTRIC SERVICE INSTALLATION (VOS)

Description. This work shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which are over and above the work performed by the utility. This work shall be conducted according to Section 804 of the Standard Special Provision as specified herein.

The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the electric service work in complete compliance with the requirements of the utility. Materials shall be in accordance with the Standard Specifications.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein

The removal of the temporary electric service installation shall not be paid for separately but shall be included in this pay item.

Basis of Payment. This work shall be paid for at the contract unit price per each for TEMPORARY ELECTRIC SERVICE INSTALLATION, which price shall include all labor, material and equipment necessary to perform the work as specified herein. This item may apply to the work at more than one service location and each will be paid for separately.

REMOVE EXISTING CONDUIT ATTACHED TO STRUCTURE (VOS)

Description. This work shall consist of the disconnection and removal of existing galvanized steel conduits attached to structure. No removal work will be permitted without the approval from the Engineer.

Removal will not start until the proposed pedestrian underpass luminaires are ready to be spliced to the existing underpass lighting system. Splicing to the existing system shall be coordinated and completed on the same day without any interruption of operation of the existing system for that evening.

Existing conduits shall be removed and taken off site for proper disposal. All other incidental work, such as removal of cable or unit duct in conduit, shall not be measured, but shall be considered as included in the conduit removal work.

Basis of Payment. This work shall be paid for at the contract unit price per foot for REMOVE EXISTING CONDUIT ATTACHED TO STRUCTURE, which price shall include all labor, material and equipment necessary to perform the work as specified herein.

LIGHT POLE, SPECIAL (MATERIAL ONLY) (VOS)

Description. This work shall consist of furnishing a light pole complete with an arm for this project as described in the specifications and the details shown in the contract plans. The poles shall be delivered to the Village of Schaumburg Public Works Department or as directed by the Engineer.

Basis of Payment. This item shall be paid for at the contract unit price each for LIGHT POLE, SPECIAL (MATERIAL ONLY).

LUMINAIRE (MATERIAL ONLY) (VOS)

Description. This work shall consist of furnishing LED luminaires of the type specified for this project as described in the specifications and the details shown in the contract plans. The

luminaires shall be delivered to the Village of Schaumburg Public Works Department or as directed by the Engineer.

The luminaire shall be as described in the Luminaire Installation specification of the type specified.

Basis of Payment. This item shall be paid for at the contract unit price each for LUMINAIRE TYPE 1 (MATERIAL ONLY); or LUMINAIRE TYPE 2 (MATERIAL ONLY).

LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 6' (MATERIAL ONLY) (VOS)

Description. This work shall consist of furnishing metal light pole foundations of the bolt circle and shaft size specified and as shown in the plan details. The metal foundations shall be delivered to the Village of Schaumburg Public Works Department or as directed by the Engineer.

Basis of Payment. This item shall be paid for at the contract unit price each for LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" x 6' (MATERIAL ONLY).

BREAKAWAY DEVICE, TRANSFORMER BASE, SPECIAL (MATERIAL ONLY) (VOS)

Description. This work shall consist of furnishing transformer base breakaway device as specified for this project described in the specifications and the details shown in the contract plans. The breakaway devices shall be delivered to the Village of Schaumburg Public Works Department or as directed by the Engineer.

Basis of Payment. This item shall be paid for at the contract unit price each for BREAKAWAY DEVICE, TRANSFORMER BASE, SPECIAL (MATERIAL ONLY).

LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 6' (VOS)

Description. This work shall consist of furnishing and installing metal light pole foundations of the bolt circle and shaft size specified and as shown in the plan details. This work shall be according to Section 836 of the Standard Specifications and as modified herein.

Revise the last paragraph of Article 836.03(b) to read:

Grounding electrodes shall be according to Section 806. Ground rod shall be installed through the metal foundation slot and attached to grounding equipment per detail in plans.

Basis of Payment. This item shall be paid for at the contract unit price each for LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" x 6'.

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 1.

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 Schaumburg

Metropolitan Water Reclamation District of Greater Chicago

Illinois Tollway

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



Storm Water Pollution Prevention Plan



Route MUN 3073 / FAU 1689	Marked Route Woodfield Road	Section 14-00114-01-PV
Project Number 9F21(896)	County Cook	Contract Number 61F09

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issues 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.

Print Name Kristin Mehl, P.E.	Title Engineering Division Manager	Agency Village of Schaumburg
Signature 		Date 3/21/18

I. Site Description

A. Provide a description of the project location (include latitude and longitude):

This project is located along Woodfield Road from Martingale Road to I-290 East Frontage Road in the Village of Schaumburg, Cook County, Illinois. Geographically, the project area is in Section 13, Township 41 N, Range 10 E and Section 18, Township 41 N, Range 11 E. The GPS coordinates of the center of the project area are 42.04216 N and 88.02945E.

B. Provide a description of the construction activity which is subject of this plan:

This project includes earth excavation, pavement removal, construction of storm sewers, HMA binder and surface course, combination concrete curb and gutter, street lighting, traffic signals, storm sewer, tree removal, landscaping, erosion control, pavement marking, sodding, and all incidental and collateral work necessary to complete the project as shown on the plans.

C. Provide the estimated duration of this project:

10 months

D. The total area of the construction site is estimated to be 11.3 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 10.2 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.75

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

232A - Ashkum silty clay loam, 0 to 2 percent slopes, T factor = 5
 531B - Markham silt loam, 2 to 4 percent slopes, T factor = 3
 805B - Orthents, clayey, undulating, T factor = 2

G. Provide an aerial extent of wetland acreage at the site:

0 acre

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

Roadway excavations, trenches, and exposed soil in parkways.

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 scopes, etc.):

Stage 1 - Removal and replacement of curb and gutter, pavement, driveway, sidewalk, and storm sewer system on the eastbound side of the road.

Stage 2 - Removal and replacement of curb and gutter, pavement, driveway, sidewalk, and storm sewer system on the westbound side of the road.

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 off site 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 Schaumburg and Illinois Department of Transportation

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

Village of Schaumburg

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

The project is tributary to Salt Creek.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

All vegetation outside of the construction limits will be undisturbed.

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain
- Wetland Riparian
- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity, or siltation
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

b. 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:

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

[Empty text box for direct discharge location]

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

[Empty text box for dewatering discharge location]

2. TMDL (fill out this section if checked above)

a. The name(s) of the listed water body:

[Empty text box for water body name]

b. 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:

[Empty text box for erosion and sediment control strategy]

c. 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 the allocation:

[Empty text box for waste load allocation steps]

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

- | | |
|---|--|
| <input checked="" type="checkbox"/> Soil Sediment | <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete | <input checked="" type="checkbox"/> Antifreeze / Coolants |
| <input checked="" type="checkbox"/> Concrete Truck waste | <input checked="" type="checkbox"/> Waste water from cleaning construction equipment |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Solid waste Debris | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Paints | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Solvents | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> 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 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:

- | | |
|---|--|
| <input type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input checked="" type="checkbox"/> Sodding |
| <input checked="" type="checkbox"/> Protection of Trees | <input type="checkbox"/> Geotextiles |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) _____ |

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

Protection of Trees - This shall consist of the item "Temporary Fence" placed around trees to remain in accordance with the plans and special provisions.

Temporary Erosion Control Seeding will be used throughout construction to stabilize areas of bare earth.

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

Permanent seeding, erosion control blanket, and sodding will be placed at the conclusion of the project to establish permanent vegetation.

- 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.

The following stabilization practices will be used for this project:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input type="checkbox"/> Rock Outlet Protection |
| <input checked="" type="checkbox"/> Temporary Ditch Check | <input type="checkbox"/> Riprap |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Temporary Pipe Slope Drain | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Temporary Sediment Basin | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Temporary Stream Crossing | <input type="checkbox"/> Concrete Revetment Mats |
| <input type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders |
| <input type="checkbox"/> Turf Reinforcement Mats | <input checked="" type="checkbox"/> Other (specify) Above Grade Inlet Protection |
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (specify) _____ |

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

Perimeter Erosion Barrier - Barriers will be placed along the areas of the project that drain offsite.
Temporary Ditch Check - Ditch checks will be placed in the median ditch to reduce flow velocity and trap sediment.
Storm Drain Inlet Filter - Inlet filters will be placed on all open lid structures in paved areas to collect sediment during construction.
Above Grade Inlet Protection - Above grade inlet filters will be placed on all open lid structures in landscaped areas to collect sediment during construction.

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

D. Treatment Chemicals

Will polymer flocculents or treatment chemicals be utilized on this project: Yes No

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

E. Permanent 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 on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design & Environment 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:

The slopes of the pipes have been designed to reduce the velocity of the water as much as possible without causing siltation within the pipes. Riprap will be installed at storm sewer outfalls.

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 Illinois Environmental Protection Agency'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:

All management practices, controls, and other provisions provided in this plan are in accordance with IDOT Standard Specifications for Road and Bridge Construction and the Illinois Urban Manual.

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 construction entrances/exits)
- 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 operations
- Time frame for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
- Permanent stabilization activities for each area of the project

2. 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:

- 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 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 to the Contractor for the practices associated with this project. 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 Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

Inlet Filters and Above Grade Inlet Filters - Sediment will be removed on a regular basis and filter bags replaced if they become damaged.

Temporary Ditch Filters - Any ditch filters that fail or become sediment laden shall be repaired or replaced immediately.

Perimeter Erosion Barrier - Sediment shall be removed if the integrity of the fencing is in jeopardy and any fencing knocked down shall be repaired immediately.

IV. Inspections

Qualified personnel shall inspect disturbed areas of the construction site 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 e-mail 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

Additional Inspections Required:

--

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.



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 Contractors/subcontractor completing this form.

Route FAU 3073 / 1689	Marked Route Woodfield Road	Section 14-00114-01-PV
Project Number 9F21(896)	County Cook	Contract Number 61F09

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. ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, 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

Print Name <input type="text"/>	Signature <input type="text"/>
Title <input type="text"/>	Date <input type="text"/>
Name of Firm <input type="text"/>	Telephone <input type="text"/>
Street Address <input type="text"/>	City/State/Zip <input type="text"/>

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



Illinois Environmental Protection Agency

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

Division of Water Pollution Control Notice of Intent (NOI) for General Permit to Discharge Storm Water Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

For Office Use Only

OWNER INFORMATION

Permit No. ILR10 _____

Company/Owner Name: _____
Mailing Address: _____ Phone: _____
City: _____ State: ____ Zip: _____ Fax: _____
Contact Person: _____ E-mail: _____
Owner Type (select one) _____

CONTRACTOR INFORMATION

MS4 Community: Yes No

Contractor Name: _____
Mailing Address: _____ Phone: _____
City: _____ State: ____ Zip: _____ Fax: _____

CONSTRUCTION SITE INFORMATION

Select One: New Change of information for: ILR10 _____
Project Name: _____ County: _____
Street Address: _____ City: _____ IL Zip: _____
Latitude: _____ Longitude: _____
(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range
Approximate Construction Start Date _____ Approximate Construction End Date _____
Total size of construction site in acres: _____
If less than 1 acre, is the site part of a larger common plan of development?
 Yes No

Fee Schedule for Construction Sites:
Less than 5 acres - \$250
5 or more acres - \$750

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency? Yes No
(Submit SWPPP electronically to: epa.constilr10swppp@illinois.gov)
Location of SWPPP for viewing: Address: _____ City: _____
SWPPP contact information: _____ Inspector qualifications: _____
Contact Name: _____
Phone: _____ Fax: _____ E-mail: _____
Project inspector, if different from above _____ Inspector qualifications: _____
Inspector's Name: _____
Phone: _____ Fax: _____ E-mail: _____

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) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

TYPE OF CONSTRUCTION (select one)

Construction Type _____

SIC Code: _____

Type a detailed description of the project:

HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency Yes No

Endangered Species Yes No

RECEIVING WATER INFORMATION

Does your storm water discharge directly to: Waters of the State or Storm Sewer

Owner of storm sewer system: _____

Name of closest receiving water body to which you discharge: _____

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this 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. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

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))

Owner Signature:

Date:

Printed Name:

Title:

INSTRUCTIONS FOR COMPLETION OF CONSTRUCTION ACTIVITY NOTICE OF INTENT (NOI) FORM

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the upper right hand corner of the first page.

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610

FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

Reports must be typed or printed legibly and signed.

Any facility that is not presently covered by the General NPDES Permit for Storm Water Discharges From Construction Site Activities is considered a new facility.

If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line, changes of information or permit renewal notifications do not require a fee.

NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

Use the formats given in the following examples for correct form completion.

	Example	Format
Section	12	1 or 2 numerical digits
Township	12N	1 or 2 numerical digits followed by "N" or "S"
Range	12W	1 or 2 numerical digits followed by "E" or "W"

For the Name of Closest Receiving Waters, do not use terms such as ditch or channel. For unnamed tributaries, use terms which include at least a named main tributary such as "Unnamed Tributary to Sugar Creek to Sangamon River."

Submission of initial fee and an electronic submission of Storm Water Pollution Prevention Plan (SWPPP) for Initial Permit prior to the Notice of Intent being considered complete for coverage by the ILR10 General Permits. Please make checks payable to: Illinois EPA at the above address.

Construction sites with less than 5 acres of land disturbance - fee is \$250.

Construction sites with 5 or more acres of land disturbance - fee is \$750.

SWPPP should be submitted electronically to: epa.constilr10swppp@illinois.gov. When submitting electronically, use Project Name and City as indicated on NOI form.



Illinois Environmental Protection Agency

Bureau of Water • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control

Construction Site Storm Water Discharge Incidence of Non-Compliance (ION)

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Compliance Assurance Section at the above address. You may email this completed form to: epa.swnoncomp@illinois.gov

For Office Use Only
Permit No. ILR10_____

Permittee Information:

Name: _____

Street Address: _____ P.O. Box: _____

City: _____ State: IL Zip Code: _____ County: _____

Phone: _____ Email: _____

Construction Site Information:

Site Name: _____

Street Address: _____

City: _____ State: IL Zip Code: _____

Latitude: _____ Longitude: _____

(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

Cause of Non-Compliance

Actions Taken to Prevent Any Further Non-Compliance

Environmental Impact Resulting From the Non-Compliance

Actions Taken to Reduce the Environmental Impact Resulting From the Non-Compliance

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))

Owner Signature:

Date:

Printed Name:

Title:

DIVISION OF WATER POLLUTION CONTROL
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
FIELD OPERATIONS SECTION

GUIDELINES FOR COMPLETION OF INCIDENCE OF NON-COMPLIANCE (ION) FORM

Complete and submit this form for any violation of the Storm Water Pollution Prevention Plan observed during any inspection conducted, including those not required by the SWPPP. Please adhere to the following guidelines:

Initial submission within 24 hours by email, telephone or fax (see region fax numbers) of any incidence of non-compliance for any violation. Submit email copy to: epa.swnoncomp@illinois.gov. After 24 hours notification, submit signed original ION within 5 days to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance #19
Post Office Box 19276
Springfield, Illinois 62794-9276

FIELD OPERATIONS HEADQUARTERS
Bruce Yurdin, Manager
Phone: 217/782-3362 Fax: 217/785-1225
EMAIL: epa.swnoncomp@illinois.gov

Region 1 - ROCKFORD
Chuck Corley, Manager
Phone: 815/987-7760 Fax: 815/987-7005

Region 2 - DESPLAINES
Jay Patel, Manager
Phone: 847/294-4000 Fax: 847/294-4058

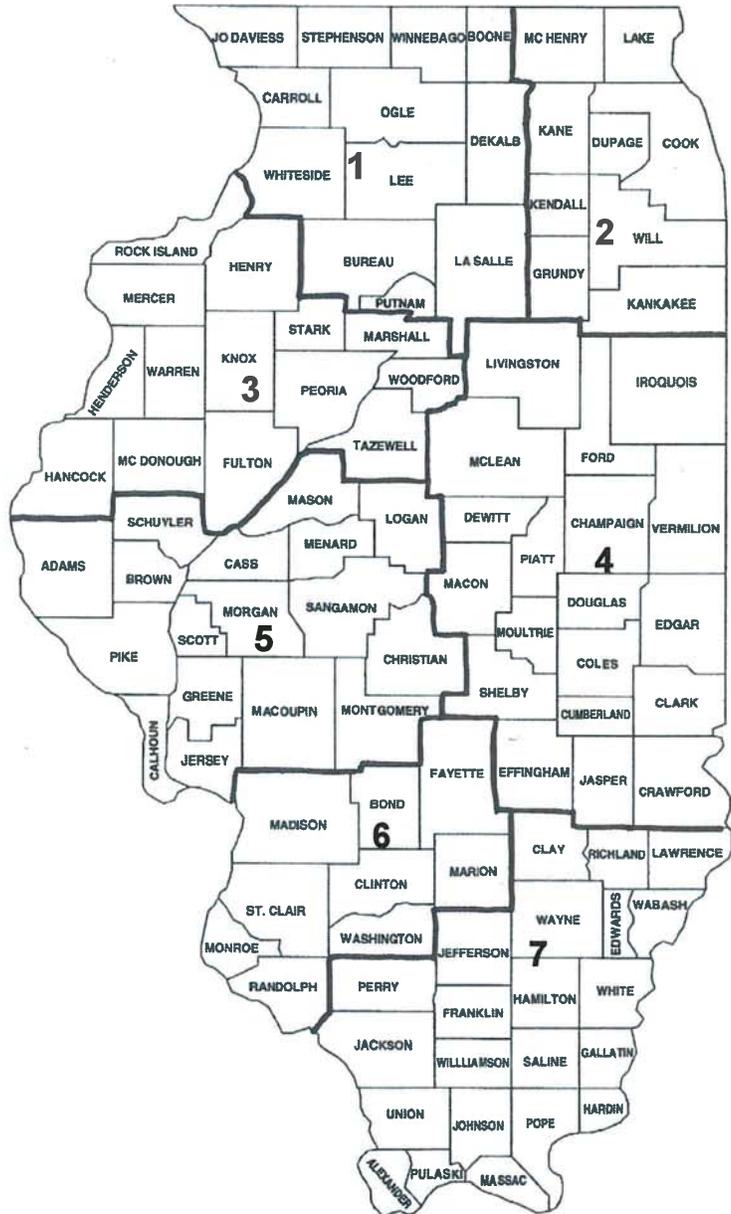
Region 3 - PEORIA
Jim Kammueler, Manager
Phone: 309/693-5463 Fax: 309/693-5467

Region 4 - CHAMPAIGN
Joe Koronkowski, Manager
Phone: 217/278-5800 Fax: 217/278-5808

Region 5 - SPRINGFIELD
Bruce Yurdin, FOS Manager
Phone: 217/782-3362 Fax: 217/785-1225

Region 6 - COLLINSVILLE
Bruce Yurdin, FOS Manager
Phone: 217/782-3362 Fax: 217/785-1225

Region 7 - MARION
Byron Marks, Manager
Phone: 618/993-7200 Fax: 618/997-5467





Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control NOTICE OF TERMINATION (NOT)

of Coverage under the General Permit for Storm Water Discharges Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

OWNER INFORMATION

Permit No. ILR10 _____

Owner Name: _____

Owner Type (select one) _____

Mailing Address: _____ Phone: _____

City: _____ State: ____ Zip: _____ Fax: _____

Contact Person: _____ E-mail: _____

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____ Phone: _____

City: _____ State: ____ Zip: _____ Fax: _____

CONSTRUCTION SITE INFORMATION

Facility Name: _____

Street Address: _____

City: _____ IL Zip: _____ County: _____

NPDES Storm Water General Permit Number: ILR10 _____

Latitude: _____ Longitude: _____
(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

DATE PROJECT HAS BEEN COMPLETED AND STABILIZED: _____

NOTE: Coverage under this permit cannot be terminated without the completion date.

I certify under penalty of law that disturbed soils at the identified facility have been finally stabilized or that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with industrial activity by the general permit, and that discharging pollutants in storm water associated with industrial activity to Waters of the State is unlawful under the Environmental Protection Act and the Clean Water Act where the discharge is not authorized by an NPDES Permit.

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))

Owner Signature:

Date:

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control, Attn: Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

(Do not submit additional documentation unless requested)

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) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

GUIDELINES FOR COMPLETION OF NOTICE OF TERMINATION (NOT) FORM

Please adhere to the following guidelines:

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible.

Submit completed forms to:

Illinois Environmental Protection Agency
 Division of Water Pollution Control, Attn: Permit Section
 1021 North Grand Avenue East
 P.O. Box 19276
 Springfield, Illinois 62794-9276
 or call (217) 782-0610
 FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

Reports must be typed or printed legibly and signed.

NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

Use the formats given in the following examples for correct form completion.

	Example	Format
Section	12	1 or 2 numerical digits
Township	12N	1 or 2 numerical digits followed by "N" or "S"
Range	12W	1 or 2 numerical digits followed by "E" or "W"

Final stabilization has occurred when:

- (a) all soil disturbing activities at the site have been completed;
- (b) a uniform perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas not covered by permanent structures; or
- (c) equivalent permanent stabilization measures have been employed.

WATERSHED MANAGEMENT PERMIT
METROPOLITAN WATER RECLAMATION DISTRICT
OF GREATER CHICAGO
111 EAST ERIE, CHICAGO, ILLINOIS, 60611

Watershed Management Permit No.

www.mwrdr.org

INSTRUCTIONS FOR COMPLETING PERMIT FORM: Submit two original signed copies of this permit application (nine pages) and any required WMO schedules listed below; do not leave any blank spaces; use "X" for checking applicable information. Also submit two copies of location map and plans. Address all correspondence to the Local Sewer Systems Section; for any inquiries or assistance, telephone (312) 751-3255.

NAME AND LOCATION:

Name of Project (as shown on plans): FAU Route 3073/1689 (Woodfield Road - Martingale Road to East Frontage Road)

Location of Project (street address or with respect to two major streets): Woodfield Road from Martingale Road to East Frontage Road

Municipality (Township, if unincorporated) Village of Schaumburg

Section 13, Township 41 N, Range 10 E

PIN (include all PINs for project, use additional sheets if more than two): - - - - - ; - - - - -

Check type of sewer area for project: Combined Sewer Area Separate Sewer Area

- Project Information (Required in all cases) WMO Schedule A (Page 5 of 9)
- Sewer Summary (Required in all cases) WMO Schedule B (Page 6 of 9)
- Sewer Connections (Required in all cases) WMO Schedule C (Page 7 of 9)
- Detention & Stormwater Management Facilities (WMO) WMO Schedule D (3 Pages)
- Detention & Stormwater Management Facilities (Legacy) WMO Schedule D_{Legacy} (4 Pages)
- Lift Station and/or Force Main WMO Schedule E (2 Pages)
- Characteristics of Waste Discharge WMO Schedule F (2 Pages)
- Treatment or Pretreatment Facilities WMO Schedule G (2 Pages)
- Hazard Areas (Floodplain / Floodway /Riparian Areas) WMO Schedule H (2 Pages)
- Affidavit Relative to Compliance with Article 7 WMO Schedule J (1 Page)
- Affidavit of Disclosure of Property Interest WMO Schedule K (2 Pages)
- Notice of Requirements for Storm Water Detention WMO Schedule L (2 Pages)
- Current Survey of Property Interests (Attachment for Schedule K or L) Exhibit A
- Outfall, Direct Connection, District Owned or Leased Property WMO Schedule O (1 Page)
- Soil Erosion and Sediment Control WMO Schedule P (2 Pages)
- Recording and Maintenance WMO Schedule R (2 Pages)
- Recording Exhibit (Attachment for Schedule K or L) Exhibit R
- Wetlands and Wetland Buffer Areas WMO Schedule W (2 Pages)

Refer to Table 1 of § 201 of Article 2 of Watershed Management Ordinance for applicable Permitting Authority.

OTHER DOCUMENTS: Indicate title, number of pages and originator Plans for Proposed Federal Aid Highway, FAU Route 3073/1689 (Woodfield Road) 148 pages prepared by Civiltech Engineering, Inc.

NOTE: ATTACH FEE PAYMENT VOUCHER AND PAYMENT IF APPLICABLE

DISTRICT USE ONLY

Application received: FEB 5 - 2018 WMO Permit issued MAR 30 2018 WRP: EVRP

Issued by: DISTRICT Authorized Municipality

APPROVED

GENERAL CONDITIONS OF THE PERMIT

Engineer after having inspected and approved the sewer installation.

1. **Definitions.** The definitions of Appendix A of the Watershed Management Ordinance are incorporated into this Watershed Management Permit by reference. Additionally, the following words and phrases shall be defined as follows:
 - a) **Building and Occupancy Permit.** Building and Occupancy Permit issued by the Municipality.
 - b) **Design Engineer.** A Professional Engineer who prepares plans and specifications for the project, and signs the Watershed Management Permit Application.
 - c) **Inspection Engineer.** A Professional Engineer who inspects the development to ensure compliance with the design plans, specifications, a Watershed Management Permit, and the Watershed Management Ordinance.
 - d) **Permit.** Watershed Management Permit.
 - e) **General Conditions.** General Conditions contained in a Watershed Management Permit.
 - f) **Special Conditions.** Special conditions of this Watershed Management Permit.

2. **Adequacy of Design.** The schedules, plans, specifications and all other data and documents submitted for this Permit are made a part hereof. The Permit shall not relieve the Design Engineer of the sole responsibility for the adequacy of the design. The issuance of this Permit shall not be construed as approval of the concept or construction details of the proposed facilities and shall not absolve the Permittee, Co-Permittee or Design Engineer of their respective responsibilities.

3. **Joint Construction and Operation Permits.** Unless otherwise stated by the Special Conditions, the issuance of this Permit shall be a joint construction and operation permit, provided that the Permittee or Co-Permittee has complied with all General and Special Conditions.

4. **Allowable Discharges.** Discharges into the Sanitary Sewer system constructed under this Permit shall consist of sanitary Sewage only. Unless otherwise stated by the Special Conditions, there shall be no discharge of industrial wastes under this Permit. Stormwater shall not be permitted to enter the Sanitary Sewer system. Without limiting the general prohibition of the previous sentence, roof and footing drains shall not be connected to the Sanitary Sewer system.

5. **Construction Inspection.** All erosion and sediment control facilities, Stormwater Facilities, Detention Facilities, and Qualified Sewer Construction shall be inspected and approved by an Inspection Engineer acting on behalf of the Permittee or the Owner of the project, or by a duly authorized and competent representative of the Inspection Engineer. No sewer trenches shall be backfilled except as authorized by the Inspection

6. **Maintenance.** Stormwater Facilities, Detention Facilities, Qualified Sewer Construction, Sanitary Sewer lines, systems or facilities constructed hereunder or serving the facilities constructed hereunder shall be properly maintained and operated at all times in accordance with all applicable requirements. It is understood that the responsibility for maintenance shall run as a joint and several obligation against the Permittee, the Co-Permittee, the property served, the Owner and the operator of the facilities, and said responsibility shall not be discharged nor in any way affected by change of ownership of said property, unless the District has authorized assignment of the permit.

7. **Indemnification.** The Permittee shall be solely responsible for and shall defend, indemnify and hold harmless the Metropolitan Water Reclamation District of Greater Chicago ("District", "MWRD", or "MWRDGC") and its Commissioners, officers, employees, servants, and agents from liabilities of every kind, including losses, damages and reasonable costs, payments and expenses (such as, but not limited to, court costs and reasonable attorneys' fees and disbursements), claims, demands, actions, suits, proceedings, judgments or settlements, any or all of which are asserted by any individual, private entity, or public entity against the District and its Commissioners, officers, employees, servants, or agents and arise out of or are in any way related to the issuance of this Permit. Without limiting the generality of the preceding sentence, the provisions of this paragraph shall extend to indemnify and hold harmless the District and its Commissioners, officers, employees, servants, and agents from any claims or damages arising out of or in connection with the termination or revocation of this Permit.

The Permittee shall be solely responsible for and shall defend, indemnify and hold harmless an Authorized Municipality and its elected officials, officers, employees, servants, and agents from liabilities of every kind, including losses, damages and reasonable costs, payments and expenses (such as, but not limited to, court costs and reasonable attorneys' fees and disbursements), claims, demands, actions, suits, proceedings, judgments or settlements, any or all of which are asserted by any individual, private entity, or public entity against the Authorized Municipality and its elected officials, officers, employees, servants, or agents and arise out of or are in any way related to the issuance of this Permit. Without limiting the generality of the preceding sentence, the provisions of this paragraph shall extend to indemnify and hold harmless the Authorized Municipality and its elected officials, officers, employees, servants, and agents from any claims or damages arising out of or in connection with the termination or revocation of this Permit.

- 8. **Sewer Construction by District.** Permittee understands and acknowledges that the District has the right and power to construct and extend sewer service facilities and render such services within the area to be served by the project for which this Permit is issued, and that by the District constructing and extending such sewer service facilities and rendering such services, the facilities constructed by the Permittee under this Permit may decrease in value, become useless or of no value whatsoever, the Permittee may also sustain a loss of business, income and profits.

Therefore, by accepting this Permit and acting thereon, the Permittee, for itself, its successors and assigns, does remise, release and forever discharge the District and its Commissioners, officers, employees, servants, and agents of any and all claims whatsoever which Permittee may now have or hereafter acquire and which Permittee's successors and assigns hereafter can, shall, or may have against the District and its Commissioners, officers, employees, servants, and agents for all losses and damages, either direct or indirect, claimed to have been incurred by reason of the construction or extension at any time hereafter by the District of sewer service facilities in the service area contemplated by this Permit, the rendering of such services, which District facilities and services decrease the value of the facilities constructed by the Permittee under this Permit, make same useless or of no value whatsoever, including but not limited to, any and all damages arising under 70 ILCS 2605/19; the taking of private property for public use without due compensation; the interference with the contracts of Permittee; the interference with Permittee's use and enjoyment of its land; and the decrease in value of Permittee's land.

- 9. **Third Parties.** Regarding Qualified Sewer Construction, this Permit does not grant the right or authority to the Permittee: (a) to construct or encroach upon any lands of the District or of any other parties, (b) to construct outside of the territorial boundaries of the District except as allowed under an extraterritorial service agreement, (c) to construct or encroach upon the territorial boundaries of any units of local government within the District, (d) to connect to or discharge into or be served by (directly or indirectly) any sewer or sewer system owned or operated by third parties.
- 10. **Costs.** It is expressly stipulated and clearly understood that the Stormwater Facilities, Detention Facilities, Qualified Sewer Construction, or facilities for which the Permit is issued shall be constructed, operated and maintained at no cost to the District.
- 11. **Other Sewer Construction.** The District reserves the right, privilege and authority to permit others to reconstruct, change, alter and replace all sewers and appurtenances thereto at the point of connection of any sewerage system to a District interceptor and/or in public

right-of-ways of District easements, and to introduce additional Sewage flow through this connection into the intercepting sewer of said District.

- 12. **Change of Use.** This Permit shall be incorporated in the Building and Occupancy Permit for the Building or Buildings served under this Permit. The Owner or occupant of any Building served under this Permit shall not cause, or permit, a change of use of the Building to a use other than that indicated in this Permit without first having obtained a written permission from the Executive Director of the District.
- 13. **Interceptors Overloading.** The District hereby serves notice that its interceptors may flow full and may surcharge, and flooding of the proposed system may occur. The Permittee agrees that the proposed systems shall be constructed, operated and maintained at the sole risk of the Permittee.
- 14. **Transferability.** This Permit may not be assigned or transferred without the written consent of the Executive Director of the District or Enforcement Officer of an Authorized Municipality. However, a Sole Permittee may be required to assign or transfer the Permit when divesting itself of ownership to a third-party and should notify the District prior to such divestment so that the District may determine whether assignment to the new owner is necessary.
- 15. **Termination.** The District has the right to enforce or revoke a Permit issued by either the District or an Authorized Municipality as outlined in Article 12 of the Watershed Management Ordinance.

It is understood and agreed that in the event the Permittee shall default on or fail to perform and carryout any of the covenants, conditions or provisions of this Permit and such default or violation shall continue for sixty (60) days after receipt of notice thereof in writing given by the Executive Director of the District, then it shall be lawful for the District at or after the expiration of said sixty (60) days to declare said Permit terminated. The Permittee agrees that immediately upon receipt of written notice of such termination it will stop all operations, discontinue any discharges and disconnect the sewerage system or facilities constructed under this Permit. If the Permittee fails to do so, the District shall have the right to disconnect said system. The Permittee hereby agrees to pay for any costs incurred by the District for said disconnection.

- 16. **Rights and Remedies.** The various rights and remedies of the District contained in this Permit shall be construed as cumulative, and no one of them shall be construed as exclusive of any one or more of the others or exclusive of any other rights or remedies allowed by applicable rules, regulations, ordinances and laws. An election by the District to enforce any one or more of its rights or

remedies shall not be construed as a waiver of the rights of the District to pursue any other rights or remedies provided under the terms and provisions of this Permit or under any applicable rules, regulations, ordinances or laws.

17. **Expiration.** This Permit shall expire if construction has not started within one (1) year from the date of issue. Construction under an expired Permit is deemed construction without a Permit. All construction under this Permit shall be completed within two (2) years after start of construction. If conditions so warrant, an extension may be granted. For publicly financed projects (e.g. special assessments) the one (1) year period indicated will be considered from the date of final court action.
18. **Revocation.** In issuing this Permit, the District or Authorized Municipality has relied upon the statements and representations made by the Permittee or his agent. Any incorrect statements or representations shall be cause for revocation of this Permit, and all the rights of the Permittee hereunder shall immediately become null and void.
19. **Advance Notice.** The Permittee shall give the District or Authorized Municipality advance notice of at least two working days prior to the following: mobilization and installation of Erosion and Sediment Control Practices; commencement of construction; excavation for Qualified Sewer Construction; Major Stormwater Systems and Detention Facilities under this Permit; and completion of construction. When advance notice is given, the Permittee shall provide the Permit number, municipality and location.
20. **Compliance with Plans and Specifications.** All construction shall be in accordance with the plans and specifications submitted for this Permit and made a part hereof. No changes in, or deviation from the plans and specifications which affect capacity, maintenance, design requirements, service area or Permit requirements shall be permitted unless revised plans have been submitted to, and approved by the District or Authorized Municipality. The Permit together with a set of the plans and specifications (revised plans and specifications, if any) shall be kept on the jobsite at all times during construction and until final inspection and approval by the District or Authorized Municipality.
21. **Testing and Approval.** All construction under this Permit shall be subject to inspection, testing and approval by the District. All testing shall be made, or caused to be made, by the Permittee at no cost to the District and in the presence of the District representative. Upon satisfactory completion of construction, the Permittee and the owner shall submit, or cause to be submitted, a completion certificate and request for approval on the form prescribed by the District. No sewer or other facilities shall be put in service until all the conditions of the Permit have been satisfactorily met.
22. **Record Drawings.** Before final inspection and approval by the District or an Authorized Municipality, the Permittee shall furnish, or cause to be furnished to the District or an Authorized Municipality, a set of Record drawings and Schedule R for the site stormwater plan, Detention Facilities, Stormwater Facilities, and Qualified Sewer Construction, or a statement that the project was constructed in accordance with the original plans and specifications.
23. **Compliance with Rules and Regulations.** The Permittee hereby expressly assumes all responsibilities for meeting the requirements of all applicable rules, regulations, ordinances and laws of Local, State and Federal authorities. Issuance of this Permit shall not constitute a waiver of any applicable requirements.
24. **Severability.** The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit, is held invalid, the remaining provisions of this Permit shall continue in full force and effect.
25. **Property Rights.** This Permit does not convey any property rights of any sort, or any exclusive privilege.
26. **Conflict with Other Conditions.** In the case of conflict between these General Conditions and any other condition(s) in this permit, the more stringent condition(s) shall govern.

**WMO SCHEDULE A
PROJECT INFORMATION**

Watershed Management Permit No. **18-041**

1. **NAME OF PROJECT** FAU Route 3073/1689 (Woodfield Road- Martingale Road to East Frontage Road)
(as shown on the plans)

2. **APPURTENANCES** (check all applicable items)

- Siphon Drop Manholes Public Lift Station (Submit Sch. E) Outfalls (Submit Sch. O)
- Stream Crossing Direct Connections to District → Describe _____

3. **RECEIVING SANITARY/COMBINED SEWER SYSTEM**

A. System that project will connect to is:

- Existing Proposed /Under Construction → District Permit # _____

List owners of all sewers from project to District interceptor _____

4. **RECEIVING STORM SEWER SYSTEM TRIBUTARY TO WATERWAY**

A. System that project will connect to is:

- Existing Proposed /Under Construction → District Permit # _____

List owners of all sewers from project to waterway Village of Schaumburg and Illinois Department of Transportation

5. **EXISTING LIFT STATION**

- No Yes → Receiving system includes existing lift station

If yes, indicate location _____

6. **FLOOD PROTECTION AREAS**

Does any part of the project area impact the following? (check all applicable items)

- Floodplain/Floodway/Riparian (Schedule H) Wetlands/Riparian (Schedule W)

7. **SIZE OF PROJECT**

		<u>Impervious area within project</u>	
A. Total contiguous ownership	<u>0</u> acres	C. Before development	<u>7.58</u> acres
B. Development Area	<u>11.3</u> acres	D. After development	<u>8.07</u> acres

8. **STORMWATER MANAGEMENT**

A. Is project in the service area of an existing District permitted detention facility?

- No Yes → District Permit No. _____

B. Is stormwater management provided under this permit?

- No Yes → Required by: District (Submit Sch. D) Other

C. Type of stormwater management

Illinois Department of Transportation

- Runoff Control Volume Control Detention Storage

WMO SCHEDULE B SEWER SUMMARY

Watershed Management Permit No.



PROJECT NAME: FAU Route 3073/1689 (Woodfield Road - Martingale Road to East Frontage Road)

(as shown on the plans)

1. **SEWER SUMMARY:** Include all qualified sewer construction sewers (Sanitary sewers in combined and separate sewer areas and Storm sewers in combined sewer area) and their tributary type: Sanitary (San), Combined (C), Storm to Combined (SC), Storm to Waterway (SW), or Storm part of Volume Control (SVC)

Tributary Type	Choose an Choose one	Choose an Choose one	Choose an Choose one	Choose an Choose one	Choose Choose one	Choose an Choose one	Choose Choose one
Pipe Size (in.)							
Total Length (ft.)							
Min. slope used (%)							
Pipe Material *							
Total Manholes							
Total Cleanouts							
Catch Basin/Inlets							

* Pipe material and joint specifications must be shown on plans. See Technical Guidance Manual for acceptable specifications.

Sewer construction in floodplain: No Yes → FPE _____ ft.

Sanitary Manholes in floodplain _____

Note: All structures shall have lids located above the FPE or be constructed with watertight, bolt down covers/lids.

2. NATURE OF PROJECT (Check all that apply)

Brief description Roadway reconstruction

- Publicly financed Sewer extension to serve future development
 Sewer system serving a subdivision Storm sewers in combined sewer area
 Off-site trunk sewer to serve subdivision Service connections to serve buildings (Sch. C)
 Other _____

3. SEWER EXTENSIONS

Identify proposed project designed to service future connections (not included in Schedule C). Check the appropriate box and submit service area map and estimate of population equivalent (PE) to be served.

- NO YES → Service area map
 P.E. estimate submitted

WMO SCHEDULE C
SEWER CONNECTIONS

Watershed Management Permit No.

0-041

(FILL OUT ALL SECTIONS THAT APPLY)

1. BUILDING CONNECTION DATA

A. RESIDENTIAL BUILDINGS

<input type="checkbox"/> Single Family	Total dwelling units *	_____	
	Number of sewer connections *	_____	PE** _____
<input type="checkbox"/> Multi Family	Total dwelling units *	_____	
	Number of sewer connections *	_____	PE** _____

B. COMMERCIAL & RECREATIONAL BUILDINGS

Number of sewer connections _____ PE** _____

C. INDUSTRIAL BUILDINGS

Number of sewer connections _____ PE** _____

* Each sanitary line exiting a building is a connection

** Population Equivalent (Submit calculations for each connection and total from all connections)

2. BUILDING USE - (Check all that apply)

A. COMMERCIAL & RECREATIONAL

Describe use of buildings, including principal product(s) or activities _____

- | | |
|--|--|
| <input type="checkbox"/> Food preparation or processing (install grease separator) | <input type="checkbox"/> Laundromat (install lint basin) |
| <input type="checkbox"/> Swimming pool (provide pool plans) | <input type="checkbox"/> Auto service (install triple basin) |
| <input type="checkbox"/> Manufacturing (describe) _____ | <input type="checkbox"/> Auto wash (install mud basin) |
| <input type="checkbox"/> Other _____ | |

B. INDUSTRIAL BUILDINGS

Describe use of buildings, including principal product(s) or activities _____

- Sewer connections will receive domestic sewage only
 Industrial waste is produced

NOTE: If industrial waste is produced, submit WMO Schedule F & WMO Schedule G and plumbing plans along with flow diagram for pretreatment system.

**WMO SCHEDULE P
SOIL EROSION AND SEDIMENT CONTROL**

Name of Project: FAU 3073/1689 (Woodfield Road - Martingale Road to East Frontage Road)

Type of Development (check one below):

- Single-family home
 Residential Subdivision
 Multi-family residential
 Non-residential
 Right-of-way
 Open space

1) Total proposed disturbed area: 11.3 acres

2) Does the site's stormwater discharge directly to:

- Waters of the State
 Storm Sewer
 Combined Sewer

If Waters of the State, provide name of receiving water body: _____

3) If answer to (1) is \geq one acre or part of a larger planned common development \geq one acre, provide IEPA NPDES ILR10 Permit Number*: _____

If ILR10 permit coverage applies, provide a signed copy of ILR10 Notice of Intent (NOI)

*If all site stormwater discharges, including construction dewatering, drain to a combined sewer system, ILR10 permit coverage is not required

4) Summary of soil erosion and sediment control practices:

			Area Controlled (sq ft)	Permanent (P), Temporary (T), OR Both (B)
Silt fence	1,702	(ft)	25,000	T
Entrance/exit control		(quantity)		
Vegetative control	92,952	(sq ft)	92,950	B
Interceptor ditches		(ft)		
Berms		(ft)		
Inlet control	56	(quantity)	343,700	T
Sediment basins		(cu yd)		
Volume Control Protection		(indicate)		
Volume Control Cleaning		(indicate)		
Concrete Washout	1	(quantity)		T
Debris basins		(cu ft)		
Desilting basins		(cu ft)		
Silt traps		(cu ft)		
Mulching and matting		(cu ft/sq ft)		
Other Temporary Ditch Checks	168 (ft)	(indicate)	30,500	T

**WMO SCHEDULE P
SOIL EROSION AND SEDIMENT CONTROL**

5) Do any of the following special circumstances apply?

Yes No

If yes, check all conditions that apply:

- | | | |
|--|---|---|
| <input type="checkbox"/> Floodplain | <input type="checkbox"/> Wetland/Buffer | <input type="checkbox"/> Riparian Environment |
| <input type="checkbox"/> New Outfall | <input type="checkbox"/> MWRD Facility | <input type="checkbox"/> Tributary to Lake Michigan |
| <input type="checkbox"/> Volume Control Facility | | |

6) If the answer to (5) is yes, describe how the indicated area(s) will be protected from erosion and sedimentation: _____

7) Provide topographical or plan maps of construction area and indicate erosion control practices, including a sequence of major construction activities.

8) Drainage area (above and including construction site): 135 acres

9) Slope categories of construction site:

		Area (acres)	Disposition of Collected Sediment
9.1	0 – 2 % Slope	<u>6.65</u>	<u>Collected sediment shall be disposed of off-site</u>
9.2	2 – 4 % Slope	<u>1.7</u>	_____
9.3	4 – 6 % Slope	<u>0.2</u>	_____
9.4	≥ 6% Slope	<u>0.2</u>	_____

10) Check the following conditions that apply:

- Erosion control practices identified above will be constructed in accordance with the Illinois Urban Manual, 2012
- Plans or specifications for the above referenced erosion control practices are attached

Co-Permittee Tom Liliensiek Title Director of Water Resources

Signature *Tom Liliensiek* Date 3/12/2018

Company/Agency Civiltech Engineering, Inc.

SPECIAL CONDITIONS FOR MWRD PERMIT NO. 18-041

1. All abandoned sewers/forcemains shall be plugged at both ends with at least 2 feet long non-shrink concrete or mortar plugs.
2. Construction must conform to the soil erosion and sediment control requirements of this permit and any other local, state, and/or federal agencies. This permit is issued contingent that the IEPA NPDES IL-10 permit shall be submitted to MWRD when secured.
3. The stormwater detention facility shown on the plans is provided in accordance with local requirements.
4. The MWRD shall have 24 hour-a-day unrestricted access to all MWRD structures/sewers/facilities.
5. No debris shall enter MWRD structures/sewers/facilities/waterways.
6. All access hatches/manhole covers on MWRD structures/manholes within the project area shall not be buried/covered.
7. The Contractor shall take precautions during excavation in critical locations (e.g. older interceptors susceptible to damage). The last two (2) feet of excavation in said critical areas shall either be hand excavated or vacuum excavated. The Permittee/Co-Permittee shall be held responsible for any damage to MWRD facilities.
8. MWRD manholes shall be located, protected and/or adjusted to grade, if necessary, as per our standard procedures. Prior authorization is required to make any structural modifications, including manhole frame and lid adjustments. Authorization may be obtained by contacting Mr. Ed Staudacher, Managing Civil Engineer, at (708) 588-4319.
9. District facilities shall be located prior to proceeding with any construction work. For any questions regarding access to our facility or field location, please contact Mr. Steve Whitehead at 847-568-8329

ENGINEERING CERTIFICATIONS

Watershed Management Permit No. 18-041

CERTIFICATE BY DESIGN ENGINEER: I hereby certify that the project described herein has been designed in accordance with the requirements set forth in this application and all applicable ordinances, rules, regulations, local, state and federal laws, and design criteria of the issuing authority; that the storm drainage and sanitary sewer system designed for this project are proper and adequate; that where the design involves one or more connections to an existing local sewer system, the capacity of said system has been examined and the system is found to be adequate to transport the stormwater and/or wastewater that will be added through the proposed sewer without violating any provisions of the Illinois Environmental Protection Act or the rules and regulations thereunder.

Comments, if any: _____

Engineering Firm: Civiltech Engineering, Inc. Telephone: (312) 564 - 2492

30 N. LaSalle Suite 2624 City: Chicago Zip: 60602



Signature: Thomas Liliensiek Director of Water Resources Date: 1/24/2018
(Name and Title)

Email Address: tliensiek@civiltechinc.com

CERTIFICATE BY MUNICIPAL OR SYSTEM ENGINEER: The application and the drawings, together with the data being submitted with this application, have been examined by me and are found to be in compliance with all applicable requirements. The manner of drainage is satisfactory and proper in accordance with local requirements. The existing local sewer system to which the project discharges has been examined and the system is found to be adequate to transport the stormwater and/or wastewater that will be added through the proposed sewer without violating any provisions of the Illinois Environmental Protection Act or the rules and regulations thereunder.

I hereby certify that the project area is within the municipal corporate limits. YES NO

Owner of Local Sewer System: Village of Schaumburg

Municipal Engineer: David Lawry Telephone: 847.923.6600

Address: 714 S. Plum Grove Road City: Schaumburg Zip: 60193



Signature: David L. Lawry Dir. Eng. PW Date: 1-26-18
(Name and Title)

Email Address: dlawry@ci.schaumburg.il.us

CERTIFICATE BY INSPECTION ENGINEER: I hereby certify that construction of the project will be in substantial compliance with the data and the plans submitted with this application; that approval will be obtained from the issuing authority prior to making any changes that would affect capacity, maintenance, design requirements, service area or the Permit requirements; that a set of RECORD drawings, signed and sealed by the undersigned Engineer will be furnished to the District or an Authorized Municipality before testing and approval by the District or Authorized Municipality of the completed work.

Engineering Firm: Civiltech Engineering, Inc. Telephone: 312.564.2492

30 N. LaSalle Suite 2624 City: Chicago Zip: 60602

Signature: Thomas Liliensiek Director of Water Resources Date: 1/24/2018
(Name and Title)

Email Address: tliensiek@civiltechinc.com



SPECIAL CONDITIONS

Watershed Management Permit No.

18-04

This Permit is issued subject to the General Conditions and the attached Special Conditions.

If Permit is granted:

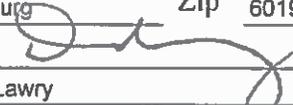
- Please return two (2) copies of the Permit to the Permittee; or
- Please mail one (1) copy to Permittee and one (1) copy to the person designated below:

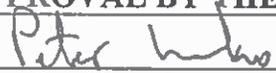
Name: Tom Liliensiek

Address : 30 N. LaSalle Suite 2624, Chicago, IL 60602

Email : tliliensiek@civiltechinc.com

CERTIFICATE BY APPLICANTS: We have read and thoroughly understand the conditions and requirements of this Permit application, and agree to conform to the Permit conditions and other applicable requirements of the District. It is understood that construction hereunder, after the Permit is granted, shall constitute acceptance by the applicants of any Special Conditions that may be placed hereon by the District or an Authorized Municipality. It is further understood that this application shall not constitute a Permit until it is approved, signed and returned by the Director of Engineering of the District or Enforcement Officer of an Authorized Municipality.

PERMITTEE	CO-PERMITTEE
<p>The project area is within municipal corporate limits.</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable</p>	<p>(Co-Permittee is Property Owner)</p> <p>Title to property is held in a land trust: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, Co-Permittee shall be beneficiary with Power of Direction</p>
Municipality <u>Village of Schaumburg</u>	Owner _____
Address <u>714 S. Plum Grove Road</u>	Address _____
City <u>Schaumburg</u> Zip <u>60193</u>	City _____ Zip _____
Signature 	Signature _____
Name <u>David Lawry</u> <small>(Print)</small>	Name _____ <small>(Print)</small>
Title <u>Director of Engineering and Public Works</u>	Title _____
Date <u>1/26/18</u> Phone <u>847.923.6600</u>	Date _____ Phone _____
Email <u>dlawry@ci.schaumburg.il.us</u>	Email _____

REVIEW AND APPROVAL BY THE DISTRICT OR AUTHORIZED MUNICIPALITY	
Reviewed by: <u></u> <small>(Local Sewer Systems) or (Professional Engineer)</small>	Date <u>3-29-2018</u>
Approved for Issue Approved by: <u></u> <small>(For the Director of Engineering) or (Enforcement Officer)</small>	Date <u>3-30-2018</u>

**METROPOLITAN WATER RECLAMATION DISTRICT
OF GREATER CHICAGO**

INFORMATION PAMPHLET: Construction under MWRD Watershed Management Permit

SUBJECT: Permit No. 18-041

DATE OF ISSUE: March 30, 2018

PROJECT: FAU Route 3073/1689(Woodfield Rd.-Martingale Rd. to East Frontage Rd.)

LOCATION: 30 N. LaSalle St. Suite 2624 Chicago IL, 6062

The above Watershed Management Permit (Permit) was issued on the date indicated and copies of the Permit are being mailed as follows:

Both copies of the Permit, together with the Permit drawings are mailed to the Permittee.

one copy of the Permit together with the Permit drawings is mailed to the Permittee and one copy is mailed to the designated individual.

If you need any assistance or if you have any questions at any time involving this project or other related matters, please call the Local Sewer Systems Section (Telephone (312) 751-3260). Requirements governing sewer construction are contained in the Watershed Management Ordinance (WMO) and the Technical Guidance Manual (TGM) for the Implementation of the Watershed Management Ordinance. Your cooperation is solicited and your attention is invited to the following:

1. Read carefully the conditions of the Permit and the special conditions that may have been included. If you object to any of the special conditions, return the Permit with a letter indicating your non-acceptance, but do not proceed with the construction. Construction constitutes acceptance of the special conditions.
2. Prior to the beginning of construction, advance notice of at least two working days is required. For your protection, a written notice by certified mail is preferable, provided the notice is received at least two working days in advance of construction. At a minimum, a telephone call to the Local Sewer Systems field office is required two working days in advance of the start of construction. (Telephone (708) 588-4055). Work on direct connections to MWRD facilities shall not be started without the presence of a MWRD representative.
3. On small projects (e.g., building connection) our inspectors should, as a general rule, visit the job in the first part of the same day of the job start. Please look for him. If he does not appear on the job, chances are we have not received the advance notice. It is worth your while to check, or better yet, make another call.
4. A copy of the approved Permit together with the Permit drawings must be kept at the job site at all times while construction is in progress.
5. No sewer shall be backfilled unless it has been inspected and approved by the Inspection Engineer or his authorized representative and the backfilling authorized by him.
6. Construction shall conform to the Permit plans and specifications and be in accordance with applicable rules and regulations. Be sure that the installation is inspected and approved by the Inspection Engineer and the Municipal Engineer.

7. Upon completion of construction (and preferable no later than 15 days thereafter), submit a fully executed "Request for Final Inspection and Approval" (RFI) form and make necessary arrangements for final testing and inspection with the Local Sewer Systems field office (Telephone (708) 588-4055). The RFI form is being mailed to the Engineer.
8. Upon successful final inspection and testing by the MWRD, the RFI will be executed by the MWRD and one copy will be mailed to the Permittee. The executed copy is the formal approval by the MWRD. No sewer shall be put in service prior to final inspection and approval by the MWRD.
9. If upon final inspection and testing the installation is not approved, a report will be furnished by the MWRD as to the reasons. Please proceed promptly with the corrections and make arrangements for re-testing.
10. The Permit is issued to the Permittee(s) shown. The Permittee is held responsible for the full and faithful compliance with all the Permit conditions regardless of any understandings that may exist between any parties that may be involved in this project.
11. If a violation report is filed against the project during construction, it is advisable that necessary corrective measures be promptly taken prior to proceeding with other construction.
12. All sewer construction requires stone bedding ¼" to 1" in size, and having a minimum thickness of 4". The gradation must be in accordance with Article 7 of the TGM.
13. Overhead plumbing is mandatory for occupancy areas below grade. (See Article 7 of the TGM).
14. Footing drains shall be connected to sump pumps and discharge shall be made into storm sewers, combined sewers or drainage ditches. No footing drains shall be connected to sanitary sewers. (See Article 7 of the TGM).
15. Consult the TGM for detention requirements.
16. Sump pumps installed for sanitary sewers shall not be used for storm sewers. Those pumps installed for storm sewers shall not be used for sanitary sewers.
17. Fee Refund: Permit fee refunds will be made for sewer pipe included in the original Permit but not installed, if the total fee to be refunded is more than \$100.00.

*This pamphlet is applicable to all Facility Connection Authorizations

cc: Permittee, Owner, Engineer

REQUEST FOR FINAL INSPECTION
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
LOCAL SEWER SYSTEMS SECTION
6001 PERSHING ROAD
CICERO, IL 60804

Type or print this Request for Final Inspection (RFI) and submit in duplicate to the Local Sewer Systems Field Office at the above address. If there are any questions, please call the Field Supervisor at (708) 588-4055 or the Authorized Municipality.

PERMIT NO.: 18-041 NAME OF PROJECT: FAU Rt 3073/1689 (Woodfield Rd – Martingale Rd to East Frontage Rd.

LOCATION: Woodfield Rd from Martingale Rd. to East Frontage Rd.

MUNICIPALITY: Schaumburg

Request is hereby made to the Metropolitan Water Reclamation District of Greater Chicago (District) or the Authorized Municipality to approve the project described above. This request is for the (complete / partial) project. If partial, describe on reverse side of form. Attach additional sheets as necessary. The following information is submitted in support of the request:

CERTIFICATE BY INSPECTION (P.E.) ENGINEER

NAME /COMPANY: _____ TELEPHONE NO. _____

ADDRESS: _____ CITY / ZIP: _____

I hereby certify that I have inspected the work covered by this permit during the progress and upon completion of construction, that I have approved the material and workmanship, that I have not allowed any defective materials or poor workmanship on the project. I further certify that the completed Watershed Management Ordinance (WMO) permit work meets with my approval and that it is in substantial conformance with the plans and specifications, and I hereby recommend the acceptance of this project.

BY: _____ DATE: _____
(Print name and title of engineering representative)

BY: _____
(Signature of engineering representative)



CERTIFICATE BY MUNICIPAL OR SYSTEM (P.E.) ENGINEER

NAME /COMPANY: _____ TELEPHONE NO. _____

ADDRESS: _____ CITY / ZIP: _____

I hereby certify that the work completed under this WMO permit has been inspected and meets with my approval and satisfaction and is in accordance with applicable requirements, and I hereby recommend the acceptance of this project.

BY: _____ DATE: _____
(Print name and title of engineering representative)

BY: _____
(Signature of engineering representative)



CERTIFICATE BY PERMITTEE

I hereby certify that this project has been completed and approved; and that to the best of my knowledge and belief, there has been no violation of any terms and conditions of this WMO permit nor any local laws, rules, regulations and ordinances applicable to the permit. I hereby recommend acceptance of this permit.

BY: _____ DATE: _____
(Print name and title of authorized official)

BY: _____ TELEPHONE NO. _____
(Signature of authorized official)

CERTIFICATE BY GENERAL CONTRACTOR:

NAME /COMPANY: _____ TELEPHONE NO. _____

ADDRESS: _____ CITY / ZIP: _____

I hereby certify that the above project has been constructed of approved materials and that the project has been completed in conformance with the intent of the plans and specifications and is hereby warranted to be free from defects. I further certify that I have read the District permit covering the project that I have not violated any of the terms and conditions of the Watershed Management Ordinance permit.

BY: _____ DATE: _____
(Print name and title of authorized official)

BY: _____ TELEPHONE NO. _____
(Signature of authorized official)

CERTIFICATE BY OWNER (CO-PERMITTEE):

NAME /COMPANY: _____ TELEPHONE NO. _____

ADDRESS: _____ CITY / ZIP: _____

As to the WMO permit portion of the project only, I hereby certify that the project work has been completed to my satisfaction and is acceptable to me. I assume full responsibility for any defects or malfunctions in the completed project. I further certify that I have not violated any of the terms and conditions of the WMO permit.

BY: _____ DATE: _____
(Print name and title of authorized official)

BY: _____
(Signature of authorized official)

PARTIAL TEST: If only a portion of the system covered by the permit is to be tested and approved, describe below:

APPROVAL BY: METROPOLITAN WATER RECLAMATION DISTRICT AUTHORIZED MUNICIPALITY

The work covered by this permit has been tested and inspected and is hereby approved. The Permittee may grant occupancy at its option. This approval does not constitute a release from other obligations under the permit.



INSPECTOR

(Print name and title)

ENGINEER

(Print name and title)

(Signature) (Date)

(Signature) (Date)



Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

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: Woodfield Road (East) Improvements Project Office Phone Number, if available: (847) 823-0500

Physical Site Location (address, including number and street): Woodfield Road from Martingale Road to E Frontage Road

City: Schaumburg State: IL Zip Code: 60173

County: Cook Township: Schaumburg

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

Latitude: 42.0431733 Longitude: -88.0331167
(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

- GPS Map Interpolation Photo Interpolation Survey Other

ISGS Public Land Survey System. Lat/long above refer to the approximate center of the Project Area

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

II. Owner/Operator Information for Source Site

Site Owner

Site Operator

Name: Village of Schaumburg

Name: Village of Schaumburg

Street Address: 714 S. Plum Grove Road

Street Address: 714 S. Plum Grove Road

PO Box:

PO Box:

City: Schaumburg State: IL

City: Schaumburg State: IL

Zip Code: 60193 Phone: (847) 823-0500

Zip Code: 60193 Phone: (847) 823-0500

Contact: David L. Lawry, P.E. Dir. Eng/Public Works

Contact: David L. Lawry, P.E. Dir. Eng/Public Works

Email, if available: dlawry@ci.schaumburg.il.us

Email, if available: dlawry@ci.schaumburg.il.us

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: Woodfield Road (East) Improvements Project

Latitude: 42.0431733 Longitude: -88.0331167

Uncontaminated Site Certification

III. Basis for Certification and Attachments

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

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

A database review was completed in the 2014 H&H PESA and 2017 H&H PESA Update for the entire Project Area, which consists of commercial properties. One Potentially Impacted Property (PIP) was identified in connection with the Project Area through the database reviews and site visits. Refer to the attachments for additional information.

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

Five (5) soil borings were advanced within the Project Area on November 1, 2017. Soil samples were analyzed for one or more of the following: VOCs, BTEX, MTBE, PNAs, total RCRA metals, and pH. All results achieve the CCDD requirements. Refer to the attachments for additional information.

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

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

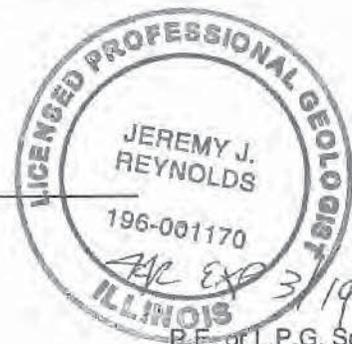
Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: Huff & Huff, Inc.
 Street Address: 915 Harger Rd Suite 330
 City: Oak Brook State: IL Zip Code: 60523
 Phone: (630) 684-9100

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

[Signature]
 Licensed Professional Engineer or
 Licensed Professional Geologist Signature:

12/18/17
 Date:



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



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

Owner: Village of Schaumburg, IL
Project Name: Woodfield Road (East) Improvements

III. Basis for Certification and Attachments

Explain the basis upon which you are certifying that the soil from this site is uncontaminated soil.

This form pertains to soils excavated from the Woodfield Road (East) Improvements Project. The Project Area consists Woodfield Road from Martingale Road to E Frontage Road in Schaumburg, Cook County, IL. The Project Area is approximately 1,500 feet in length and present-day land use consists of commercial properties. The maximum excavation depth for the proposed improvements is approximately 12 feet deep. Specifically, the improvements consist of replacement of traffic signal equipment, installation of new light poles, and installation of new catch basins as well as sewer laterals into the storm sewer on the south side of Woodfield Road. A map depicting the Project Area location, identified sites, and sample locations is included in **Attachment A**, and a photo log of site reconnaissance is included in **Attachment B**.

The following information presents a summary of the records review, the identified PIPs, and other nearby sites. Database excerpts are included in **Attachment C**. The analyses conducted and results are summarized at the end of this narrative. The laboratory analytical report and pH sampling report are included in **Attachment D**.

Historic Aerials

A 2014 PESA by Huff & Huff included a review of historic aerial photographs with coverage of the Project Corridor for the years 1938, 1946, 1952, 1955, 1962, 1967, 1970, 1974, 1980, 1988, 1993, 1998, 2005, 2009, and 2012, which indicated the following:

1938 In 1938, the Project Area along Woodfield Road did not exist. Present day Meacham Road, west side of the Project Corridor, and Higgins Road, south of the Project Area, are depicted in the 1938 aerial. The land along the Project Area and surrounding areas are agricultural. Three farmsteads are apparent north of Higgins Road.

1946 Between 1938 and 1946, one additional farmstead was established north of the Project Area.

1952 Between 1946 and 1952, there were no noteworthy changes that occurred along the Project Area or surrounding areas.

1955 Between 1952 and 1955, one additional farmstead was established south of the Project Area.

1962 Between 1955 and 1962, noticeable changes did not occur along the Project Area or the area to the north. Residential development can be viewed south of Higgins Road approximately 1,500 feet south of the Project Area.



1967 Between 1962 and 1967, there were no noteworthy changes that occurred along the Project Area or surrounding areas. Woodfield Road is not depicted in the 1967 aerial.

1970 Between 1967 and 1970, significant commercial development appears along the Project Area. Woodfield Road is first depicted in the 1970 aerial, extending west of Meacham Road beyond the Project Area to the east. The Woodfield Mall is being constructed adjacent to the north of the Project Area. Perimeter Drive circles the outer limits of the Woodfield Mall and connects to Woodfield Road. Mall Drive is depicted near the center of the Project Area.

1974 Between 1970 and 1974, the majority of the Woodfield Mall is constructed. The 1974 aerial depicts the present-day building structure. The “X” shaped Woodfield Mall is surrounded by hard surface parking lots and the present-day Sears Auto Center to the southeast. The Woodfield Mall, water tower is depicted southwest of the mall. Also depicted is further commercial development south of the Project Area.

1980 Between 1974 and 1980, significant commercial development occurs along the Project Area and the surrounding area. Continued commercial development exists east of Martingale Road and south of the Project Corridor. Hard surface parking lots accompany all commercial development along the Project Corridor.

1988 Between 1980 and 1988, the Project Area and surrounding area are further developed with commercial properties.

1993 Between 1988 and 1993, there is considerable development along the east portion of the Project Area south of Woodfield Road. A large commercial building appears to the east of Martingale Road south of Woodfield Road. Presently, Dick’s Sporting Goods, a movie theatre, bar and grill and various other businesses operate from this building.

1998 Between 1993 and 1998, a small commercial building appears south of Woodfield Road near the eastern end of the Project Area. The Project Corridor and surrounding areas now appear fully developed with commercial buildings and hard surface parking lots.

2005 Between 1998 and 2005, there were no noteworthy changes that occurred along the Project Area or surrounding areas.

2009 Between 2005 and 2009, one significant change was observed along the Project Area. A commercial building along Martingale Road was demolished. A larger commercial building near Woodfield Road was depicted under construction in 2009 (present-day Crate and Barrel).

2012 The 2012 aerial depicts the Project Area in its present-day site configuration.

Records Search

Based on the 2014 PESA and 2017 PESA Update, the following site description and table summarizes the identified PIP that is adjacent to the Project Area.



Site ID	Name	Address	Database	Distance & Direction	PIP?
1	Sears, Roebuck, & Company / Macy's North	1-2 Woodfield Mall	UST, RCRA, LUST	Adjacent, north	Yes

Sears, Roebuck, & Company / Macy's North (Map ID 1)

The site is located at 1-2 Woodfield Mall, adjacent to and north of the Project Area. It was listed in the RCRA, UST, and LUST databases. The RCRA listing refers to the onsite use/storage of hazardous material [ignitable waste (D001) and benzene (D018)]. The UST listing refers to several tanks associated with the site that are summarized below in the following table.

Tank Number	Material	Quantity (gallons)	Installation Date	OSFM Notification Date	Removal Date
1	Gasoline	6,000	January 1, 1971	November 30, 1987	January 11, 1994
2	Gasoline	6,000	January 1, 1971	November 30, 1987	January 11, 1994
3	Gasoline	6,000	January 1, 1971	November 30, 1987	January 11, 1994
4	Gasoline	6,000	January 1, 1971	November 30, 1987	January 11, 1994
5	Gasoline	6,000	January 1, 1971	November 30, 1987	January 11, 1994
6	Used Oil	1,000	January 1, 1971	December 10, 1990	January 11, 1994

According to the LUST database, a hazardous-material release (Illinois Emergency Management Agency (IEMA) # 940068) was reported on January 11, 1994. The responsible party was Sears, Roebuck, & Company.

The LUST database was reviewed to determine the specific material, quantity, LUST status (active or closed), No Further Remediation (NFR) date, and any special conditions associated with the LUST closure.

IEMA #	Notification of Release	Material (Amount)	Cause of Release	LUST Status	NFR Date	Special Conditions?
940068	January 11, 1994	Used Oil (Unknown)	Leak	Active	N/A	N/A

N/A = Not Available

The LUST incident, which occurred at a building southeast of the mall, was further reviewed using FOIA information provided on the IEPA Document Explorer website (included in **Attachment C**). Five samples were collected from the tank pit and two samples were collected adjacent to the tank pit. The contaminants of concern (COCs) were the following: volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); total and Toxicity Characteristic Leaching Procedure (TCLP) RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver); polychlorinated biphenyls; and pesticides. The analytical testing reportedly achieved the Tier 1 Remedial Objectives (ROs).



Based on the database information (LUST incident), FOIA information, and its proximity to the Project Corridor, **this site is considered a PIP.**

Analytical Summary

On November 1, 2017, five soil borings were advanced within the Project Area to a maximum depth of 12 feet below ground surface to assess impacts to Project Area soils from the identified PIP, and to determine CCDD suitability of soils for pH. Soils were screened continuously using a PID meter and three representative soil samples were collected for the analysis of one or more of the following: volatile organic compounds (VOCs); benzene, toluene, ethylbenzene, total xylenes, and methyl-tertiary-butyl-ether (BTEX/MTBE, a subset of the VOC list); polynuclear aromatic hydrocarbons (PNAs); and total Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). The same samples were submitted for laboratory analysis of soil pH, and six additional soil samples were field-analyzed for soil pH using a digital Hanna direct soil pH meter (HI99121) as supplemental testing. The highest PID result (1.0 ppm) was encountered in samples WE-1 (6-8 feet) and WE-1 (8-10 feet).

Soil Boring	Depth, ft	PID Reading, ppm ^{a/}	Soil Boring	Depth, ft	PID Reading, ppm ^{a/}
WE-1	0-2	0.5	WE-4	0-2	0.5
	2-4	0.4		2-4	0.5
	4-6	0.4		4-6	0.9
	6-8	1.0		6-8	0.4
	8-10	1.0		8-10	0.4
	10-12	0.7	10-12	0.5	
WE-2	0-2	0.6	WE-5	0-2	0.5
	2-4	0.7		2-4	0.6
	4-6	NR		4-6	0.5
	6-8	0.5		6-8	0.5
	8-10	0.4		8-10	0.6
	10-12	NR	10-12	0.7	
WE-3	0-2	0.9			
	2-4	0.5			
	4-6	0.9			
	6-8	0.6			
	8-10	0.7			
	10-12	0.7			

Bold indicates sample submitted for analytical testing or placed on hold

NR - no recovery for sample interval

^{a/} Screened with a 10.6 eV lamp



VOCs

Sample WE-3 (4-6 feet) was analyzed for VOCs. Two additional samples [WE-2 (2-4 feet) and WE-4 (4-6 feet)] were analyzed for BTEX/MTBE (subset of VOCs) and BTEX, respectively. The results were below detection limits for the samples analyzed, achieving their respective MACs for CCDD disposal.

PNAs

Three samples [WE-2 (2-4 feet), WE-3 (4-6 feet), and WE-4 (4-6 feet)] were analyzed for PNAs. Low concentrations of benzo(a)anthracene (0.012 mg/kg) were detected in sample WE-2 (2-4 feet) below the MAC (1.8 mg/kg). The remaining PNA results were below detection limits for the samples analyzed, achieving their respective MACs for CCDD disposal.

Total RCRA Metals

Two samples [WE-2 (2-4 feet) and WE-3 (4-6 feet)] were analyzed for total RCRA metals. Low concentrations of arsenic, barium, chromium, lead, and silver were detected in the samples below their respective MACs. The remaining cadmium, selenium, and mercury results were below detection limits for the samples analyzed, achieving their respective MACs for CCDD disposal. The following table summarizes the results

Soil Boring Depth, ft	Maximum Allowable Concentration ^{a/}	WE-2 2-4	WE-3 4-6
Constituent	-----mg/kg-----		
Arsenic	13	12.1	12.2
Barium	1,500	36.4	24.2
Cadmium	5.2	<0.500	<0.500
Chromium	21	14.2	12.6
Lead	107	11.8	12.2
Mercury	0.89	<0.050	<0.050
Selenium	1.3	<1.00	<1.00
Silver	4.4	0.800	0.700

^{a/} Refers to Maximum Allowable Concentration (MAC) of Chemical Constituents in Uncontaminated Soil Used As Fill Material At Regulated Fill Operations (35 IAC 1100.Subpart F).

-- indicates constituent not analyzed

Bold = constituent detected above applicable MAC Value



Soil pH

Three samples [WE-2 (2-4 feet, WE-3 (4-6 feet), and WE-4 (4-6 feet)] were submitted for laboratory analysis of soil pH to assess CCDD suitability. The results are summarized in the following table.

Sample ID	Depth, ft	Soil pH result
<i>CCDD Soil pH Requirement: Between 6.25 and 9.0</i>		
WE-2	2-4	7.78
WE-3	4-6	7.44
WE-4	4-6	7.94

^{a/} Refers to pH requirement in 35 IAC 1100.Subpart F for CCDD disposal.

Representative soil samples were field tested at six additional locations for soil pH using a digital Hanna direct soil pH meter (HI99121) as supplemental testing. The results are summarized in the following table.

Sample ID	Depth, ft	Soil pH result
<i>CCDD Soil pH Requirement: Between 6.25 and 9.0</i>		
WE-1	4-6	8.95
WE-1	10-12	7.60
WE-4	0-2	8.25
WE-4	8-10	8.26
WE-5	2-4	8.33
WE-5	6-8	8.44

^{a/} Refers to pH requirement in 35 IAC 1100.Subpart F for CCDD disposal.

The soil pH results ranged from 7.44 to 8.95, within the required range for CCDD disposal (between 6.25 and 9.0). The laboratory analytical report and pH sampling report have been included in **Attachment D** of this narrative for reference.

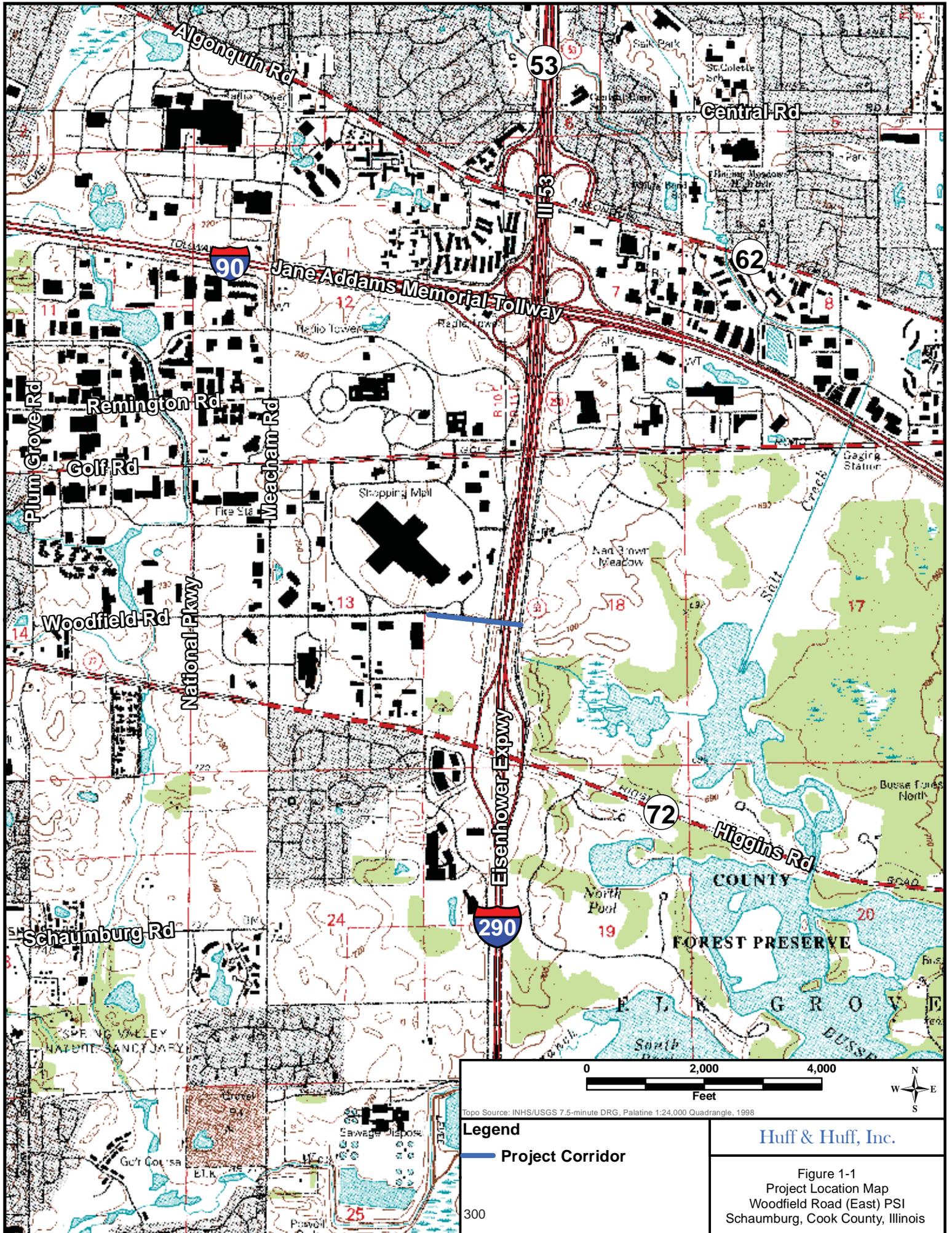
CCDD Determination

Based on the due diligence and analytical testing conducted, soils generated from the Woodfield Road (East) Improvements Project meet the requirements for CCDD disposal.

Should conditions within the Project Area change, such as unusual staining, odors, or if loads become rejected, additional analytical assessment may be required for final disposition of spoils from this Project Area. If you have any questions regarding this matter, please contact us at 630-684-9100.



ATTACHMENT A

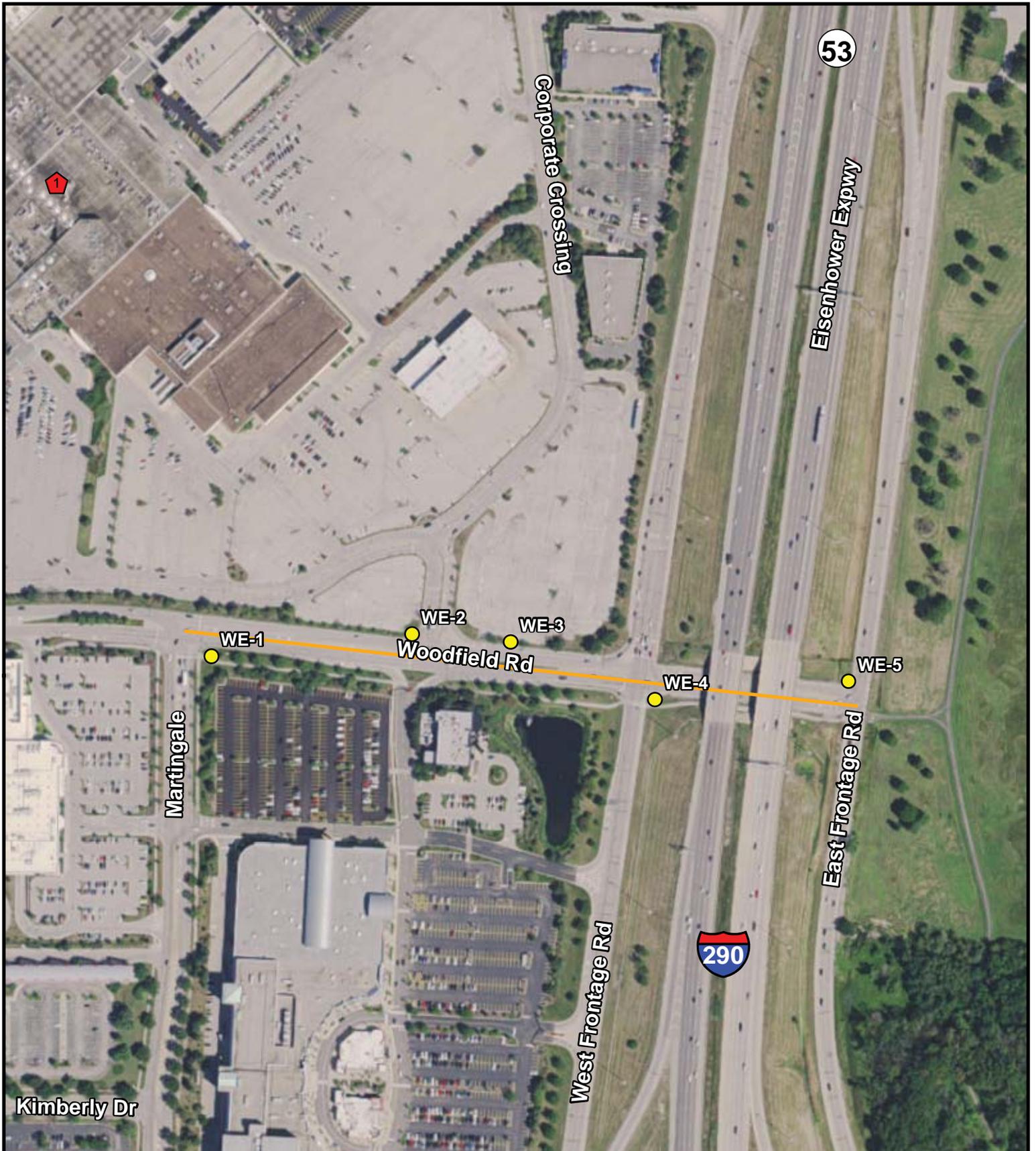


Legend

— Project Corridor

Huff & Huff, Inc.

Figure 1-1
Project Location Map
Woodfield Road (East) PSI
Schaumburg, Cook County, Illinois



Kimberly Dr

Martingale

Corporate Crossing

Eisenhower Expwy

53

290

West Frontage Rd

East Frontage Rd

Woodfield Rd

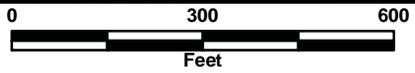
WE-1

WE-2

WE-3

WE-4

WE-5



Aerial Source: ESRI Online World Imagery

Legend

- Project Corridor
- Sites
- Soil Boring

Huff & Huff, Inc.

Figure 3-1
Soil Boring Location Map
Woodfield Road (East) PSI
Schaumburg, Cook County, Illinois

Site ID	Site Address	Status
1	1-2 Woodfield Mall	PIP



ATTACHMENT B



Photograph 1: Location of WE-5 at the eastern end of the Project Area, facing southeast



Photograph 2: Advancement of WE-1 at the western end of the Project Area, facing northwest



Photograph 3: Sears, Roebuck, & Company / Macy's North, Site ID 1, 1-2 Woodfield Mall, facing northeast

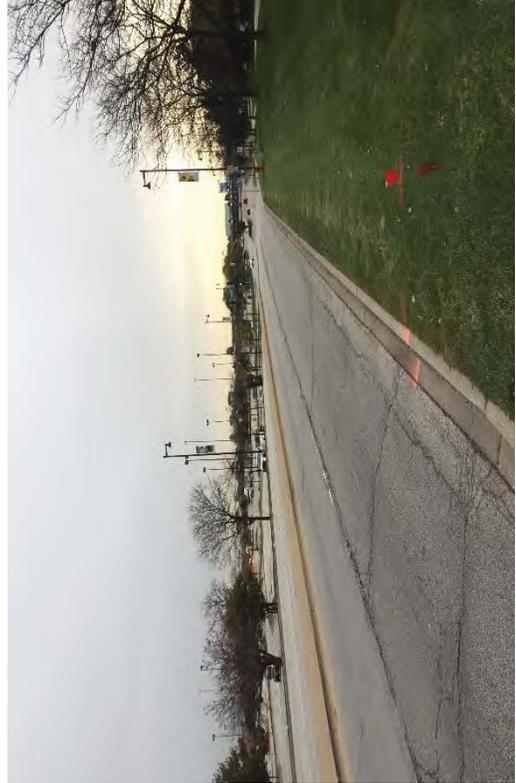


Photograph 4: Location of WE-2 near Site ID 1, Sears, Roebuck, & Company / Macy's North, 1-2 Woodfield Mall, facing southeast



Civiltech Engineering, Inc.
Woodfield Road (East) Improvements Project
LPC-663 Report Photo Log

Schaumburg, Cook County, Illinois

	<p>Photograph 5: Location of WE-1 located at the western end of the Project Area, facing north</p>		<p>Photograph 6: Woodfield Road and N Martingale Road intersection, facing northwest</p>
	<p>Photograph 7: Woodfield Road, western end of Project Area, facing northeast</p>		<p>Photograph 8: Advancement of WE-3 near Site ID 1, Sears, Roebuck, & Company / Macy's North, 1-2 Woodfield Mall, facing east</p>
	<p><i>Civiltech Engineering, Inc.</i> Woodfield Road (East) Improvements Project <i>LPC-663 Report Photo Log</i></p>	<p><i>Schaumburg, Cook County, Illinois</i></p>	



ATTACHMENT C



DATABASE REPORT

Project Property: *Woodfield Road East in Schaumburg
Cook County IL
E Woodfield Rd
Schaumburg IL 60173*

Project No: *81.0220092.22*

Report Type: *Database Report*

Order No: *20170222077*

Requested by: *Huff & Huff, Inc.*

Date Completed: *February 23, 2017*

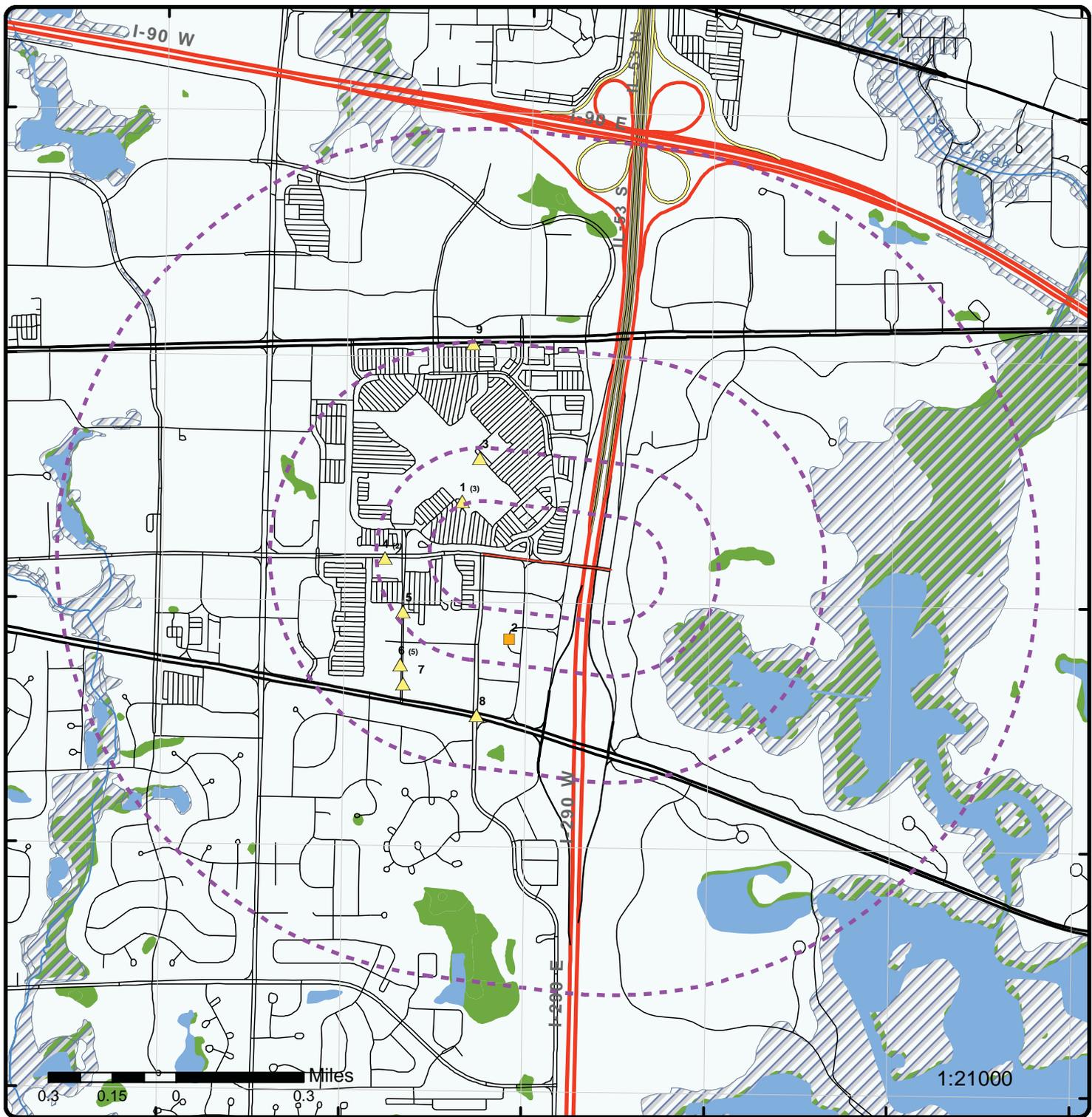
**Environmental Risk
Information Services**
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com

www.erisinfo.com

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	LUST	Sears, Roebuck & Company	2 Woodfield Mall Schaumburg IL 60196 <i>Incident No:</i> 940068	NW	0.13 / 703.60	14	17
1	RCRA SQG	SEARS ROEBUCK AND CO 1570	2 WOODFIELD MALL SCHAUMBURG IL 60196	NW	0.13 / 703.60	14	17
1	UST	Sears #1570	2 Woodfield Mall Schaumburg IL 60196 <i>Facility ID Facility Status:</i> 2000198 Closed <i>Tank ID Tank Status Tank Removed Dt:</i> 3 Removed 1/11/1994, 4 Removed 1/11/1994, 1 Removed 1/11/1994, 2 Removed 1/11/1994, 6 Removed 1/11/1994, 5 Removed 1/11/1994	NW	0.13 / 703.60	14	18
2	RCRA CESQG	DICKS SPORTING GOODS 412	601 N MARTINGALE STE 195 SCHAUMBURG IL 60173	SSW	0.19 / 1,007.63	0	20
3	RCRA CESQG	MACYS NORTH	1 WOODFIELD MALL SCHAUMBURG IL 60173	NNW	0.23 / 1,190.13	4	22
4	RCRA SQG	CITIBANK OFFICE PLAZA	1699 E WOODFIELD RD SCHAUMBURG IL 60173	W	0.23 / 1,211.18	12	23
4	UST	Podolsky & Associates	1699 E Woodfield Rd #406 Schaumburg IL 60173 <i>Facility ID Facility Status:</i> 2035007 Closed <i>Tank ID Tank Status Tank Removed Dt:</i> 1 Removed 8/6/1996	W	0.23 / 1,211.18	12	24
5	UST	Schaumburg Dig SWCHG	700 North Mall Drive Schaumburg IL 60172 <i>Facility ID Facility Status:</i> 2035615 Active <i>Tank ID Tank Status Tank Removed Dt:</i> 1 Currently in use	WSW	0.23 / 1,216.69	11	24
6	LUST	Golf Road Properties	526 Mall Dr. Schaumburg IL 60173 <i>Incident No:</i> 970863	SW	0.32 / 1,705.69	16	26
6	LUST	Golf Road Properties	526 Mall Dr. Schaumburg IL 60173 <i>Incident No:</i> 970864	SW	0.32 / 1,705.69	16	26
6	LUST	Patrick Cadillac Co.	526 Mall Dr. Schaumburg IL 60173 <i>Incident No:</i> 962179	SW	0.32 / 1,705.69	16	27
6	LUST	Patrick Cadillac Schaumburg	526 Mall Dr. Schaumburg IL 60173 <i>Incident No:</i> 911618	SW	0.32 / 1,705.69	16	27

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
<u>6</u>	LUST	Patrick Cadillac Co.	526 Mall Dr. Schaumburg IL 60173 <i>Incident No:</i> 950079	SW	0.32 / 1,705.69	16	<u>27</u>
<u>7</u>	LUST	Shell Oil Products U.S.	517 Mall Drive Schaumburg IL 60173 <i>Incident No:</i> 20021557	SW	0.36 / 1,887.78	15	<u>28</u>
<u>8</u>	LUST	Kimball Hill DE	Higgins & Martingale Schaumburg IL 60195 <i>Incident No:</i> 880666	SSW	0.38 / 2,001.06	4	<u>28</u>
<u>9</u>	LUST	Bridgestone Firestone	1755 East Golf Rd. Schaumburg IL 60173 <i>Incident No:</i> 971859	NNW	0.50 / 2,617.21	8	<u>29</u>



Map : 1 Mile Radius

Order No: 20170222077

Address: E Woodfield Rd, Schaumburg, IL, 60173



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



Map : 0.5 Mile Radius

Order No: 20170222077

Address: E Woodfield Rd, Schaumburg, IL, 60173



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas: Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas: NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



Map : 0.25 Mile Radius

Order No: 20170222077

Address: E Woodfield Rd, Schaumburg, IL, 60173



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
<u>1</u>	1 of 3	NW	0.13 / 703.60	739.89	Sears, Roebuck & Company 2 Woodfield Mall Schaumburg IL 60196	LUST
Incident No: 940068 BL ID: 314895006 Status: A Status Desc: ACTIVE IEMA Date: 1/11/1994 12:00:00 AM Gasoline: TRUE Unleaded: FALSE Diesel: FALSE Fuel Oil: FALSE Jet Fuel: FALSE Used Oil: TRUE Non Petroleum Prod: FALSE Other Petroleum: FALSE Project Manager: Bauer Site Class: HIGH		Sec 57: 732 Non Lust: Rpt Rec 20: 2/22/1994 12:00:00 AM Rpt Rec 45: 2/24/1994 12:00:00 AM Sec 57 5g: NFR NFA: NFR Recorded: Pre 74 Date: FPD Date: NFR Recission: NFR Voided: Phone: (217) 782-3335 County: Cook First Name: Brian Email: Brian.Bauer@illinois.gov		Primary Resp Party Name: Sears, Roebuck & Company Primary Resp Party Address: 3333 Beverly Road, Dept. 824C Primary Resp Party City: Hoffman Estates Primary Resp Party State: IL Primary Resp Party Zip: 60179 Primary Resp Party Phone: 8472865530 Primary Resp Party Contact: Bernadine Palka		

<u>1</u>	2 of 3	NW	0.13 / 703.60	739.89	SEARS ROEBUCK AND CO 1570 2 WOODFIELD MALL SCHAUMBURG IL 60196	RCRA SQG
County Name: COOK County Code: IL031 EPA Handler ID: IL0000079483 Current Site Name: SEARS ROEBUCK AND CO 1570 Generator Status Universe: Small Quantity Generator Land Type: Private Activity Location: IL TSD Activity: No Mixed Waste Generator: No Importer Activity: No Transporter Activity: No Transfer Facility: No Recycler Activity: No Onsite Burner Exemption: No Furnace Exemption: No Underground Inject Activity: No Rece Waste From Off Site: No Used Oil Transporter: Used Oil Transfer Facility: Used Oil Processor: Used Oil Refiner: Used Oil Burner: Used Oil Market Burner: Used Oil Spec Marketer: Mailing Address: 2 WOODFIELD MALL, SCHAUMBURG, IL, 60196,						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Contact Name:		BERNADINE PALKA				
Contact Address:		3333 BEVERLY RD DEPT 824C, HOFFMAN ESTATES, IL, 60179, US				
Contact Email:						
Location Street 2:						
--		--				
Owner/Operator Information		--				
--		--				
Owner/Operator Indicator:		CO				
Owner/Operator Name:		SEARS ROEBUCK AND CO				
Owner/Operator Address:		3333 BEVERLY RD DEPT 824RE HOFFMAN ESTATES IL 60179				
Owner/Operator Phone:		7082863223				
Owner/Operator Type:		P				
Date Became Current:						
Date Ended Current:						
--		--				
Handler Information		--				
--		--				
Date Received:		19931215				
Facility Name:		SEARS ROEBUCK AND CO 1570				
Classification:		Small Quantity Generator				
--		--				
Hazardous Waste Information		--				
--		--				
Waste Code:		D001				
Waste:		IGNITABLE WASTE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--		--				
Waste Code:		D018				
Waste:		BENZENE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--		--				

<u>1</u>	3 of 3	NW	0.13 / 703.60	739.89	Sears #1570 2 Woodfield Mall Schaumburg IL 60196	UST
Facility ID:		2000198				
Facility Status:		Closed				
Facility Type:		None				
Motor Fuel Type:						
Motor Fuel Permit Insp Dt:						
Motor Fuel Permit Expir Dt:						
Green Tag Decal:						
Green Tag Issue Date:						
Green Tag Expiration Date:						
County:		Cook				
Owner Information		--				
--		--				
Owner ID:		U0013690				
Owner Name:		Sears Roebuck & Co				
Owner Address:		3333 Beverly Road, Dept. 768 EV				
Owner City:		Hoffman Estates				
Owner State:		IL				
Owner Zip:		60179				
--		--				
Tank Information		--				
--		--				
Tank ID:		1				
Tank Status:		Removed				
Tank Capacity:		6000				
Product:		Gasoline				
Date Installed:		1/1/1971				
Last Used Date:		10/28/1993				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Removed Date:		1/11/1994				
Abandoned Date:						
Red Tag Issue Date:						
OSFM First Notify Date:		11/30/1987				
Fee Due:		\$0.00				
Pending Nov:		NO				
IEMA Number(s):		94-0068				
--		--				
--		--				
Tank Information						
--		--				
Tank ID:		2				
Tank Status:		Removed				
Tank Capacity:		6000				
Product:		Gasoline				
Date Installed:		1/1/1971				
Last Used Date:		10/28/1993				
Removed Date:		1/11/1994				
Abandoned Date:						
Red Tag Issue Date:						
OSFM First Notify Date:		11/30/1987				
Fee Due:		\$0.00				
Pending Nov:		NO				
IEMA Number(s):						
--		--				
--		--				
Tank Information						
--		--				
Tank ID:		3				
Tank Status:		Removed				
Tank Capacity:		6000				
Product:		Gasoline				
Date Installed:		1/1/1971				
Last Used Date:		10/28/1993				
Removed Date:		1/11/1994				
Abandoned Date:						
Red Tag Issue Date:						
OSFM First Notify Date:		11/30/1987				
Fee Due:		\$0.00				
Pending Nov:		NO				
IEMA Number(s):						
--		--				
--		--				
Tank Information						
--		--				
Tank ID:		4				
Tank Status:		Removed				
Tank Capacity:		6000				
Product:		Gasoline				
Date Installed:		1/1/1971				
Last Used Date:		10/28/1993				
Removed Date:		1/11/1994				
Abandoned Date:						
Red Tag Issue Date:						
OSFM First Notify Date:		11/30/1987				
Fee Due:		\$0.00				
Pending Nov:		NO				
IEMA Number(s):						
--		--				
--		--				
Tank Information						
--		--				
Tank ID:		5				
Tank Status:		Removed				
Tank Capacity:		6000				
Product:		Gasoline				
Date Installed:		1/1/1971				
Last Used Date:		10/28/1993				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Removed Date:		1/11/1994				
Abandoned Date:						
Red Tague Issue Date:						
OSFM First Notify Date:		11/30/1987				
Fee Due:		\$0.00				
Pending Nov:		NO				
IEMA Number(s):						
--		--				
--		--				
Tank Information						
--		--				
Tank ID:		6				
Tank Status:		Removed				
Tank Capacity:		1000				
Product:		Used Oil				
Date Installed:		1/1/1971				
Last Used Date:		10/28/1993				
Removed Date:		1/11/1994				
Abandoned Date:						
Red Tague Issue Date:						
OSFM First Notify Date:		12/10/1990				
Fee Due:		\$0.00				
Pending Nov:		NO				
IEMA Number(s):						
--		--				
--		--				

<u>2</u>	1 of 1	SSW	0.19 / 1,007.63	725.46	DICKS SPORTING GOODS 412 601 N MARTINGALE STE 195 SCHAUMBURG IL 60173	RCRA CESQG
----------	--------	-----	--------------------	--------	---	------------

County Name: COOK
County Code: IL031
EPA Handler ID: ILR000187781
Current Site Name: DICKS SPORTING GOODS 412
Generator Status Universe: Conditionally Exempt Small Quantity Generator
Land Type: Private
Activity Location: IL
TSD Activity: No
Mixed Waste Generator: No
Importer Activity: No
Transporter Activity: No
Transfer Facility: No
Recycler Activity: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Inject Activity: No
Rece Waste From Off Site: No
Used Oil Transporter:
Used Oil Transfer Facility:
Used Oil Processor:
Used Oil Refiner:
Used Oil Burner:
Used Oil Market Burner:
Used Oil Spec Marketer:
Mailing Address: 5151 SAN FELIPE ST STE 1000, HOUSTON, TX, 77056, US
Contact Name: CHRIS BAKER
Contact Address: US
Contact Email:
Location Street 2:

--
Owner/Operator Information
--
Owner/Operator Indicator: CP
Owner/Operator Name: DICKS SPORTING GOODS
Owner/Operator Address: US

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev (ft)</i>	<i>Site</i>	<i>DB</i>
Owner/Operator Phone:						
Owner/Operator Type:		P				
Date Became Current:		19970701				
Date Ended Current:		--				
Owner/Operator Indicator:						
Owner/Operator Name:		CO				
Owner/Operator Address:		STREETS OF WOODFIELD HOLDINGS 8343 DOUGLAS AVE STE 200 DALLAS TX US 75225				
Owner/Operator Phone:		P				
Date Became Current:		19970701				
Date Ended Current:		--				
NAICS Information						
--						
Naics Code:		45111				
Naics Description:		SPORTING GOODS STORES				
Naics Active Status:		Yes				
Naics Cycle:		2002				
--						
Handler Information						
--						
Date Received:		20150217				
Facility Name:		DICKS SPORTING GOODS 412				
Classification:		Conditionally Exempt Small Quantity				
--						
Hazardous Waste Information						
--						
Waste Code:		D001				
Waste:		IGNITABLE WASTE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D002				
Waste:		CORROSIVE WASTE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D005				
Waste:		BARIUM				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D007				
Waste:		CHROMIUM				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D008				
Waste:		LEAD				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D009				
Waste:		MERCURY				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D016				
Waste:		2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						
Waste Code:		D018				
Waste:		BENZENE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Waste Code:		D035				
Waste:		METHYL ETHYL KETONE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--		--				

<u>3</u>	1 of 1	NNW	0.23 / 1,190.13	729.61	MACYS NORTH 1 WOODFIELD MALL SCHAUMBURG IL 60173	RCRA CESQG
----------	--------	-----	--------------------	--------	--	------------

County Name: COOK
County Code: IL031
EPA Handler ID: ILR000147165
Current Site Name: MACYS NORTH
Generator Status Universe: Conditionally Exempt Small Quantity Generator
Land Type: Private
Activity Location: IL
TSD Activity: No
Mixed Waste Generator: No
Importer Activity: No
Transporter Activity: No
Transfer Facility: No
Recycler Activity: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Inject Activity: No
Rece Waste From Off Site: No
Used Oil Transporter:
Used Oil Transfer Facility:
Used Oil Processor:
Used Oil Refiner:
Used Oil Burner:
Used Oil Market Burner:
Used Oil Spec Marketer:
Mailing Address: 1 WOODFIELD MALL, SCHAUMBURG, IL, 60173, US
Contact Name: JIM CROSBY
Contact Address: US
Contact Email: JIM.CROSBY@MACYS.COM
Location Street 2:

--

Owner/Operator Information

--

Owner/Operator Indicator: CO
Owner/Operator Name: FEDERATED RETAIL HOLDINGS INC
Owner/Operator Address: 7 W 7TH ST CINCINNATI OH US 45202
Owner/Operator Phone:
Owner/Operator Type: P
Date Became Current: 20060201
Date Ended Current:

--

Owner/Operator Indicator: CP
Owner/Operator Name: MACYS NORTH
Owner/Operator Address:
Owner/Operator Phone:
Owner/Operator Type: P
Date Became Current: 20060201
Date Ended Current:

--

NAICS Information

--

Naics Code: 44814
Naics Description: FAMILY CLOTHING STORES
Naics Active Status: Yes
Naics Cycle: 2002

--

Handler Information

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
--		--				
Date Received:		20070608				
Facility Name:		MACYS NORTH				
Classification:		Conditionally Exempt Small Quantity				
--		--				
Hazardous Waste Information						
--		--				
Waste Code:		D001				
Waste:		IGNITABLE WASTE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--		--				

<u>4</u>	1 of 2	W	0.23 / 1,211.18	737.31	CITIBANK OFFICE PLAZA 1699 E WOODFIELD RD SCHAUMBURG IL 60173	RCRA SQG
----------	--------	---	--------------------	--------	---	----------

County Name: COOK
County Code: IL031
EPA Handler ID: ILR000005652
Current Site Name: CITIBANK OFFICE PLAZA
Generator Status Universe: Small Quantity Generator
Land Type: Private
Activity Location: IL
TSD Activity: No
Mixed Waste Generator: No
Importer Activity: No
Transporter Activity: No
Transfer Facility: No
Recycler Activity: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Inject Activity: No
Rece Waste From Off Site: No
Used Oil Transporter:
Used Oil Transfer Facility:
Used Oil Processor:
Used Oil Refiner:
Used Oil Burner:
Used Oil Market Burner:
Used Oil Spec Marketer:
Mailing Address: 1699 E WOODFIELD RD STE 506, SCHAUMBURG, IL, 60173,
Contact Name: GEORGE SERINO
Contact Address: 1699 E WOODFIELD RD, SCHAUMBURG, IL, 60173, US
Contact Email:
Location Street 2:

Owner/Operator Information
Owner/Operator Indicator: CO
Owner/Operator Name: CITIBANK OFFICE PLAZA
Owner/Operator Address: 1699 E WOODFIELD RD SCHAUMBURG IL 60173
Owner/Operator Phone: 7087069550
Owner/Operator Type: P
Date Became Current:
Date Ended Current:

Handler Information
Date Received: 19950606
Facility Name: CITIBANK OFFICE PLAZA
Classification: Small Quantity Generator

Hazardous Waste Information
Waste Code: D001

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Waste:		IGNITABLE WASTE				
Waste Code Active Status:		Yes				
BR Waste Code Active Status:		Yes				
--		--				
4	2 of 2	W	0.23 / 1,211.18	737.31	Podolsky & Associates 1699 E Woodfield Rd #406 Schaumburg IL 60173	UST
Facility ID:		2035007				
Facility Status:		Closed				
Facility Type:		Commercial / Retail				
Motor Fuel Type:						
Motor Fuel Permit Insp Dt:						
Motor Fuel Permit Expir Dt:						
Green Tag Decal:						
Green Tag Issue Date:						
Green Tag Expiration Date:						
County:		Cook				
Owner Information		--				
Owner ID:		U0024843				
Owner Name:		Podolsky & Associates				
Owner Address:		1699 E Woodfield Rd #406				
Owner City:		Schaumburg				
Owner State:		IL				
Owner Zip:		60173				
--		--				
Tank Information		--				
Tank ID:		1				
Tank Status:		Removed				
Tank Capacity:		500				
Product:		Diesel Fuel				
Date Installed:		1/1/1982				
Last Used Date:		1/1/1994				
Removed Date:		8/6/1996				
Abandoned Date:						
Red Tag Issue Date:						
OSFM First Notify Date:		6/11/1996				
Fee Due:						
Pending Nov:		NO				
IEMA Number(s):						
--		--				
--		--				

5	1 of 1	WSW	0.23 / 1,216.69	736.36	Schaumburg Dig SWCHG 700 North Mall Drive Schaumburg IL 60172	UST
Facility ID:		2035615				
Facility Status:		Active				
Facility Type:		Utility				
Motor Fuel Type:						
Motor Fuel Permit Insp Dt:						
Motor Fuel Permit Expir Dt:						
Green Tag Decal:		Q004289				
Green Tag Issue Date:		12/16/2015				
Green Tag Expiration Date:		12/31/2017				
County:		Cook				
Owner Information		--				
Owner ID:		U0034340				
Owner Name:		AT&T Corp. d/b/a Illinois Bell				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Owner Address:			308 S. Akard, Room 1700			
Owner City:			Dallas			
Owner State:			TX			
Owner Zip:			75202			
--			--			
Tank Information						
--			--			
Tank ID:			1			
Tank Status:			Currently in use			
Tank Capacity:			2500			
Product:			Diesel Fuel			
Date Installed:			7/31/1997			
Last Used Date:						
Removed Date:						
Abandoned Date:						
Red Tag Issue Date:						
OSFM First Notify Date:			12/15/1997			
Fee Due:			\$0.00			
Pending Nov:			NO			
IEMA Number(s):						
--			--			
Equipment Information						
--			--			
Equipment Type:			Corrosion Prot - Piping			
Equipment:			Composite Secondary Containment			
Last Passing Date:			N/A			
Test Expire Date:			N/A			
--			--			
Equipment Type:			Corrosion Prot - Tank			
Equipment:			Fiberglass Non-Corrosive			
Last Passing Date:			N/A			
Test Expire Date:			N/A			
--			--			
Equipment Type:			Leak Detect - Piping			
Equipment:			Piping Sump Sensors Interstitial Monitoring Veeder Root TLS 350			
Last Passing Date:			2/15/2015			
Test Expire Date:			2/15/2016			
--			--			
Equipment Type:			Leak Detect - Piping			
Equipment:			Electronic Pressurized Line Leak Detection Veeder Root TLS 350			
Last Passing Date:			2/15/2015			
Test Expire Date:			2/15/2016			
--			--			
Equipment Type:			Leak Detect - Tank			
Equipment:			Automatic Tank Gauging Veeder Root TLS 350			
Last Passing Date:			N/A			
Test Expire Date:			N/A			
--			--			
Equipment Type:			Leak Detect - Tank			
Equipment:			Interstitial Monitoring Veeder Root TLS 350			
Last Passing Date:			2/25/2015			
Test Expire Date:			2/25/2016			
--			--			
Equipment Type:			Overfill Prev Device			
Equipment:			Overfill Alarm Veeder Root TLS 350			
Last Passing Date:			N/A			
Test Expire Date:			N/A			
--			--			
Equipment Type:			Overfill Prev Device			
Equipment:			Overfill Drop Tube Valve OPW 61SO			
Last Passing Date:			N/A			
Test Expire Date:			N/A			
--			--			
Equipment Type:			Piping			
Equipment:			Fiberglass Secondary Containment Steel primary			
Last Passing Date:			N/A			
Test Expire Date:			N/A			
--			--			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Equipment Type:		Spill Contain Device				
Equipment:		Manhole Pre-manufactured OPW 1				
Last Passing Date:		N/A				
Test Expire Date:		N/A				
--		--				
Equipment Type:		Tank				
Equipment:		Fiberglass Double Wall Fluid Containment				
Last Passing Date:		--				
Test Expire Date:		--				
--		--				

<u>6</u>	1 of 5	SW	0.32 / 1,705.69	741.31	Golf Road Properties 526 Mall Dr. Schaumburg IL 60173	LUST
Incident No:		970863		Sec 57:		732
BL ID:		312825045		Non Lust:		
Status:		A		Rpt Rec 20:		7/16/1997 12:00:00 AM
Status Desc:		ACTIVE		Rpt Rec 45:		
IEMA Date:		5/15/1997 12:00:00 AM		Sec 57 5g:		
Gasoline:		FALSE		NFR NFA:		2/3/1998 12:00:00 AM
Unleaded:		FALSE		NFR Recorded:		10/5/1998 12:00:00 AM
Diesel:		FALSE		Pre 74 Date:		
Fuel Oil:		FALSE		FPD Date:		
Jet Fuel:		FALSE		NFR Recission:		
Used Oil:		FALSE		NFR Voided:		
Non Petroleum Prod:		FALSE		Phone:		(217) 524-4650
Other Petroleum:		TRUE		County:		Cook
Project Manager:		Kaiser		First Name:		Karl
Site Class:				Email:		Karl.Kaiser@Illinois.gov
Primary Resp Party Name:		Golf Road Properties				
Primary Resp Party Address:		526 Mall Dr.				
Primary Resp Party City:		Schaumburg				
Primary Resp Party State:		IL				
Primary Resp Party Zip:		60173				
Primary Resp Party Phone:						
Primary Resp Party Contact:		Paul Rogman				

<u>6</u>	2 of 5	SW	0.32 / 1,705.69	741.31	Golf Road Properties 526 Mall Dr. Schaumburg IL 60173	LUST
Incident No:		970864		Sec 57:		732
BL ID:		312825045		Non Lust:		
Status:		A		Rpt Rec 20:		6/23/1997 12:00:00 AM
Status Desc:		ACTIVE		Rpt Rec 45:		
IEMA Date:		5/15/1997 12:00:00 AM		Sec 57 5g:		
Gasoline:		FALSE		NFR NFA:		6/26/1998 12:00:00 AM
Unleaded:		FALSE		NFR Recorded:		8/10/1998 12:00:00 AM
Diesel:		FALSE		Pre 74 Date:		
Fuel Oil:		FALSE		FPD Date:		
Jet Fuel:		FALSE		NFR Recission:		
Used Oil:		TRUE		NFR Voided:		
Non Petroleum Prod:		FALSE		Phone:		(217) 524-4650
Other Petroleum:		FALSE		County:		Cook
Project Manager:		Kaiser		First Name:		Karl
Site Class:				Email:		Karl.Kaiser@Illinois.gov
Primary Resp Party Name:		Golf Road Properties				
Primary Resp Party Address:		526 Mall Dr.				
Primary Resp Party City:		Schaumburg				
Primary Resp Party State:		IL				
Primary Resp Party Zip:		60173				
Primary Resp Party Phone:						
Primary Resp Party Contact:		Paul Rogman				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
<u>6</u>	3 of 5	SW	0.32 / 1,705.69	741.31	Patrick Cadillac Co. 526 Mall Dr. Schaumburg IL 60173	LUST
Incident No:	962179			Sec 57:	732	
BL ID:	312825045			Non Lust:		
Status:	A			Rpt Rec 20:	2/25/1997 12:00:00 AM	
Status Desc:	ACTIVE			Rpt Rec 45:	2/25/1997 12:00:00 AM	
IEMA Date:	11/22/1996 12:00:00 AM			Sec 57 5g:		
Gasoline:	FALSE			NFR NFA:	6/26/1998 12:00:00 AM	
Unleaded:	FALSE			NFR Recorded:	8/10/1998 12:00:00 AM	
Diesel:	FALSE			Pre 74 Date:		
Fuel Oil:	FALSE			FPD Date:		
Jet Fuel:	FALSE			NFR Recission:		
Used Oil:	TRUE			NFR Voided:		
Non Petroleum Prod:	FALSE			Phone:	(217) 524-4650	
Other Petroleum:	FALSE			County:	Cook	
Project Manager:	Kaiser			First Name:	Karl	
Site Class:				Email:	Karl.Kaiser@illinois.gov	
Primary Resp Party Name:	Patrick Cadillac					
Primary Resp Party Address:	526 Mall Dr.					
Primary Resp Party City:	Schaumburg					
Primary Resp Party State:	IL					
Primary Resp Party Zip:	60173					
Primary Resp Party Phone:						
Primary Resp Party Contact:	Paul Bogman					

<u>6</u>	4 of 5	SW	0.32 / 1,705.69	741.31	Patrick Cadillac Schaumburg 526 Mall Dr. Schaumburg IL 60173	LUST
Incident No:	911618			Sec 57:	731	
BL ID:	312825045			Non Lust:		
Status:	A			Rpt Rec 20:		
Status Desc:	ACTIVE			Rpt Rec 45:		
IEMA Date:	6/13/1991 12:00:00 AM			Sec 57 5g:		
Gasoline:	TRUE			NFR NFA:	4/27/1995 12:00:00 AM	
Unleaded:	FALSE			NFR Recorded:		
Diesel:	FALSE			Pre 74 Date:		
Fuel Oil:	FALSE			FPD Date:		
Jet Fuel:	FALSE			NFR Recission:		
Used Oil:	FALSE			NFR Voided:		
Non Petroleum Prod:	FALSE			Phone:		
Other Petroleum:	FALSE			County:	Cook	
Project Manager:	Irwin			First Name:	Russ	
Site Class:				Email:		
Primary Resp Party Name:	Patrick Cadillac					
Primary Resp Party Address:	526 Mall Dr.					
Primary Resp Party City:	Schaumburg					
Primary Resp Party State:	IL					
Primary Resp Party Zip:	60173					
Primary Resp Party Phone:						
Primary Resp Party Contact:	Mark Fisher					

<u>6</u>	5 of 5	SW	0.32 / 1,705.69	741.31	Patrick Cadillac Co. 526 Mall Dr. Schaumburg IL 60173	LUST
Incident No:	950079			Sec 57:	732	
BL ID:	312825045			Non Lust:		
Status:	A			Rpt Rec 20:	3/17/1995 12:00:00 AM	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Status Desc:	ACTIVE				Rpt Rec 45: 2/25/1997 12:00:00 AM	
IEMA Date:	1/11/1995 12:00:00 AM				Sec 57 5g:	
Gasoline:	FALSE				NFR NFA: 2/3/1998 12:00:00 AM	
Unleaded:	FALSE				NFR Recorded: 10/5/1998 12:00:00 AM	
Diesel:	FALSE				Pre 74 Date:	
Fuel Oil:	FALSE				FPD Date:	
Jet Fuel:	FALSE				NFR Recission:	
Used Oil:	FALSE				NFR Voided:	
Non Petroleum Prod:	FALSE				Phone: (217) 524-4650	
Other Petroleum:	TRUE				County: Cook	
Project Manager:	Kaiser				First Name: Karl	
Site Class:					Email: Karl.Kaiser@illinois.gov	
Primary Resp Party Name:	Patrick Cadillac					
Primary Resp Party Address:	526 Mall Dr.					
Primary Resp Party City:	Schaumburg					
Primary Resp Party State:	IL					
Primary Resp Party Zip:	60173					
Primary Resp Party Phone:						
Primary Resp Party Contact:	Martin Stillwell					

7 1 of 1 SW 0.36 / 1,887.78 740.81 Shell Oil Products U.S. 517 Mall Drive Schaumburg IL 60173 LUST

Incident No:	20021557				Sec 57: P.A.	
BL ID:	312825221				Non Lust:	
Status:	A				Rpt Rec 20: 11/12/2002 12:00:00 AM	
Status Desc:	ACTIVE				Rpt Rec 45: 12/9/2002 12:00:00 AM	
IEMA Date:	10/25/2002 12:00:00 AM				Sec 57 5g:	
Gasoline:	FALSE				NFR NFA: 8/25/2009 12:00:00 AM	
Unleaded:	TRUE				NFR Recorded: 9/30/2009 12:00:00 AM	
Diesel:	FALSE				Pre 74 Date:	
Fuel Oil:	FALSE				FPD Date:	
Jet Fuel:	FALSE				NFR Recission:	
Used Oil:	FALSE				NFR Voided:	
Non Petroleum Prod:	FALSE				Phone: (217) 557-6937	
Other Petroleum:	FALSE				County: Cook	
Project Manager:	Zuehlke				First Name: Wayne	
Site Class:					Email: Wayne.Zuehlke@illinois.gov	
Primary Resp Party Name:	Shell Oil Products U.S.					
Primary Resp Party Address:	603 Diehl Rd.					
Primary Resp Party City:	Naperville					
Primary Resp Party State:	IL					
Primary Resp Party Zip:	60563					
Primary Resp Party Phone:	6302764206					
Primary Resp Party Contact:	John Robbins					

8 1 of 1 SSW 0.38 / 2,001.06 729.72 Kimball Hill DE Higgins & Martingale Schaumburg IL 60195 LUST

Incident No:	880666				Sec 57: 731	
BL ID:	312825120				Non Lust: 2/14/2008 12:00:00 AM	
Status:	A				Rpt Rec 20:	
Status Desc:	ACTIVE				Rpt Rec 45:	
IEMA Date:	5/27/1988 12:00:00 AM				Sec 57 5g:	
Gasoline:	FALSE				NFR NFA:	
Unleaded:	FALSE				NFR Recorded:	
Diesel:	FALSE				Pre 74 Date:	
Fuel Oil:	FALSE				FPD Date:	
Jet Fuel:	FALSE				NFR Recission:	
Used Oil:	FALSE				NFR Voided:	
Non Petroleum Prod:	FALSE				Phone:	
Other Petroleum:	TRUE				County: Cook	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev (ft)	Site	DB
Project Manager: Gaydosh				First Name: Jay		
Site Class:				Email:		
Primary Resp Party Name:		Kimball Hill Engineering Co.				
Primary Resp Party Address:		5999 New Wilkie Rd., Suite 504				
Primary Resp Party City:		Rolling Meadows				
Primary Resp Party State:		IL				
Primary Resp Party Zip:		60008				
Primary Resp Party Phone:						
Primary Resp Party Contact:		M. Olliver				

<u>9</u>	1 of 1	NNW	0.50 / 2,617.21	733.05	Bridgestone Firestone 1755 East Golf Rd. Schaumburg IL 60173	LUST
Incident No: 971859				Sec 57: 732		
BL ID: 434895008				Non Lust:		
Status: A				Rpt Rec 20:		
Status Desc: ACTIVE				Rpt Rec 45: 3/9/1998 12:00:00 AM		
IEMA Date: 9/30/1997 12:00:00 AM				Sec 57 5g:		
Gasoline: FALSE				NFR NFA: 3/1/2001 12:00:00 AM		
Unleaded: FALSE				NFR Recorded: 4/13/2001 12:00:00 AM		
Diesel: FALSE				Pre 74 Date:		
Fuel Oil: FALSE				FPD Date:		
Jet Fuel: FALSE				NFR Recission:		
Used Oil: TRUE				NFR Voided:		
Non Petroleum Prod: FALSE				Phone: (217) 785-7492		
Other Petroleum: FALSE				County: Du Page		
Project Manager: Davis				First Name: Valerie		
Site Class:				Email: Valerie.A.Davis@illinois.gov		
Primary Resp Party Name:		Bridgestone Firestone Inc.				
Primary Resp Party Address:		2550 West Golf Rd.				
Primary Resp Party City:		Rolling Meadows				
Primary Resp Party State:		IL				
Primary Resp Party Zip:		60008				
Primary Resp Party Phone:		3305356966				
Primary Resp Party Contact:		John Hujar				

REPORT OF FINDINGS

LUST INCIDENT NO. 940068

**Sears Facility #1570
2 Woodfield Drive
Schaumburg, Illinois**

**MACTEC Engineering and Consulting, Inc.
8745 West Higgins Road, Suite 300
Chicago, Illinois 60631**

MACTEC Project #3205090791

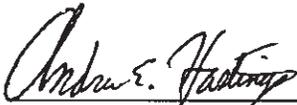
July 8, 2009

Prepared for:

**SEARS HOLDINGS MANAGEMENT CORPORATION
3333 Beverly Road
Hoffman Estates, Illinois 60179**

**RECEIVED
JUL 09 2009
IEPA/BOL**

Prepared by:



Andrew E. Hastings
Project Professional

Reviewed by:



Craig Cabrea
Principal Scientist



RELEASABLE

MAY 11 2010

REVIEWER MD

1.0 INTRODUCTION

On behalf of Sears Holdings Management Corporation, formerly Sears, Roebuck and Co. (Sears), MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this Report of Findings for Illinois Environmental Protection Agency (Illinois EPA) Leaking Underground Storage Tank (LUST) Incident number 940068. This incident occurred at Sears Facility #1570, located at 2 Woodfield Drive, Schaumburg, Cook County, Illinois, hereafter referred to as the Site. A site location map (Figure 1) was prepared which uses as reference the United States Geological Survey 7.5-minute Topographic Map of the Palatine, Illinois Quadrangle. A site and vicinity map (Figure 2) is included which presents the properties and land uses surrounding the subject Site.

Between January 10 and January 12, 1994, five 6,000-gallon gasoline underground storage tanks (USTs) and one 1,000-gallon used oil UST were removed from the Site. According to the "Underground Storage Tank Removal and Closure Report, Sears Store 1570, 2 Woodfield Mall, Schaumburg, Illinois" report dated March 8, 1994, Groundwater Technology, Inc. (GTI) was contracted by Sears to oversee tank removal operations. GTI documented the removal of approximately 200 cubic yards from the gasoline USTs excavation and associated piping and the removal of approximately 25 cubic yards from the used oil UST excavation. In addition, thirty-seven 55-gallon drums containing residual fluids from the USTs were generated and properly disposed of during removal operations. During the tank removal, the five gasoline USTs were observed to be in good condition while the used oil UST was observed to have seven holes in the exterior, including one approximately 3-inches in size.

Fluor Daniel GTI (FDG) issued a "Geoprobe Assessment Report" for the Site on December 30, 1996. The FDG report summarized the activities related to the installation of 14 soil borings advanced to a depth of no more than 20 feet below ground surface (bgs) at the Site. In addition, FDG collected a single groundwater sample at the Site. FDG encountered a sand seam from 6 to 12 feet bgs in three borings and sandy soil from 4 to 20 feet bgs in one boring, all located to the northwest of the former used oil UST location. Based on FDG's visual observations during drilling, shallow groundwater appeared to have been encountered generally at 10 feet bgs. The primary soil type encountered during drilling was a light gray stiff clay with trace sand and gravel. A soil sample collected from a boring located to the north of the former gasoline USTs basin was found to have benzene and toluene at a concentration above the Tiered Approach to Corrective Action (TACO) Tier I Soil Remediation Objectives (SROs). Toxicity Characteristic Leachate Procedure (TCLP) lead was also detected in a soil sample from a boring located to the northwest of the former waste oil UST basin above the TACO Tier I SROs. A groundwater sample was collected from apparent perched groundwater within the backfill of the former gasoline USTs basin which was analyzed and found to have a concentration of benzene above the TACO Tier I Groundwater Remediation Objectives (GROs).

A Site Classification Completion Report, prepared by FDG, and dated April 28, 1998, summarized additional field work at the Site performed in 1998. FDG directed the installation of two borings for soil classification and geotechnical testing. FDG also installed four borings near the perimeter of the Site for soil sample collection and analysis for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Finally, FDG installed a boring at the former used oil UST location in order to determine indicator parameters. FDG did not observe groundwater when drilling the site classification boring to a depth of 32 feet bgs. All BTEX results from the perimeter borings were below TACO Tier 1 SROs. The TACO SROs for the migration to groundwater pathway for benzene and ethylbenzene were exceeded by soil samples collected beneath the former invert elevation of the used oil UST in certain borings.

IT Corporation prepared a Report of Findings document, dated August 24, 1999, which was in response to the Illinois EPA review of the above referenced Site Classification Report. The Report of Findings included soil and groundwater data from the installation of six monitoring wells installed per Illinois EPA direction. A boring was drilled at the former used oil UST location and analyzed for semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and Resource Conservation and Recovery Act (RCRA) TCLP metals. No detected constituent concentrations exceeded their respective TACO Tier 1 SROs. This soil sample was collected from 20 to 22 feet bgs. BTEX concentrations in soil and groundwater samples were all below the TACO Tier 1 SROs.

On March 7 and March 9, 2000, IT Corporation submitted a High Priority Corrective Action Plan and budget for the Site which summarized the work to date at the Site and described the additional investigation activities that they recommended to determine required remediation. In a July 7, 2000 letter, the Illinois EPA indicated that both the High Priority Corrective Plan and the budget documents that had been submitted were rejected. The Illinois EPA further directed that the following tasks be performed:

- A soil boring must be installed in order to collect a soil sample that is representative of contamination at the site. Contaminants detected above the remediation objectives would be classified as indicator contaminants.
- Define the full extent of contamination to the most stringent Tier 1 objectives. This is to include a map displaying the levels of contamination and extent submitted to Illinois EPA.
- Groundwater should be re-sampled for identified indicator contaminants.
- TACO analysis should be performed using all data collected to date.

The objective of this report is to determine the appropriate indicator contaminants and to re-sample the Site monitoring wells to evaluate current groundwater concentrations to allow for a determination of the appropriate actions for the Site as requested by the Illinois EPA in their July 7, 2000 letter.

2.0 FIELD INVESTIGATIONS

To address the items outlined by the Illinois EPA in Section 1.0, the following field activities were performed by MACTEC:

- One soil boring was completed on the Site and two soil samples were obtained from the single boring. The boring was located adjacent to the former used oil UST location near the southwest corner of the former tank basin. This location was selected in order to be nearest the UST excavation sidewalls (west and south) which had been found to have the highest contaminant concentration at the time of UST removal. One of the two soil samples was selected for analysis. The soil sample was analyzed for used oil indicator constituents: polynuclear aromatic hydrocarbons (PNAs), SVOCs, volatile organic compounds (VOCs), total RCRA metals, TCLP RCRA metals, PCBs, and pesticides. Soil sampling was performed on February 25, 2008.
- Groundwater samples were obtained from the six on-site monitoring wells at the Site on March 17, 2009. Water level information was collected at each monitoring well prior to sampling and each well's condition was reviewed. Prior to performing the groundwater sampling, MACTEC collected the soil sample referenced above in order to identify any contaminant indicator parameters beyond the used oil indicator parameters of BTEX and PNAs. No constituents were detected above remediation objectives in the soil sample referenced above. As a result, all six groundwater samples were analyzed for BTEX and PNAs.
- Due to unanticipated groundwater analytical results in two monitoring wells, Sears authorized MACTEC to return to the Site on May 4, 2009 to collect a new round of water level readings at each well; to collect groundwater samples from the two wells with unanticipated results for verification; and to repair monitoring well MW-1 which had been noted as damaged during the initial sampling visit.

All field procedures were performed in accordance with a site-specific Health and Safety Plan (HASP).

2.1 Soil Borings and Soil Sampling

MACTEC retained Paramount Environmental Services of Portage, Indiana, (Paramount) to provide a Geoprobe® model 5400 truck-mounted drill rig for the purposes of collecting subsurface soil samples through the installation of a single soil boring (GP-1). JULIE was notified prior to mobilization to mark nearby utilities. The boring location was selected to be nearly adjacent to the former used oil UST basin. The boring was located near the southwest corner of the former used oil UST basin in order to be nearest historic sidewall samples of the west and south excavation wall collected during

UST removal which had the highest concentrations. The analytical sample from the west side wall of the UST excavation was found to have a benzene concentration of 0.19 milligrams per kilogram (mg/kg). The analytical sample from the south side wall of the UST excavation was found to have a benzene concentration of 0.043 mg/kg. The location of the former heating oil UST basin was identified in the field based on concrete pavement cuts and patching from the historic tank removal. A site plan showing the completed soil boring location is included as **Figure 3**.

The soil boring was drilled to 20 feet bgs by advancing a 2-inch outside diameter (O.D.) steel sampling tube into the underlying soil using dual core Direct Push Technology (DPT). The dual core DPT technology allows a continuous temporary casing to be kept in place within the soil boring eliminating any chance of hole cave-in or soil slough in samples. Continuous soil samples were collected at five-foot sampling intervals using the sampling tube and associated interior acetate soil collection liner. Prior to each sampling interval, the sampling probe was decontaminated using an Alconox wash followed by a distilled water rinse. A new disposable acetate soil collection liner was used for each sample. The borehole was subsequently backfilled with the soil cuttings and/or bentonite chips and concrete at the surface.

Soils collected in the DPT acetate liners were screened in the field for the presence of organic vapors using a MiniRAE 2000 Photoionization Detector (PID) with a 10.6 eV lamp. Each sample was also visually examined and classified using the Unified Soils Classification System (USCS) by the onsite MACTEC environmental professional. Visual or other evidence of impacts, such as staining or chemical odors, was also noted and recorded. A copy of the boring log for GP-1, including PID readings, is presented in **Appendix B**.

2.2 Soil Sample Selection and Analysis

Soil samples were selected based upon PID readings of samples within the boring and/or any noticeable evidence of impact. MACTEC collected two soil samples from boring GP-1. GP-1-A was collected from 12 to 14.5 feet bgs based on elevated PID readings from 11 to 14 feet bgs. Corresponding to sample GP-1-A, PID readings were 4.4 ppm at 11 to 13 feet bgs, and 5.7 ppm at 13.5 feet bgs. GP-1-B was collected from 7.5 to 9.5 feet bgs based on elevated PID readings and a slight petroleum odor. Corresponding to sample GP-1-B, a PID reading of 4.9 ppm was noted at 8.5 feet bgs. Based on the highest elevated PID readings in the boring observed from 11 to 14 feet bgs, sample GP-1-A was selected for laboratory analysis with sample GP-1-B placed on hold.

The soil sample (GP-1-A) was analyzed for the following used oil indicator constituents: PNAs by EPA Method 8270, SVOCs by EPA Method 8270, VOCs by EPA Method 5035/8260B, RCRA metals (total and TCLP basis) by their applicable EPA Methods, PCBs by EPA Method 8082, and pesticides by Method 8081. The soil samples for volatile organic analysis were collected in laboratory-supplied USEPA-approved 40 milliliter vials with sample collection procedures conforming to SW-846 Method 5035. Soil samples for PNAs, SVOCs, RCRA metals, PCBs, and

pesticides were collected in laboratory-supplied four-ounce glass sample jars. The four-ounce jar samples include no chemical preservative. To reduce the possibility of cross contamination between samples, a new pair of disposable nitrile gloves was donned by the sampler for each sample collected. Upon collection, the sample containers were labeled with the site name, sample number, date, time, and sampler initials, and were placed in an iced cooler. Samples were delivered to STAT Analysis Corporation of Chicago, Illinois at the conclusion of field work, under a complete chain of custody, for laboratory analysis.

2.3 Monitoring Wells and Groundwater Sampling

On March 17, 2009, MACTEC noted the condition of each of the six flush mounted monitoring wells:

- MW-1 – This well is located in an asphalt paved primary traffic path. The flush-mount well box appears to have dropped in elevation due to vehicle traffic leaving the PVC well casing at an elevation above the flush mounted cover preventing closure. The top of the PVC well casing was cracked, and based on the fact that the steel well cover rests loosely on the PVC well casing, there is a high likelihood of surface water infiltration. No well cap was present on the well.
- MW-2 – This well is located in an asphalt paved parking area. A mixture of sand and bentonite had heaved up and around the well casing within the flush-mounted well box. The heaving materials had partially dislodged the well cap and a small amount of bentonite and/or sand material likely entered the monitoring well. MACTEC removed enough heaved materials to drop the well box backfill to at least one inch below the top of the well casing.
- MW-3 – This well is located in a grass-covered landscaped area adjacent to the parking. A mixture of sand and bentonite had heaved up and around the well casing within the flush-mounted well box. The heaving materials had partially dislodged the well cap and a small amount of bentonite and/or sand material likely entered the monitoring well. MACTEC removed enough heaved materials to drop the well box backfill to at least one inch below the top of the well casing.
- MW-4 – This well is located in an asphalt paved parking area. MACTEC noted that the steel well cover was rusted shut requiring extensive use of hand tools to open. Once open, MACTEC noted that the flush-mounted well box was full of water to a level above that of the monitoring well. The well did have a well cap but the cap appeared to be partially dislodged. Water that had collected in the flush-mounted well box was removed with a turkey baster prior to fully removing the well cap. Once the cap was removed, apparent groundwater was observed at just below the top of casing elevation leading to the conclusion that surface or near surface water infiltration into the well was likely.

- MW-5 – This well is located in an asphalt paved parking area. A mixture of sand and bentonite had heaved up and around the well casing within the flush-mounted well box. The heaving materials had partially dislodged the well cap and a small amount of bentonite and/or sand material likely entered the monitoring well. MACTEC removed enough heaved materials to drop the well box backfill to at least one inch below the top of the well casing. Access to this well was limited as an abandoned truck was parked over the well.
- MW-6 – This well is located in an asphalt paved traffic area. A mixture of sand and bentonite had heaved up and around the well casing within the flush-mounted well box. The heaving materials had partially dislodged the well cap and a small amount of bentonite and/or sand material likely entered the monitoring well. MACTEC removed enough heaved materials to drop the well box backfill to at least one inch below the top of the well casing.

Based on these observations, MACTEC recommended that Sears have MW-1 repaired and that new well caps be placed on all six wells.

On March 17, 2009, MACTEC personnel developed and sampled all six existing monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6). All monitoring wells, with the exception of MW-5, were sampled with a dedicated polyethylene bailer and new dedicated nylon rope. Due to an abandoned vehicle parked over MW-5, the monitoring well did not have the vertical clearance necessary for sampling with a bailer. However, the well could be accessed by dedicated polyethylene and silicon tubing and was therefore sampled using a peristaltic pump.

Prior to purging activities, water level and free product measurements were taken using a properly decontaminated Heron H.01L oil-water interface meter. The Heron meter is capable of detecting both light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liquid (DNAPL). Free phase product was not detected in any of the monitoring wells while obtaining depth to water and depth to bottom measurements at each well location. During sampling and development activities MACTEC personnel wore new disposable nitrile gloves. Each of the six monitoring wells was purged of at least three well volumes of groundwater. Purge water was containerized in a 55-gallon drum, labeled and staged on-site for disposal by Sears. Approximately 3 to 4 gallons of purge water from MW-1 was also discharged on to asphalt pavement for evaporation. After purging, groundwater samples from all wells except MW-5 were collected using the dedicated bailer and nylon rope. The peristaltic pump and dedicated tubing was used to collect the groundwater sample from MW-5 with the lowest possible flow rate setting on the pump used during VOC sampling.

In the absence of additional indicator constituents found at GP-1, the groundwater samples from the six existing monitoring wells were analyzed for PNAs by EPA Method 8270 and BTEX by EPA Method 8260B. A site plan showing the monitoring well locations and a summary of the analytical

results is included as **Figure 4**. Please refer to Section 2.5 for a table displaying the water level measurements at all six monitoring wells.

The groundwater samples were collected in laboratory-supplied, hydrochloric acid preserved, 40 milliliter vials for BTEX analysis. Groundwater samples were collected in an unpreserved 1 liter amber jar for PNA analysis. Each sample jar was labeled with the site name, sample number, date, time, and sampler initials, and then placed in an iced cooler. Samples were delivered to STAT Analysis Corporation of Chicago, Illinois at the conclusion of field work, under a complete chain of custody, for laboratory analysis.

2.4 Follow-Up Site Visit

As discussed above in Section 2.4, MACTEC had identified MW-1 as being in need of repair. MACTEC retained Paramount to provide a Geoprobe® model 5400 truck-mounted drill rig for the purposes of repairing the existing MW-1 PVC well casing as well as the replacement of the flush-mounted well box. As a precaution, JULIE was notified prior to mobilization to mark nearby utilities. The repair was conducted on May 4, 2009.

Paramount was able to dig out and remove the original flush-mounted well box. No concrete appeared to remain around the original well box and the lower 4 to 6 inches of the well box appeared to have disintegrated over time. Paramount also cut off the top cracked portion of the well casing, removing a length of pipe between 0.25 and 0.27 feet long depending on the measurement point. A new flush-mounted well box was installed, a concrete base placed, and orange cones set up to prevent driving over the well box until it had set.

MACTEC again reviewed the condition of each monitoring well and placed a new well cap on each well. No further heaving of backfill materials had occurred since our previous site work. MW-4 had a shallow water level relative to the top of the casing but instead of being at 0.1 feet below top of casing was now at 2.18 feet below top of casing. The well casing of MW-4 was not submerged in water collected in the flush-mounted well box, though this condition may be seasonal and/or weather dependant. All six wells have steel well covers that were secured with two or three bolts with the exception of MW-4 which had no bolts. MACTEC checked the well box and determined that the threaded holes for the bolts had been corroded but that the well box appeared to be in relatively good condition.

On May 4, 2009, MACTEC personnel developed and sampled two monitoring wells (MW-4 and MW-5) which had been found to have unanticipated analytical results from the original sampling as discussed below in Section 3.2. Both monitoring wells were sampled with a dedicated polyethylene bailer and new dedicated nylon rope. The abandoned vehicle noted during the previous visit had been pushed to the side to allow full access to MW-5. Prior to purging activities, water level measurements were taken at all six monitoring wells using a properly decontaminated Solinst water

level probe. During sampling and development activities, MACTEC personnel wore new disposable nitrile gloves. The two monitoring wells were purged of at least three well volumes of groundwater. All purge water was containerized in a 55-gallon drum, labeled and staged on-site for disposal by Sears. After purging, groundwater samples from each well were collected using the dedicated bailer and nylon rope. The groundwater samples from the two existing monitoring wells were analyzed for PNAs by EPA Method 8270 and BTEX by EPA Method 8260B. A site plan showing the monitoring well locations and a summary of both sets of analytical results is included on **Figure 4**. The following table presents the water level measurement information for all six wells during both sampling events:

Table A. - Groundwater Measurements

Monitoring Well	March 17, 2009 ¹		May 4, 2009 ²
	Depth to Bottom (ft)	Depth to Water (ft)	Depth to Water (ft)
MW-1 ³	25.60	1.97	2.12
MW-2	25.68	12.38	13.46
MW-3	29.70	11.39	11.06
MW-4	29.75	0.1	2.18
MW-5	28.80	9.11	9.32
MW-6	29.39	13.48	10.73

Notes:

- 1) Measurements conducted on March 17, 2009 were performed with a Heron H0.1L Interface Meter checking for the possible presence of free product. Free phase product was not indicated in any of the monitoring wells.
- 2) Measurements conducted on May 4, 2009 were performed with a Solinst Water Level Probe.
- 3) Subsequent to measuring the depth to water at MW-1 on May 4, 2009, the well casing was repaired. The repair required that the top section of well casing, measuring between 0.25 and 0.27 feet, be removed which will affect any current and future water elevation comparisons.

The groundwater samples were collected in laboratory-supplied, hydrochloric acid preserved, 40 milliliter vials for BTEX analysis. Groundwater water was collected in an unpreserved 1 liter amber jar for PNA analysis. Each sample jar was labeled with the site name, sample number, date, time, and sampler initials, and then placed in an iced cooler. Samples were delivered to STAF Analysis Corporation of Chicago, Illinois at the conclusion of field work, under a complete chain of custody, for laboratory analysis.

3.0 RESULTS

3.1 Geology

Soil samples collected from the boring were examined and a physical classification of the materials was made and recorded on the Boring Log in **Appendix B**. The soil geologic characteristics observed during the investigation are described as follows.

Boring GP-1 encountered approximately 10 inches of concrete followed by a sandy coarse base material to a depth of 1.5 feet bgs. A dark brown silty clay fill mixed with sand and gravel was then encountered from 1.5 to 2.5 feet bgs. From 2.5 to 8 feet bgs, MACTEC encountered the predominant soil type identified at the site during previous investigations as brownish gray silty clay with trace gravel. Nearly the same material was also encountered from 10.5 feet to 20 feet bgs in GP-1. Between 8 and 10 feet bgs, GP-1 encountered sandy soils consisting of brownish gray gravelly sand from 8 to 9 feet bgs and brownish gray sandy silt from 9 to 10 feet bgs. Several borings installed during previous investigations have encountered a sandy layer at similar depths. MACTEC did not encounter a saturated soil layer or perched groundwater. PID readings for the boring ranged from 0.2 to 5.7 ppm and are presented on the GP-1 boring log in **Appendix B**.

A previous investigation performed by IT Corporation in 1999, briefly discussed above in Section 1.0, had concluded that the Site had a groundwater flow direction of north/northeast/east and that groundwater levels seen in the monitoring wells were inconsistent possibly indicating that the shallow aquifer is discontinuous. Water level measurements obtained during the sampling events conducted on March 17 and May 4, 2009, indicated varied groundwater elevations inconsistent with the surface topography of the Site.

3.2 Analytical Results

Soil laboratory analytical results were compared to applicable TACO Tier 1 SROs and are summarized in **Table 1**. Groundwater laboratory analytical results were compared to applicable TACO Tier 1 GROs and are summarized in **Table 2**. **Table 2** also presents the results of the previous groundwater sampling event on June 2, 1999. Copies of the laboratory reports and chain-of-custody documentation are included in **Appendix C**.

Analytical Soil Sampling

- VOCs, PNAs, SVOCs, PCBs, and pesticides were not detected in soil sample GP-1-A.
- Four total RCRA metals were detected: arsenic (9.3 mg/kg), barium (44 mg/kg), chromium (19 mg/kg), and lead (17 mg/kg). All total metal results were below the most stringent TACO Tier 1 SROs for arsenic (residential SRO for ingestion of 13 mg/kg), barium (residential SRO for ingestion of 5,500 mg/kg), chromium (residential SRO for ingestion of 230 mg/kg), and lead (residential SRO for ingestion of 400 mg/kg).
- One TCLP RCRA metal constituent was detected, barium at a concentration of 0.69 mg/L. This value is below the TACO Tier 1 SRO for Class I Groundwater of 2.0 mg/L.

Analytical Groundwater Sampling

- MACTEC notes that the historical reports indicated groundwater sample results from June 2, 1999 had no detected BTEX concentrations.
- Groundwater samples from monitoring wells MW-1, MW-3, and MW-6 collected on March 17, 2009 were non-detect for BTEX and PNAs.
- Naphthalene was the only PNA detected in any of the groundwater samples collected during either the March 17, 2009 or May 4, 2009 sampling event. Naphthalene was detected in the March 17, 2009 groundwater samples from MW-2 and MW-4. Naphthalene was detected in the May 4, 2009 groundwater samples from MW-4 and MW-5. Detected naphthalene concentrations ranged from 0.0012 to 0.02 mg/L which is well below the TACO Tier 1 GRO for Class I groundwater of 0.14 mg/L.
- All four BTEX constituents were detected in the March 17, 2009 groundwater samples from MW-4 and MW-5 as well as the May 4, 2009 groundwater sample from MW-4. Ethylbenzene, toluene, and total xylenes were non-detect in the groundwater sample from MW-5 collected on May 4, 2009. Ethylbenzene detections ranged from 0.019 to 0.026 mg/L which is well below the TACO Tier 1 GRO for Class I groundwater of 0.7 mg/L. Toluene detections ranged from 0.011 to 0.032 mg/L which is well below the TACO Tier 1 GRO for Class I groundwater of 1.0 mg/L. Total xylenes detections ranged from 0.083 to 0.25 mg/L which is well below the TACO Tier 1 GRO for Class I groundwater of 10 mg/L.
- Benzene was found in the groundwater samples collected from both MW-4 and MW-5 on March 17, 2009 (0.063 mg/L and 0.042 mg/L, respectively) and on May 4, 2009 (0.057 mg/L and 0.013 mg/L, respectively) at concentrations that exceed the TACO Tier 1 GRO for Class I groundwater. Both benzene results for MW-4 and the March 17, 2009 benzene result for MW-5 also exceed the TACO Tier 1 GRO for Class II groundwater.

Following the groundwater sampling events summarized above, MACTEC reviewed the Illinois EPA database in order to determine whether Schaumburg has been given a groundwater use ordinance by the state. Schaumburg has submitted an ordinance but it was not approved by the Illinois EPA.

4.0 CONCLUSIONS AND RECOMMENDATIONS

MACTEC has completed a field investigation at the Site to address the deficiencies noted by Illinois EPA in their letter of July 7, 2000 for the Site. Based on the soil and groundwater analytical data obtained during this investigation, MACTEC concludes the following:

- One soil boring, GP-1, was installed adjacent to the former used oil UST basin in order to collect a soil sample representative of contamination at the Site for the purpose of identifying any indicator parameters for groundwater monitoring at the Site. The soil sample analyzed from boring GP-1 did not have any constituents which exceeded the most stringent TACO Tier 1 SROs and, therefore, did not identify any indicator parameters.
- Groundwater sampling of the six on-site monitoring wells proceeded analyzing the groundwater samples for selected indicator parameters for a waste oil UST, BTEX and PNAs. As a result of the March 17, 2009 groundwater sampling, benzene was found in wells MW-4 (0.063 mg/L) and MW-5 (0.042 mg/L) which exceeded the TACO Tier 1 GRO for Class II groundwater (0.025 mg/L). A subsequent sampling event on May 4, 2009 confirmed the presence of benzene in wells MW-4 (0.057 mg/L) which is above the Class II groundwater standard and in MW-5 (0.013 mg/L) which is above the Class I groundwater standard (0.005 mg/L) for benzene. These analytical results were not anticipated as the most recent sampling event performed on June 2, 1999 indicated a non-detect result for BTEX in all six monitoring wells.
- MACTEC reviewed the Illinois EPA database in order to determine whether Schaumburg has been given a groundwater use ordinance by the state. Schaumburg has submitted an ordinance but it was not approved.

Based on the groundwater analytical data obtained during this investigation, MACTEC has identified groundwater with benzene concentrations above TACO Tier 1 remediation objectives in wells located near the property boundary. MACTEC makes the following recommendations:

- MACTEC recommends TACO based risk modeling be performed including a TACO Tier 2 Risk Assessment using equation R26 in accordance with Section 742.810 to attempt to determine a Tier 2 objective.
- Based on the results of the recommended risk modeling, additional delineation maybe necessary at the Site due to the apparent presence of contamination above objectives near the property boundary.

TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

SEARS FACILITY #1570
2 WOODFIELD DRIVE, SCHAUMBURG, ILLINOIS
LUST INCIDENT #940068

Parameter	Sample ID	GP-1-A 12.0 - 14.5	TACO Tier 1 Residential SROs (1)		TACO Tier 1 Construction Worker SROs (2)		TACO Tier 1 SRO Class I	TACO Tier 1 SRO Class II	TACO Tier 1 Background Concentrations
	Sample Depth (feet)		Sample Date	Ingestion	Inhalation	Ingestion	Inhalation	Groundwater (3)	Groundwater (3)
Units		2/25/09							
VOCs									
VOCs	mg/kg	ND	NE	NE	NE	NE	NE	NE	NE
PNAs									
PNAs	mg/kg	ND	NE	NE	NE	NE	NE	NE	NE
SVOCs									
SVOCs	mg/kg	ND	NE	NE	NE	NE	NE	NE	NE
PCBs									
Polychlorinated Biphenyls	mg/kg	< 0.092	1.0	NE	1.0	NE	NE	NE	NE
PESTICIDES									
Pesticides	mg/kg	ND	NE	NE	NE	NE	NE	NE	NE
METALS , TOTAL									
Arsenic	mg/kg	9.3	13.0	750	61	25,000	NE	NE	13.0
Barium	mg/kg	44	5,500	690,000	14,000	870,000	NE	NE	110
Cadmium	mg/kg	< 0.57	78	1,800	200	59,000	NE	NE	0.6
Chromium	mg/kg	19	230	270	4,100	690	NE	NE	16.2
Lead	mg/kg	17	400	NE	700	NE	NE	NE	36.0
Mercury	mg/kg	< 0.029	23	10	61	0.1 (5)	NE	NE	0.06
Selenium	mg/kg	< 1.1	390	NE	1,000	NE	NE	NE	0.48
Silver	mg/kg	< 1.1	390	NE	1,000	NE	NE	NE	0.55
METALS, TCLP									
Arsenic	mg/L	< 0.01	NE	NE	NE	NE	0.05	0.2	NE
Barium	mg/L	0.69	NE	NE	NE	NE	2.0	2.0	NE
Cadmium	mg/L	< 0.005	NE	NE	NE	NE	0.005	0.05	NE
Chromium	mg/L	< 0.01	NE	NE	NE	NE	0.1	1.0	NE
Lead	mg/L	< 0.005	NE	NE	NE	NE	0.0075	0.1	NE
Mercury	mg/L	< 0.00025	NE	NE	NE	NE	0.002	0.01	NE
Selenium	mg/L	< 0.01	NE	NE	NE	NE	0.05	0.05	NE
Silver	mg/L	< 0.01	NE	NE	NE	NE	0.05	---	NE

Notes:

- (1): Soil remediation objective (SRO) of the soil ingestion or inhalation routes for residential properties 35 IAC 742 Appendix B, Table A.
- (2): Soil remediation objective (SRO) of the soil ingestion or inhalation routes for construction worker exposure 35 IAC 742 Appendix B, Table B.
- (3): The soil remediation objective (SRO) of the soil component of the groundwater ingestion route for Class I and Class II groundwater 35 IAC 742 Appendix B, Table A.
- (4): Concentrations of Inorganic Chemicals in Background Soils within Counties Inside Metropolitan Statistical Areas (35 IAC 742 Appendix A, Table G).
- (5): Elemental mercury is not a contaminant of concern based on historical operations at the Site. Soil remediation objective for inhalation route only applies at sites where elemental mercury (CAS# 7439-97-6) is a contaminant of concern (35 IAC 742 Appendix B, Tables A and B).

mg/kg Milligram per kilogram

NE Not established by the Illinois Environmental Protection Agency

ND Non-detect at laboratory detection limit

BOLD + HIGHLIGHT Laboratory Analytical Detection that exceeds the most stringent established TACO Tier 1 SROs

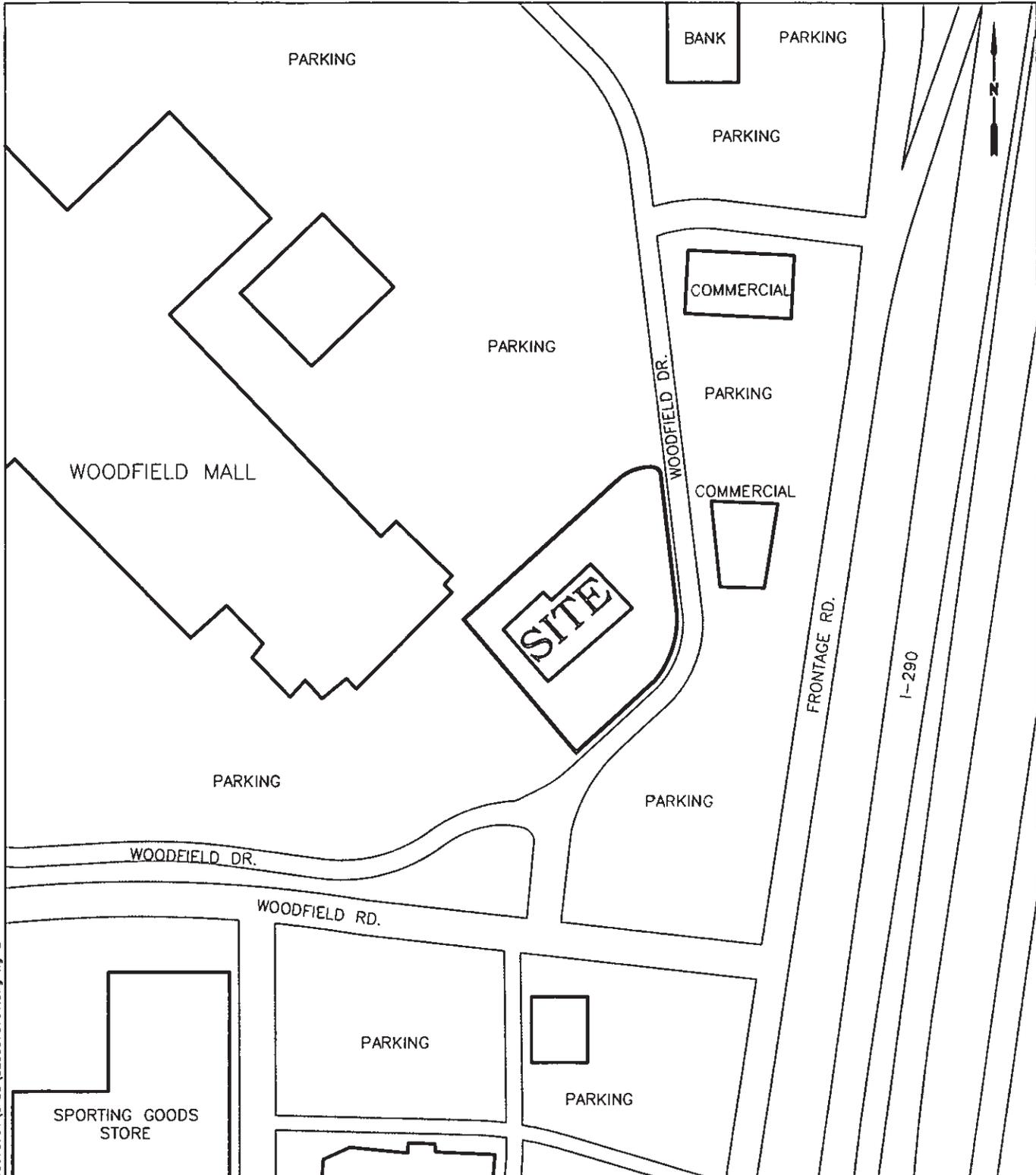
Prepared by: AEH 4/15/09

Checked by: MV 4/15/09

Sample ID	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6			
	6/2/99 ¹	3/17/09	6/2/99 ¹	3/17/09	6/2/99 ¹	3/17/09	6/2/99 ¹	3/17/09	5/4/09	6/2/99 ¹	3/17/09	5/4/09	6/2/99 ¹	3/17/09
Sample Date	Units													
	mg/L	< 0.001	< 0.005	< 0.001	< 0.005	< 0.001	< 0.005	0.057	0.063	0.042	0.013	0.013	< 0.001	< 0.005
	mg/L	< 0.001	< 0.005	< 0.001	< 0.005	< 0.001	< 0.005	0.022	0.019	0.026	< 0.005	< 0.005	< 0.001	< 0.005
	mg/L	< 0.001	< 0.005	< 0.001	< 0.005	< 0.001	< 0.005	0.032	0.011	0.014	< 0.005	< 0.005	< 0.001	< 0.005
	mg/L	< 0.001	< 0.015	< 0.001	< 0.015	< 0.001	< 0.015	0.1	0.1	0.083	< 0.015	< 0.015	< 0.001	< 0.015
TRICARBONS														
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.00013	NS	< 0.00013	NS	< 0.00013	< 0.00013	< 0.00013	< 0.00013	NS	< 0.00013	NS	< 0.00013
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.00018	NS	< 0.00018	NS	< 0.00018	< 0.00018	< 0.00018	< 0.00018	NS	< 0.00018	NS	< 0.00018
	mg/L	NS	< 0.0001	NS	< 0.0001	NS	< 0.0001	< 0.0001	< 0.0001	< 0.0001	NS	< 0.0001	NS	< 0.0001
	mg/L	NS	< 0.00017	NS	< 0.00017	NS	< 0.00017	< 0.00017	< 0.00017	< 0.00017	NS	< 0.00017	NS	< 0.00017
	mg/L	NS	< 0.0001	NS	< 0.0001	NS	< 0.0001	< 0.0001	< 0.0001	< 0.0001	NS	< 0.0001	NS	< 0.0001
	mg/L	NS	< 0.0001	NS	< 0.0001	NS	< 0.0001	< 0.0001	< 0.0001	< 0.0001	NS	< 0.0001	NS	< 0.0001
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.0001	NS	< 0.0001	NS	< 0.0001	< 0.0001	< 0.0001	< 0.0001	NS	< 0.0001	NS	< 0.0001
	mg/L	NS	< 0.0002	NS	0.0043	NS	< 0.0002	0.018	0.02	< 0.0002	0.0012	0.0012	NS	< 0.0002
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002
	mg/L	NS	< 0.0002	NS	< 0.0002	NS	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	NS	< 0.0002

Monitoring wells on June 2, 1999 were collected by IT Corporation. The data presented here references their March 7, 2000 Corrective Action Plan Report for the site. (GROs) of the groundwater ingestion route for Class I and II groundwater, 35 IAC 742 Appendix B, Table E.

Location
 Environmental Protection Agency (IEPA)
 Laboratory Analytical Detection that exceeds TACO Tier 1 Class I Groundwater Remediation Objectives.



4/17/2008 9:28 AM P:\Env\3205070791\CADD\3205070791.dwg fig-2

LEGEND:

— = APPROXIMATE SITE BOUNDARY

SCALE 1"=300'



Site & Vicinity Map
 Sears, Holdings Management Corporation
 Facility # 1570
 2 Woodfield Dr., Schaumburg, IL

FIGURE
2

DRAWN
 GAP

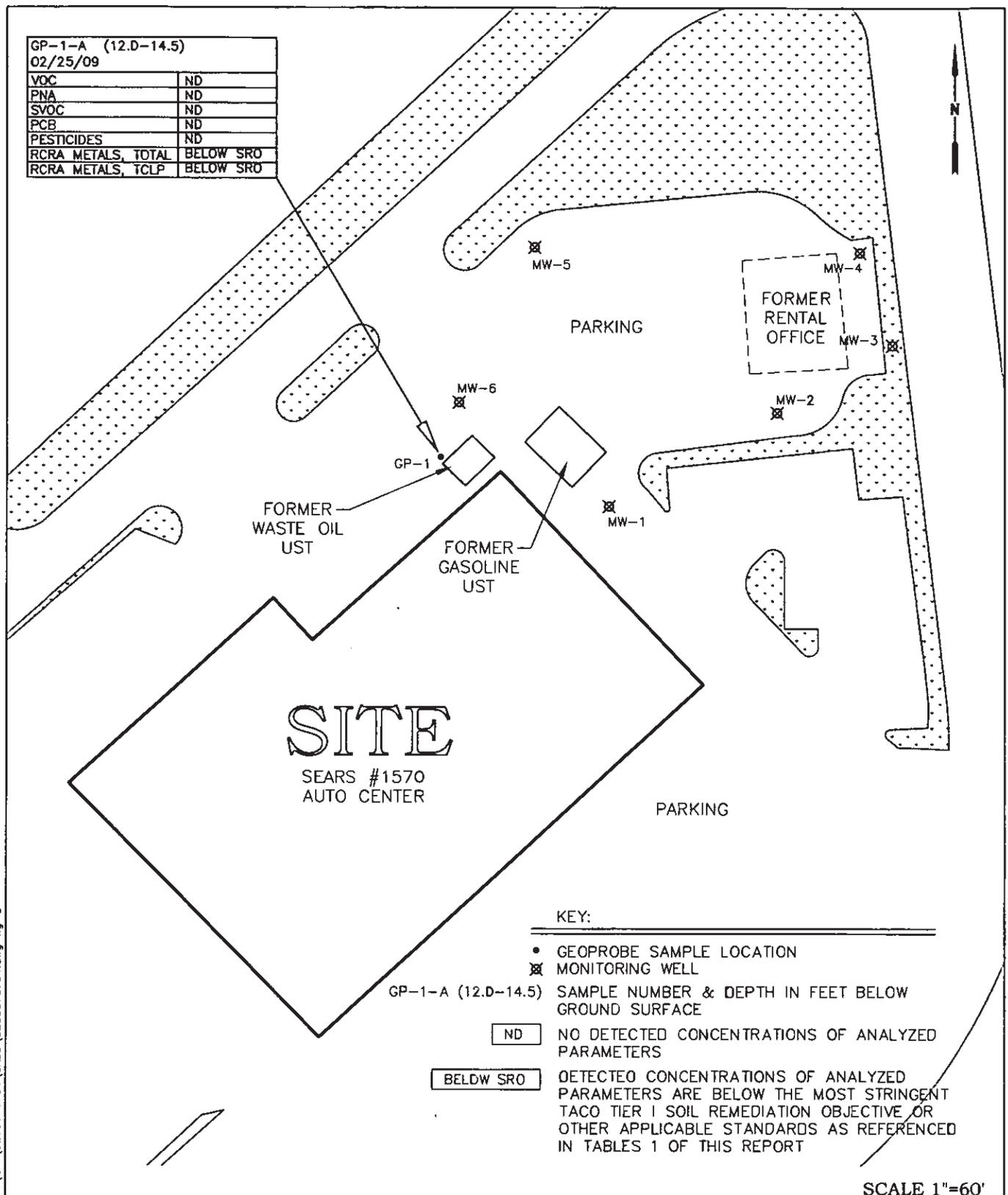
PROJECT NUMBER
 3205070791.01

APPROVED
 AEH

DATE
 04/13/09

REVISED DATE

GP-1-A (12.D-14.5)	
02/25/09	
VOC	ND
PNA	ND
SVOC	ND
PCB	ND
PESTICIDES	ND
RCRA METALS, TOTAL	BELOW SRO
RCRA METALS, TCLP	BELOW SRO



4/20/2009 11:34 AM P:\Env\3205070791\CADD\3205070791.dwg fig-3



Soil Sample Results Map
 Sears, Holdings Management Corporation
 Facility # 1570
 2 Woodfield Dr., Schaumburg, IL

FIGURE
3

DRAWN GAP	PROJECT NUMBER 3205070791.01	APPROVED AEH	DATE 04/13/09	REVISED DATE
--------------	---------------------------------	-----------------	------------------	--------------

MW-5	03/17/09	05/04/09
BENZENE	0.042	0.013
ETHYLBENZENE	0.026	ND
TOLUENE	0.014	ND
TOTAL XYLENES	0.083	ND
PNA	ND	---
NAPHTHALENE	ND	0.0012

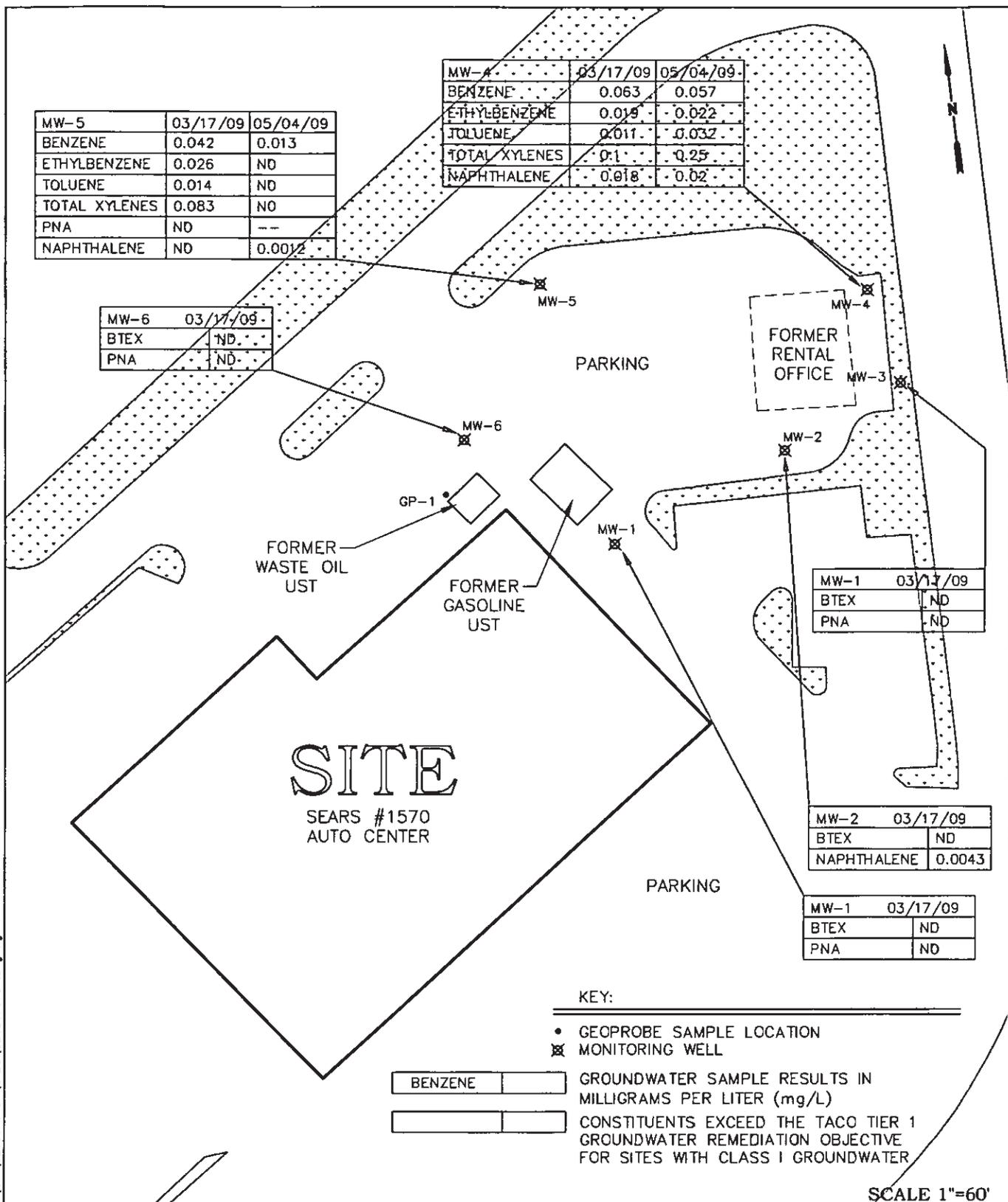
MW-4	03/17/09	05/04/09
BENZENE	0.063	0.057
ETHYLBENZENE	0.019	0.022
TOLUENE	0.011	0.032
TOTAL XYLENES	0.1	0.25
NAPHTHALENE	0.018	0.02

MW-6	03/17/09
BTEX	ND
PNA	ND

MW-1	03/17/09
BTEX	ND
PNA	ND

MW-2	03/17/09
BTEX	ND
NAPHTHALENE	0.0043

MW-1	03/17/09
BTEX	ND
PNA	ND



SITE
SEARS #1570
AUTO CENTER

KEY:

- GEOPROBE SAMPLE LOCATION
- ⊗ MONITORING WELL

BENZENE	

GROUNDWATER SAMPLE RESULTS IN MILLIGRAMS PER LITER (mg/L)
CONSTITUENTS EXCEED THE TACO TIER 1 GROUNDWATER REMEDIATION OBJECTIVE FOR SITES WITH CLASS I GROUNDWATER

SCALE 1"=60'



Groundwater Sample Results Map
Sears, Holdings Management Corporation
Facility # 1570
2 Woodfield Dr., Schaumburg, IL

FIGURE
4

DRAWN
GAP

PROJECT NUMBER
3205070791.01

APPROVED
AEH

DATE
05/20/09

REVISED DATE

5/20/2009 2:41 PM P:\Env\3205070791\CADD\3205070791.dwg fig-4

**Illinois Environmental Protection Agency
LEAKING UNDERGROUND STORAGE TANK PROGRAM
45 Day Report**

031 489 5006
COOL CO.
SEARS ROEBUCK

DRAFT

A. SITE IDENTIFICATION

IEPA Generator Number (10 Digit): _____
(leave blank if unknown)

IEMA #: 940068

Site Name: Sears, Roebuck and Co. #1570

Site Address (Not a P.O. Box): 2 Woodfield Mall

City: Schaumburg County: Cook

OWNER

Name: Sears, Roebuck and Co.

Address: 3333 Beverly Rd - Dept 824C
Hoffman Estates, IL 60179

Contact: Bernadine G. Palka

Phone: 708 / 286 8864

OPERATOR (if different from Owner)

Name: _____

Address: _____

Contact: _____

Phone: _____

B. SITE INFORMATION

- Will the owner/operator be seeking reimbursement for costs from the Underground Storage Tank Fund? (Check One): YES NO
- Has the site been deemed eligible to seek reimbursement for corrective action cost from the Underground Storage Tank Fund: YES NO
- What was the material released: gasoline / used oil
Was the material released a petroleum product: YES NO

C. EMERGENCY ACTION

- Was the tank system removed, and/or abandoned in place: YES NO (if YES then the Agency will require that the following be attached: legible copy of the Office of the State Fire Marshal Permit for Removal and Abandonment in Place; a discussion on how the tank was cleaned; a discussion on how the product still in the tank, the tank sludges, and the tank rinse water were handled and disposed)
- Was the tank system repaired: YES NO (if yes then the Agency will require that a legible copy of the Fire Marshal Permit be included)
- The volume (in cubic yards) of backfill material removed: approx. 300 cu yds of soil removed from the excavation (if any backfill material was removed and disposed of off-site attach a legible copy of the manifest(s) to dispose of the soil)
- Was any soil, other than backfill excavated and disposed from the site: YES NO (if yes, then what was the volume, in cubic yards, disposed from the site: _____)
- Was any groundwater with a sheen removed from the excavation: YES NO (if yes, then what was the volume, in gallons, removed from the site: _____ . Also please include a legible copy of the manifest(s))
- Was free product encountered: YES NO (if YES, then the owner/operator must submit a free product removal report within 45 days of reporting the release)

*soil disposal is currently being coordinated

D. ENCLOSURES

Please refer to the INSTRUCTIONS for direction on what information must be attached to this form.

E. SIGNATURES

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 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.

Owner
Name: Bernadine G. Palka
Title: Manager Environmental Engineering
Signature: Bernadine G. Palka
Date: 23 February 94

Operator (if different from Owner)
Name: _____
Title: _____
Signature: _____
Date: _____

RECEIVED
FEB 24 1994

IL 532 2217
LPC 503 Oct-93

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
LEAKING UNDERGROUND STORAGE TANK PROGRAM
45 DAY REPORT

C. EMERGENCY ACTION

1. One used oil underground storage tank (UST), five gasoline USTs, two gasoline dispenser islands, and associated piping were removed from the facility from January 10 through 26, 1994. The tanks were removed under the Office of the State Fire Marshall (OSFM) permit to remove a tank No. 0966-93REM. A copy of the OSFM permit is included as Attachment 1. Mr. George Pinkowski, OSFM, Division of Petroleum and Chemical Safety was on site to observe activities associated with the removal of the USTs.

A discussion on how the tanks were cleaned and how the product still in the tanks, the tank sludges, and the tank rinse water were handled and disposed of is included in the Tank Closure Report which will be submitted to the Illinois Environmental Protection Agency (IEPA) on or before March 11, 1994.

D. ENCLOSURES

- a. Steps taken to prevent any further release of the regulated substances into the environment:

The one used oil UST, five gasoline USTs, two gasoline dispenser islands, and associated product and vent lines have been removed from the facility.

- b. Steps taken to identify and mitigate fire explosion and vapor hazards:

The USTs, two dispenser islands, and associated lines have been removed from the facility. During UST removal activities, the site was monitored for organic vapors using a flame ionization detector (FID). The USTs were checked for explosive vapors prior to removal.

- c. Data on the nature and estimated quantity of release:

One of the USTs contained used oil, while the remaining five USTs contained gasoline. The quantity of the release is unknown.

d. Data from available sources or site investigations concerning the following factors:

i. Surrounding populations

The site is located in a commercial section of the Township of Schaumburg, Illinois, in the southeastern portion of the Woodfield Mall. The former Sears gasoline service station building, presently occupied by Budget Rent-A-Car, lies directly north of the facility. The Woodfield Mall access road and parking areas lie to the north of the former service station building. A parking area for the mall, the Woodfield Movie Theaters, and Illinois Interstate I-57/290 are located to the east. Mall parking is located to the south, while parking and the Woodfield Mall are located to the west of the Sears Service Center. **Figure 1 (Attachment 2)** illustrates the general site location.

ii. Water Quality

Since groundwater monitoring wells have not been installed at this time, no information regarding groundwater quality is currently available.

iii. Use and approximate locations of wells potentially affected by the release

A water well search for the area surrounding the facility is currently being performed through the Illinois State Water Survey. Municipal wells within 3,000 feet and private wells within 500 feet of the facility are being researched. The results of this search will be submitted to the IEPA upon completion.

iv. Subsurface soil conditions

According to the Illinois State Geological Survey's "Surficial Geology of the Chicago Region" (compiled by H.B. Willman and Jerry A. Lineback, 1970), the soils underlying the facility consist of the Palatine Moraine of the Valparaiso Morainic System, Wadsworth Member of the Wedron Formation. According to the "Handbook of Illinois Stratigraphy" (Illinois State Geological Survey Bulletin 95, 1975), The Wadsworth Member of the Wedron Formation consists of yellow-gray gravelly to clayey till. The Palatine Moraine is a relatively weak moraine traced for about 18 miles.

In addition, according to the Soil Survey of Du Page and Part of Cook Counties, Illinois (United States Department of Agriculture, Soil Conservation Service, 1979), the soils in the area of the facility have been generally identified Urban Land - Markham Ashkum. These soils are found in built up areas and deep, gently rolling to nearly level areas. The Urban Land - Markham Ashkum is a moderately well and poorly drained soil that has a clayey and silty subsoil which is formed in glacial till.

As indicated by Plate 1 of the "Potential for Contamination of Shallow Aquifers in Illinois" (Illinois State Geological Survey, 1984), the facility lies within a region designated as E. The E classification consists of uniform, relatively impermeable silty or clayey till at least 50 feet thick with no evidence of interbedded sand and gravel.

During the removal of the tanks, the soils in the excavation were classified using the Unified Soil Classification System (USCS). Soils in the used oil tank excavation were classified as black clay, while the soils in the gasoline tank excavation were classified as pea gravel and sand.

v. Climatological Conditions

According to Koppen's major climatic regions of North America, northern Illinois is characterized by a moist continental climate with severe winters and hot summers. Temperatures range from below 0° F in winter to above 100° F in summer. Precipitation averages from 20 to 40 inches per year.

vi. Land Use

The former used oil UST and gasoline USTs were located at a Sears Auto Center and former Sears gasoline service station in the Woodfield Mall located in a commercial section of the Township of Schaumburg, Cook County, Illinois.

e. Results of the Site Check required under 35 Illinois Administrative Code Section 731.162(a)(5):

During the removal of the USTs, grab soil samples were collected from the excavations, placed in sealable plastic bags, and screened for volatile organic compounds (VOCs) using a FID. The results of the FID field screening is summarized in Tables 1 and 2 (Attachment 2).

In addition, one soil sample was collected from each of the four side walls of the excavations and one from the bottom of each of the USTs for laboratory analysis. The soil samples collected from the used oil tank excavation were designated S-1 through S-5, while the soil samples collected from the gasoline tanks' excavation were designated G-1 through G-5 and G-N, G-S, G-E, and G-W. In addition, soil samples were also collected from beneath the product piping runs associated with the gasoline tanks and were designated WSP-1 through WSP-6, WNP-1 through WNP-4, WWP-1 through WWP-3, and WMP-1. The locations of the product piping samples will be included in the Tank Closure Report to be submitted to the IEPA on or before March 11, 1994. All soil samples were placed on ice and shipped to GTEL Environmental Laboratories in Wichita, Kansas using proper chain-of-custody procedures.

Soil samples collected from the used oil tank excavation were analyzed for VOCs using USEPA Method 8240 and total petroleum hydrocarbons (TPH) using USEPA Method 418.1. The soil samples collected from the gasoline tanks' excavation and from beneath the product piping runs

were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using USEPA Method 8020. The soil sampling results for VOC analysis are summarized in **Table 3** (used oil tank), while the results for BTEX analysis are summarized in **Table 4** (gasoline tanks) and **Table 5** (gasoline tanks product piping). **Tables** are included in **Attachment 2**, the laboratory analytical data is included in **Attachment 3**.

f. Site Map to Scale and oriented north showing:

- i. UST system and excavation
- ii. Product and dispenser lines
- iii. Pump and Islands
- iv. Sewer, gas, water and electrical utility lines
- v. Nearby buildings, roads, etc.
- vi. Soil borings(s)
- vii. Monitoring Well(s) (if required)

A site map will be provided with the Tank Closure Report which will be submitted to the IEPA on or before March 11, 1994.

g. A cross section, to scale, with dimensions showing the UST(s) and excavation:

A cross-section of the used oil tank excavation is included as **Figure 2**, while a cross section of the gasoline tanks' excavation is included as **Figure 3 (Attachment 2)**.

h. Tank information including the total number of tanks on site, the volume of the tanks in gallons, the material stored in the tank, which tank system had a release:

Tank #1
 Capacity (gal.): 6,000
 Product stored in UST system: Gasoline - removed with associated pump islands and piping.

Tank #2
 Capacity (gal.): 6,000
 Product stored in UST system: Gasoline - removed with associated pump islands and piping.

Tank #3
 Capacity (gal.): 6,000
 Product stored in UST system: Gasoline - removed with associated pump islands and piping.

Tank #4
 Capacity (gal.): 6,000
 Product stored in UST system: Gasoline - removed with associated pump islands and piping.

Tank #5

Capacity (gal.): 6,000
Product stored in UST system: Gasoline - removed with associated pump islands and piping.

Tank #6

Capacity (gal.): 1,000
Product stored in UST system: Used Oil - removed with associated piping.

Releases from both the five 6,000 gallon gasoline tanks (tanks 1 through 5) and the one 1,000 gallon used oil tank (tank 6) were reported under release number 94-0068.

i. Photographs documenting the required actions:

Photographs documenting the tank removal will be included in the Tank Closure Report which will be submitted to the IEPA on or before March 11, 1994.

j. A timetable and narrative of the work performed:

The one used oil UST, five gasoline USTs, the dispenser islands, and associated product and vent piping were removed from the site from January 10 through 26, 1994. The following is a narrative of tasks performed in association with the UST removals:

January 10, 1994:

- Groundwater Technology personnel inspect area for utilities. Begin to excavate to top of used oil UST, screening soils with a FID as excavating. Place excavated soils on plastic sheeting.
- Uncovered the used oil tank. Cut the remote fill pipe which runs inside the building at the concrete skirt around the building. Capped the end of the remote fill pipe with concrete. Prepare used oil tank for removal.
- Removed used oil tank from the excavation and set on plastic. Collected five soil samples (S-1 through S-5) from the four sidewalls and the bottom of the excavation for laboratory analysis.
- Cut and clean the used oil tank. Inspect condition of used oil tank. Seven holes (1/32" to 3" in diameter) in the tank located at both the north and south ends of the tanks at the top.
- Begin breaking reinforced concrete in the gasoline tanks' pad.

January 11, 1994:

- Continue breaking concrete around the gasoline tanks. Discovered several concrete pillars located around the gasoline tanks. There are two located on each side of the five gasoline tanks. Removed the 5 gasoline USTs in the same manner in which the used oil tank was removed. Begin cutting and cleaning tanks.

January 12, 1994

- Stockpile soils from gasoline tanks' excavation, finish cutting and cleaning tanks, remove tanks from site. Begin to remove product piping lines.

January 13, 1994

- Continue excavating product lines and vent lines. Collect soil samples from product line trench.

WORK WAS SUSPENDED DUE TO SEVERE COLD WEATHER

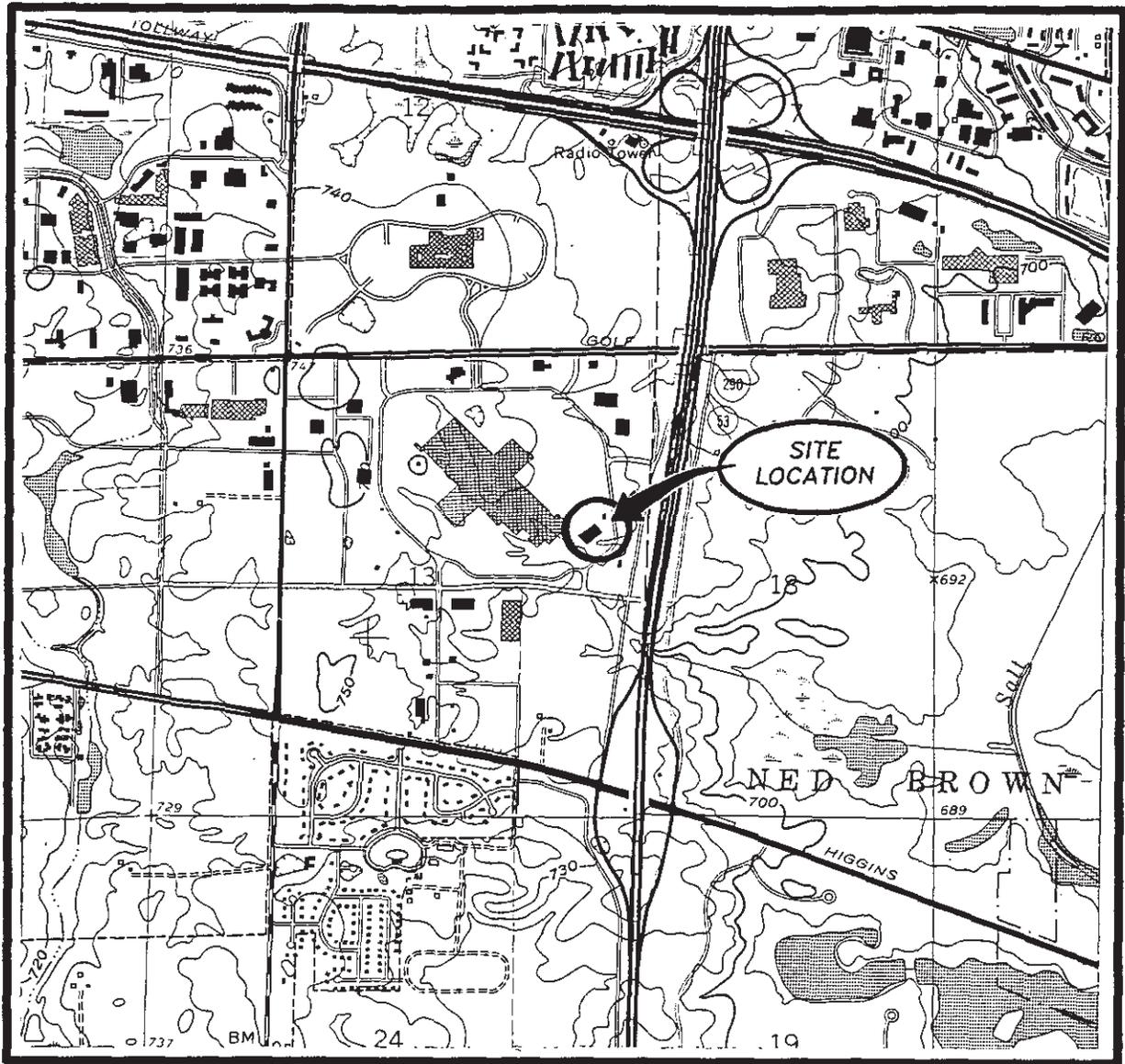
January 25, 1994

- Continue excavating product lines and vent lines. Collect soil samples from product line trench.

January 26, 1994

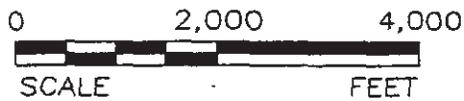
- Finish excavating product lines and vent lines. Collect soil samples from product line trench.

The excavations will subsequently be finished with black concrete, while the disposal of the soil pile located on site is currently being coordinated.



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
 PALATINE, ILL.
 7.5 MINUTE SERIES
 1961 / REVISED 1972 & 1980

SCALE 1:24,000



COOK COUNTY
 T41N, R10E, SEC. 13



**GROUNDWATER
 TECHNOLOGY**

2200 N. STONINGTON AVENUE
 SUITE 160
 HOFFMAN ESTATES, ILLINOIS
 (708) 882-8290

DESIGNED:

MWS

DETAILED:

MWS

CHECKED:

LC

SITE LOCATION MAP

CLIENT:

SEARS ROEBUCK & COMPANY

DRAWING DATE:

2/23/94

LOCATION:

SEARS FACILITY #1570
 2 WOODFIELD MALL
 SCHAMBURG, IL

FIGURE:

1

NORTH

SOUTH

1,000 gal.
Used Oil UST

Black CLAY
(CL)

S-2

S-3

Black CLAY
(CL)

S-1

APPROXIMATE
LIMITS OF
TANK EXCAVATION

LEGEND

■ **S-2** - SOIL SAMPLE LOCATION
Sample Identification



**GROUNDWATER
TECHNOLOGY**

2200 N. STONINGTON AVENUE
SUITE 160
HOFFMAN ESTATES, IL 60195
(708) 882-8290

PROJECT NO.:
01011-5040

ACAD FILE:
5040XS1

DRAWING DATE:
2/23/94

DESIGNED:

LC

DETAILED:

PRP

CHECKED:

LC

**GEOLOGIC
CROSS-SECTION**

CLIENT/LOCATION:

SEARS ROEBUCK & CO.
SCHAUMBURG, IL

FIGURE:

2

EAST

WEST

6,000 gal. Gasoline UST Tank #5 6,000 gal. Gasoline UST Tank #3 6,000 gal. Gasoline UST Tank #1

Pea Gravel and Sand

Pea Gravel and Sand

S-E

S-W

G-5

G-3

G-1

CONCRETE PILLARS (1' DIAMETER)

CONCRETE PAD

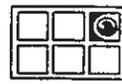
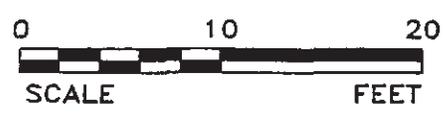
APPROXIMATE LIMITS OF TANK EXCAVATION

NOTE:

Tanks #2 and #4 were located towards the south of tanks #1, #3, and #5, and are not shown in the cross-section.

LEGEND

■ S-E — SOIL SAMPLE LOCATION
Sample Identification



GROUNDWATER TECHNOLOGY

2200 N. STONINGTON AVENUE
SUITE 180
HOFFMAN ESTATES, IL 60185
(708) 882-8290

PROJECT NO.: 01011-5040 ACAD FILE: 5040XS2 DRAWING DATE: 2/23/94

DESIGNED: LC

DETAILED: PRP

CHECKED: LC

GEOLOGIC CROSS-SECTION

CLIENT/LOCATION:
SEARS ROEBUCK & CO.
SCHAUMBURG, IL

FIGURE:
3

TABLE 1

FIELD SCREENING RESULTS
 GASOLINE TANKS' EXCAVATION
 SEARS FACILITY #1570
 2 WOODFIELD MALL
 SCHAUMBURG, ILLINOIS

Sample Location	Sample ID	FID Reading
West End of Excavation	1	>1000
West End of Excavation	2	>1000
Bottom Gasoline Tank 1	G-1	>1000
Top of Gasoline Tank 2	3	>1000
Top of Gasoline Tank 3	4	>1000
Bottom of Gasoline Tank 3	G-3	>1000
Bottom Gasoline Tank 2	G-2	>1000
Top of Gasoline Tank 4	5	>1000
Bottom of Gasoline Tank 5	G-5	>1000
Bottom of Gasoline Tank 4	G-4	>1000
North Wall of Excavation	G-N	>1000
South Wall of Excavation	G-S	>1000
West Wall of Excavation	G-W	>1000
East Wall of Excavation	G-E	>1000

Concentrations are given in parts per million volume (ppmv)

TABLE 2

FIELD SCREENING RESULTS
USED OIL TANK EXCAVATION
SEARS FACILITY #1570
2 WOODFIELD MALL
SCHAUMBURG, ILLINOIS

Sample Location	Sample ID	FID Reading
East End of Used Oil Tank	1	15
West End of Used Oil Tank	2	52
Composite Pile	3	40
South End of Used Oil Tank	4	13
South End of Used Oil Tank	5	24
Bottom of Excavation	S-1	>1000
North Wall of Excavation	S-2	28
South Wall of Excavation	S-3	110
West Wall of Excavation	S-4	160
East Wall of Excavation	S-5	30

Concentrations are given in parts per million volume (ppmv)

TABLE 3

SOIL ANALYTICAL RESULTS
 USED OIL TANK EXCAVATION
 SEARS FACILITY #1570
 2 WOODFIELD MALL
 SCHAUMBURG, ILLINOIS

Parameters	Reporting Limits	S-1 (B) BOTTOM	S-2 (N) N WALL	S-3 (S) S WALL	S-4 (W) W WALL	S-5 (E) E WALL
Acetone	0.020	0.18	0.099	ND	ND	ND
Benzene	0.005	ND	0.18	0.043	0.19	ND
4-Methyl-2-Pentanone	0.020	0.009	ND	ND	ND	ND
Toluene	0.005	0.079	0.018	ND	0.011	ND
Ethylbenzene	0.005	0.41	0.021	ND	0.008	ND
Total Xylenes	0.005	1.7	0.017	ND	0.012	ND

ND - Not detected above the reporting limit.
 Only those compounds identified above the detection limits are reported.
 Concentrations reported in milligrams per kilogram (mg/kg).

TABLE 4

SOIL ANALYTICAL RESULTS
 GASOLINE TANKS' EXCAVATION
 SEARS FACILITY #1570
 2 WOODFIELD MALL
 SCHAUMBURG, ILLINOIS

Parameters	Reporting Limits	G-1 (B) BOTTOM TANK 1	G-2 (B) BOTTOM TANK 2	G-3 (B) BOTTOM TANK 3	G-4 (B) BOTTOM TANK 4	G-5 (B) BOTTOM TANK 5
Benzene	0.05	29	12	35	0.64	4.7
Toluene	0.10	270	55	200	0.58	47
Ethylbenzene	0.10	110	22	75	0.19	24
Total Xylenes	0.20	710	120	410	1.0	140

Parameters	Reporting Limits	G-N N WALL	G-S S WALL	G-W W WALL	G-E E WALL
Benzene	0.05	5.3	22	18	15
Toluene	0.10	23	230	140	300
Ethylbenzene	0.10	38	82	39	82
Total Xylenes	0.20	240	530	280	520

Concentrations reported in milligrams per kilogram (mg/kg).

TABLE 5

SOIL ANALYTICAL RESULTS
 GASOLINE TANKS' PRODUCT PIPING
 SEARS FACILITY #1570
 2 WOODFIELD MALL
 SCHAUMBURG, ILLINOIS

Parameters	Reporting Limits	WSP-1	WSP-2	WSP-3	WSP-4	WSP-5	WSP-6
Benzene	0.05	15	1.0	2.5	1.9	2.4	5.6
Toluene	0.10	280	0.94	3.6	4.2	25	30
Ethylbenzene	0.10	99	9.5	7.1	11	20	33
Total Xylenes	0.20	510	38	110	61	200	280

Parameters	Reporting Limits	WNP-1	WNP-2	WNP-3	WNP-4
Benzene	0.05	20	14	2.8	28
Toluene	0.10	160	140	15	270
Ethylbenzene	0.10	100	57	23	130
Total Xylenes	0.20	810	710	140	700

Parameters	Reporting Limits	WWP-1	WWP-2	WWP-3	WWP-1
Benzene	0.05	2.6	1.1	0.89	6.1
Toluene	0.10	30	9.7	2.1	87
Ethylbenzene	0.10	22	12	17	57
Total Xylenes	0.20	120	78	72	410

Concentrations reported in milligrams per kilogram (mg/kg).



ATTACHMENT D

HUFF & HUFF, INC. 915 HARGER ROAD OAK BROOK, IL 60523 630-684-9100	DATE	11/2/2017
	JOB NAME	Woodfield Road East PSI
	LOCATION	Schaumburg, Cook County, IL
FIELD SAMPLING REPORT	SAMPLER(S)	Armando Hermosillo

Hanna pH Meter HI 99121 Specs¹⁷

pH Range	-2.00 to 16.00 pH
pH Resolution	0.01 pH
pH Accuracy	±0.02 pH
pH Calibration	automatic, at one or two points with two sets of standard buffers (pH 4.01 / 7.01 / 10.01 or pH 4.01 / 6.86 / 9.18)
Temperature Range	-5.0 to 105.0°C / 23.0 to 221.0°F
Temperature Resolution	0.1°C / 0.1°F
Temperature Accuracy	±0.5°C (up to 60°C); ±1.0°C (outside) / ±1°F (up to 140°F); ±2.0°F (outside)
Temperature Compensation	automatic from -5.0 to 105.0°C (23 to 221°F)
Date of Last Calibration ¹² :	<u>10/14/2017</u>

FIELD MEASUREMENTS

Sample ID	Date Tested	pH	Tested By
WE-1 (4-6)	11/1/2017	8.95	Armando Hermosillo
WE-1 (10-12)	11/1/2017	8.28	Armando Hermosillo
WE-4 (0-2)	11/1/2017	8.25	Armando Hermosillo
WE-4 (8-10)	11/1/2017	8.26	Armando Hermosillo
WE-5 (2-4)	11/1/2017	8.33	Armando Hermosillo
WE-5 (6-8)	11/1/2017	8.44	Armando Hermosillo

¹⁷ The rule does not specify a method for soil pH testing. Therefore, any reproducible method generally regarded as accurate is acceptable. Bench-top methods are available from two organizations mentioned in the CCDD rule (Section 1100.104, Incorporations by Reference). Both the U.S.EPA and ASTM International provide procedures for determining pH in soil, SW-846 Method 9045D and Method D4972-01 2007, respectively. Also, numerous field kits and direct-read instruments are commercially available. These kits and instruments can provide reproducible and accurate results provided that the manufacturer's operating procedures are closely followed.

¹² As specified within timeframe of at least one month, under manufacturer's (Hanna) Instruction Manual for the HI 99121 Soil pH Test Kit.

Time Sampled	<u>WE-1, WE-4, and WE-5 were sampled between 0800 and 1100</u>
Notes	<u>Proper QA/QC methods and sampling protocol was followed.</u>



**First
Environmental
Laboratories, Inc.**

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

November 10, 2017

Mr. Armando Hermosillo

HUFF & HUFF INC.

915 Harger Road

Suite 330

Oak Brook, IL 60523

Project ID: Woodfield East

First Environmental File ID: 17-6018

Date Received: November 02, 2017

Dear Mr. Armando Hermosillo:

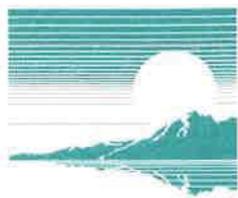
The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 004212: effective 08/10/2017 through 02/28/2018.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Bill Mottashed
Project Manager



Case Narrative

HUFF & HUFF INC.

Lab File ID: **17-6018**

Project ID: **Woodfield East**

Date Received: **November 02, 2017**

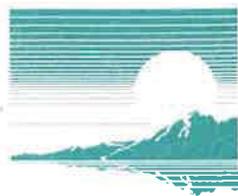
All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

Laboratory Sample ID	Client Sample Identifier	Date/Time Collected
17-6018-001	WE-2 (2-4)	11/1/2017 10:50
17-6018-002	WE-3 (4-6)	11/1/2017 10:30
17-6018-003	WE-4 (4-6)	11/1/2017 9:30

Sample Batch Comments:

Sample acceptance criteria were met.



Case Narrative

HUFF & HUFF INC.

Lab File ID: **17-6018**

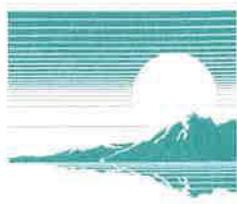
Project ID: **Woodfield East**

Date Received: **November 02, 2017**

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The following is a definition of flags that may be used in this report:

Flag	Description	Flag	Description
A	Method holding time is 15 minutes from collection. Lab analysis was performed as soon as possible.		
B	Analyte was found in the method blank.	L	LCS recovery outside control limits.
<	Analyte not detected at or above the reporting limit.	M	MS recovery outside control limits; LCS acceptable.
C	Sample received in an improper container for this test.	P	Chemical preservation pH adjusted in lab.
D	Surrogates diluted out; recovery not available.	Q	Result was determined by a GC/MS database search.
E	Estimated result; concentration exceeds calibration range.	S	Analysis was subcontracted to another laboratory.
G	Surrogate recovery outside control limits.	T	Result is less than three times the MDL value.
H	Analysis or extraction holding time exceeded.	W	Reporting limit elevated due to sample matrix.
J	Estimated result; concentration is less than routine RL but greater than MDL.	N	Analyte is not part of our NELAC accreditation or accreditation may not be available for this parameter.
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.



**First
Environmental
Laboratories, Inc.**

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: HUFF & HUFF INC.
Project ID: Woodfield East
Sample ID: WE-2 (2-4)
Sample No: 17-6018-001

Date Collected: 11/01/17
Time Collected: 10:50
Date Received: 11/02/17
Date Reported: 11/10/17

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total Method: 2540B				
Analysis Date: 11/03/17				
Total Solids	84.35		%	
BTEX Organic Compounds Method: 5035A/8260B				
Analysis Date: 11/06/17				
Benzene	< 5.0	5.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons Method: 8270C				
Analysis Date: 11/07/17				
Preparation Method 3546				
Preparation Date: 11/06/17				
Acenaphthene	< 50	50	ug/kg	
Acenaphthylene	< 50	50	ug/kg	
Anthracene	< 50	50	ug/kg	
Benzo(a)anthracene	11.7	8.7	ug/kg	
Benzo(a)pyrene	< 15	15	ug/kg	
Benzo(b)fluoranthene	< 11	11	ug/kg	
Benzo(k)fluoranthene	< 11	11	ug/kg	
Benzo(ghi)perylene	< 50	50	ug/kg	
Chrysene	< 50	50	ug/kg	
Dibenzo(a,h)anthracene	< 20	20	ug/kg	
Fluoranthene	< 50	50	ug/kg	
Fluorene	< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrcnc	< 29	29	ug/kg	
Naphthalene	< 25	25	ug/kg	
Phenanthrene	< 50	50	ug/kg	
Pyrene	< 50	50	ug/kg	
Total Metals Method: 6010C				
Analysis Date: 11/03/17				
Preparation Method 3050B				
Preparation Date: 11/03/17				
Arsenic	12.1	1.0	mg/kg	
Barium	36.4	0.5	mg/kg	
Cadmium	< 0.5	0.5	mg/kg	
Chromium	14.2	0.5	mg/kg	
Lead	11.8	0.5	mg/kg	
Selenium	< 1.0	1.0	mg/kg	
Silver	0.8	0.2	mg/kg	



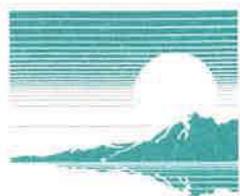
Analytical Report

Client: HUFF & HUFF INC.
Project ID: Woodfield East
Sample ID: WE-2 (2-4)
Sample No: 17-6018-001

Date Collected: 11/01/17
Time Collected: 10:50
Date Received: 11/02/17
Date Reported: 11/10/17

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Total Mercury	Method: 7471B			
Analysis Date: 11/07/17				
Mercury	< 0.05	0.05	mg/kg	
pH @ 25°C, 1:2	Method: 9045D 2004			
Analysis Date: 11/03/17 10:30				
pH @ 25°C, 1:2	8.78		Units	



**First
Environmental
Laboratories, Inc.**

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

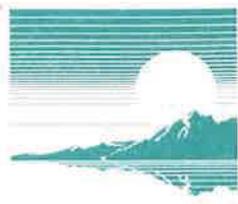
Analytical Report

Client: HUFF & HUFF INC.
Project ID: Woodfield East
Sample ID: WE-3 (4-6)
Sample No: 17-6018-002

Date Collected: 11/01/17
Time Collected: 10:30
Date Received: 11/02/17
Date Reported: 11/10/17

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total		Method: 2540B		
Analysis Date: 11/03/17				
Total Solids	88.52		%	
Volatile Organic Compounds		Method: 5035A/8260B		
Analysis Date: 11/06/17				
Acetone	< 200	200	ug/kg	
Benzene	< 5.0	5.0	ug/kg	
Bromodichloromethane	< 5.0	5.0	ug/kg	
Bromoform	< 5.0	5.0	ug/kg	
Bromomethane	< 10.0	10.0	ug/kg	
2-Butanone (MEK)	< 100	100	ug/kg	
Carbon disulfide	< 5.0	5.0	ug/kg	
Carbon tetrachloride	< 5.0	5.0	ug/kg	
Chlorobenzene	< 5.0	5.0	ug/kg	
Chlorodibromomethane	< 5.0	5.0	ug/kg	
Chloroethane	< 10.0	10.0	ug/kg	
Chloroform	< 5.0	5.0	ug/kg	
Chloromethane	< 10.0	10.0	ug/kg	
1,1-Dichloroethane	< 5.0	5.0	ug/kg	
1,2-Dichloroethane	< 5.0	5.0	ug/kg	
1,1-Dichloroethene	< 5.0	5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
1,2-Dichloropropane	< 5.0	5.0	ug/kg	
cis-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
trans-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
2-Hexanone	< 10.0	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/kg	
Methylene chloride	< 20.0	20.0	ug/kg	
Styrene	< 5.0	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/kg	
Tetrachloroethene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	5.0	ug/kg	
Trichloroethene	< 5.0	5.0	ug/kg	



Analytical Report

Client: HUFF & HUFF INC.
Project ID: Woodfield East
Sample ID: WE-3 (4-6)
Sample No: 17-6018-002

Date Collected: 11/01/17
Time Collected: 10:30
Date Received: 11/02/17
Date Reported: 11/10/17

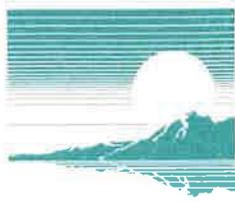
Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds		Method: 5035A/8260B		
Analysis Date: 11/06/17				
Vinyl acetate	< 10.0	10.0	ug/kg	
Vinyl chloride	< 10.0	10.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	

Polynuclear Aromatic Hydrocarbons		Method: 8270C		Preparation Method 3546	
Analysis Date: 11/07/17				Preparation Date: 11/06/17	
Acenaphthene	< 50	50	ug/kg		
Acenaphthylene	< 50	50	ug/kg		
Anthracene	< 50	50	ug/kg		
Benzo(a)anthracene	< 8.7	8.7	ug/kg		
Benzo(a)pyrene	< 15	15	ug/kg		
Benzo(b)fluoranthene	< 11	11	ug/kg		
Benzo(k)fluoranthene	< 11	11	ug/kg		
Benzo(ghi)perylene	< 50	50	ug/kg		
Chrysene	< 50	50	ug/kg		
Dibenzo(a,h)anthracene	< 20	20	ug/kg		
Fluoranthene	< 50	50	ug/kg		
Fluorene	< 50	50	ug/kg		
Indeno(1,2,3-cd)pyrene	< 29	29	ug/kg		
Naphthalene	< 25	25	ug/kg		
Phenanthrene	< 50	50	ug/kg		
Pyrene	< 50	50	ug/kg		

Total Metals		Method: 6010C		Preparation Method 3050B	
Analysis Date: 11/03/17				Preparation Date: 11/03/17	
Arsenic	12.2	1.0	mg/kg		
Barium	24.2	0.5	mg/kg		
Cadmium	< 0.5	0.5	mg/kg		
Chromium	12.6	0.5	mg/kg		
Lead	12.2	0.5	mg/kg		
Selenium	< 1.0	1.0	mg/kg		
Silver	0.7	0.2	mg/kg		

Total Mercury		Method: 7471B			
Analysis Date: 11/07/17					
Mercury	< 0.05	0.05	mg/kg		



**First
Environmental
Laboratories, Inc.**

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

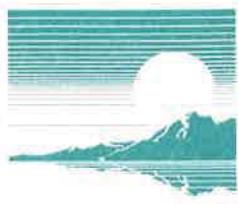
Analytical Report

Client: HUFF & HUFF INC.
Project ID: Woodfield East
Sample ID: WE-3 (4-6)
Sample No: 17-6018-002

Date Collected: 11/01/17
Time Collected: 10:30
Date Received: 11/02/17
Date Reported: 11/10/17

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
pH @ 25°C, 1:2				
Analysis Date: 11/03/17 10:30				
	Method: 9045D 2004			
pH @ 25°C, 1:2	7.44		Units	



Analytical Report

Client: HUFF & HUFF INC.
Project ID: Woodfield East
Sample ID: WE-4 (4-6)
Sample No: 17-6018-003

Date Collected: 11/01/17
Time Collected: 9:30
Date Received: 11/02/17
Date Reported: 11/10/17

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total		Method: 2540B		
Analysis Date: 11/03/17				
Total Solids	85.14		%	
BTEX Organic Compounds		Method: 5035A/8260B		
Analysis Date: 11/06/17				
Benzene	< 5.0	5.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
Polynuclear Aromatic Hydrocarbons		Method: 8270C		Preparation Method 3546
Analysis Date: 11/07/17				
Preparation Date: 11/06/17				
Acenaphthene	< 50	50	ug/kg	
Acenaphthylene	< 50	50	ug/kg	
Anthracene	< 50	50	ug/kg	
Benzo(a)anthracene	< 8.7	8.7	ug/kg	
Benzo(a)pyrene	< 15	15	ug/kg	
Benzo(b)fluoranthene	< 11	11	ug/kg	
Benzo(k)fluoranthene	< 11	11	ug/kg	
Benzo(ghi)perylene	< 50	50	ug/kg	
Chrysene	< 50	50	ug/kg	
Dibenzo(a,h)anthracene	< 20	20	ug/kg	
Fluoranthene	< 50	50	ug/kg	
Fluorene	< 50	50	ug/kg	
Indeno(1,2,3-cd)pyrene	< 29	29	ug/kg	
Naphthalene	< 25	25	ug/kg	
Phenanthrene	< 50	50	ug/kg	
Pyrene	< 50	50	ug/kg	
pH @ 25°C, 1:2		Method: 9045D 2004		
Analysis Date: 11/03/17 10:30				
pH @ 25°C, 1:2	7.94		Units	



First Environmental Laboratories, Inc.

First Environmental Laboratories
 1600 Shore Road, Suite D
 Naperville, Illinois 60563
 Phone: (630) 778-1200 • Fax: (630) 778-1233
 E-mail: firstinfo@firstenv.com
 IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Hull and Hull
 Street Address: 915 Hanger Road Suite 330
 City: Ole Brook State: IL Zip: 60523
 Phone: 708-982-0969 e-mail: amanda.hulls@hullandhull.com
 Send Report To: Amanda Hulls
 Sampled By: CA

Project ID: Woodfield East

P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	VOLs	BTEX/MTOL	BTEX	P.N.A.s	Total Risk Metals	PLT	Hold - Do Not Analyze	Comments	Lab I.D.
11/14 0850	WE-18-10	S							X		
1050	WE-2(2-u)		X			X	X	X			17-6018-001
1350	WE-3(2-u)		X			X	X	X			002
0930	WE-4(2-u)		X			X	X	X			003
0955	VE-9(10-2)								X		

FOR LAB USE ONLY:

Cooler Temperature: 0-1-6°C Yes ___ No ___ °C
 Received within 6 hrs. of collection: ___ °C
 Ice Present: Yes ___ No ___
 Sample Refrigerated: Yes No ___ °C
 Refrigerator Temperature: ___ °C
 5035 Vials Frozen: Yes ___ No ___
 Freezer Temperature: ___ °C

Program: TACO CCDD NPPDES LUST

Notes and Special Instructions:

Relinquished By: [Signature] Date/Time: 11/2/17 10:20
 Relinquished By: [Signature] Date/Time: 11/2/17 10:20



Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • IL • 62794-9276

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: FAU 3070/1689 (Woodfield Road) Office Phone Number, if available: _____

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

5 Woodfield Mall

City: Schaumburg State: IL Zip Code: 60173

County: Cook Township: Schaumburg

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

Latitude: 42.04348 Longitude: -88.03155

(Decimal Degrees)

(-Decimal Degrees)

Identify how the lat/long data were determined:

GPS Map Interpolation Photo Interpolation Survey Other

IEPA Site Number(s), if assigned: BOL: 0312825174 BOW: _____ BOA: _____

Additional BOL: 0312823003, 0312825258, 0314890004, 0314895129, 0314895160, 0314895160, 0314895206,
0314895216, 0314895219 thru 0314895224, 0314895227

II. Owner/Operator Information for Source Site

Site Owner

Site Operator

Name: Illinois Department of Transportation

Name: Illinois Department of Transportation

Street Address: 201 West Center Court

Street Address: 201 West Center Court

PO Box: _____

PO Box: _____

City: Schaumburg State: IL

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4122

Zip Code: 60196-1096 Phone: 847-705-4122

Contact: Kristine A. Kutscher

Contact: Kristine A. Kutscher

Email, if available: Kristine.Kutscher@illinois.gov

Email, if available: Kristine.Kutscher@illinois.gov

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 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: FAU 3070/1689 (Woodfield Road)

Latitude: 42.04348 Longitude: -88.03155

Uncontaminated Site 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 approximately located 35 Ill. Adm. Code 1100.610(a):

LOCATIONS 2999V-1-B01 THROUGH -B03 WERE SAMPLED ADJACENT TO SITE 2999V-1. SEE TABLE 3a AND FIGURES 2 AND 4 OF THE FINAL PRELIMINARY SITE INVESTIGATION REPORT.

- 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]:

TESTAMERICA ANALYTICAL REPORT - JOB ID NUMBER: 500-149190-1.

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

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

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

Company Name: Andrews Engineering, Inc.
 Street Address: 420 Eisenhower Lane North
 City: Lombard State: IL Zip Code: 60148
 Phone: 630-953-3332

Savo Radulovic
 Printed Name:

 Licensed Professional Engineer or
 Licensed Professional Geologist Signature:

August 31, 2018
 Date:



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



Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • IL • 62794-9276

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: FAU 3070/1689 (Woodfield Road) Office Phone Number, if available: _____

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

1901 Woodfield Road

City: Schaumburg State: IL Zip Code: 60173

County: Cook Township: Schaumburg

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

Latitude: 42.04279 Longitude: -88.03162

(Decimal Degrees)

(-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: _____

II. Owner/Operator Information for Source Site

Site Owner

Name: Illinois Department of Transportation

Street Address: 201 West Center Court

PO Box: _____

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4122

Contact: Kristine A. Kutscher

Email, if available: Kristine.Kutscher@illinois.gov

Site Operator

Name: Illinois Department of Transportation

Street Address: 201 West Center Court

PO Box: _____

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4122

Contact: Kristine A. Kutscher

Email, if available: Kristine.Kutscher@illinois.gov

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 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: FAU 3070/1689 (Woodfield Road)

Latitude: 42.04279 Longitude: -88.03162

Uncontaminated Site 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 approximately located 35 Ill. Adm. Code 1100.610(a):

LOCATION 2999V-2-B01 WAS SAMPLED ADJACENT TO SITE 2999V-2. SEE TABLE 3b AND FIGURE 2 OF THE FINAL PRELIMINARY SITE INVESTIGATION REPORT.

- 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]:

TESTAMERICA ANALYTICAL REPORT - JOB ID NUMBER: 500-149190-2.

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

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

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

Company Name: Andrews Engineering, Inc.
 Street Address: 420 Eisenhower Lane North
 City: Lombard State: IL Zip Code: 60148
 Phone: 630-953-3332

Savo Radulovic
 Printed Name:

 Licensed Professional Engineer or
 Licensed Professional Geologist Signature:

August 31, 2018
 Date:



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



Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • IL • 62794-9276

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: FAU 3070/1689 (Woodfield Road) Office Phone Number, if available: _____

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

1900 Block of Woodfield Rd (East Side of Woodfield Rd and W. Frontage Rd, East and West Sides of Woodfield Rd/E. Frontage Rd)

City: Schaumburg State: IL Zip Code: 60173 and 60008

County: Cook Township: Schaumburg and Elk Grove

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

Latitude: 42.04292 Longitude: -88.03046

(Decimal Degrees) (-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: _____

II. Owner/Operator Information for Source Site

Site Owner

Name: Illinois Department of Transportation

Street Address: 201 West Center Court

PO Box: _____

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4122

Contact: Kristine A. Kutscher

Email, if available: Kristine.Kutscher@illinois.gov

Site Operator

Name: Illinois Department of Transportation

Street Address: 201 West Center Court

PO Box: _____

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4122

Contact: Kristine A. Kutscher

Email, if available: Kristine.Kutscher@illinois.gov

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 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: FAU 3070/1689 (Woodfield Road)

Latitude: 42.04292 Longitude: -88.03046

Uncontaminated Site 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 approximately located 35 Ill. Adm. Code 1100.610(a):

LOCATIONS 2999V-3-B01 THROUGH -B03, -B06 THROUGH -B14, -B16, -B18, -B19, AND -B24 THROUGH -B28 WERE SAMPLED ADJACENT TO SITE 2999V-3. SEE TABLE 3c AND FIGURES 2 THROUGH 4 OF THE FINAL PRELIMINARY SITE INVESTIGATION REPORT.

- 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]:

TESTAMERICA ANALYTICAL REPORT - JOB ID NUMBERS: 500-149191-1 AND 500-149254-1.

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

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

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

Company Name: Andrews Engineering, Inc.
 Street Address: 420 Eisenhower Lane North
 City: Lombard State: IL Zip Code: 60148
 Phone: 630-953-3332

Savo Radulovic
 Printed Name:

 Licensed Professional Engineer or
 Licensed Professional Geologist Signature:

August 31, 2018
 Date:



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

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: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$. When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different G_{mb} and % AC_V.

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$
For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).
D = Depth of the HMA mixture, in. (mm).
G_{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:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80173

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

CONCRETE END SECTIONS FOR PIPE CULVERTS (BDE)

Effective: January 1, 2013

Revised: April 1, 2016

Description. This work shall consist of constructing cast-in-place concrete and precast concrete end sections for pipe culverts. These end sections are shown on the plans as Highway Standard 542001 or 542011. This work shall be according to Section 542 of the Standard Specifications except as modified herein.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications.

Item	Article/Section
(a) Portland Cement Concrete (Note 1)	1020
(b) Precast Concrete End Sections (Note 2)	
(c) Coarse Aggregate (Note 3)	1004.05
(d) Structural Steel (Note 4)	1006.04
(e) Anchor Bolts and Rods (Note 5)	1006.09
(f) Reinforcement Bars	1006.10(a)
(g) Nonshrink Grout	1024.02
(h) Chemical Adhesive Resin System	1027
(i) Mastic Joint Sealer for Pipe	1055
(j) Hand Hole Plugs	1042.16

Note 1. Cast-in-place concrete end sections shall be Class SI, except the 14 day mix design shall have a compressive strength of 5000 psi (34,500 kPa) or a flexural strength of (800 psi) 5500 kPa and a minimum cement factor of 6.65 cwt/cu yd (395 kg/cu m).

Note 2. Precast concrete end sections shall be according to Articles 1042.02 and 1042.03(b)(c)(d)(e) of the Standard Specifications. The concrete shall be Class PC according to Section 1020, and shall have a minimum compressive strength of 5000 psi (34,000 kPa) at 28 days.

Joints between precast sections shall be produced with reinforced tongue and groove ends according to the requirements of ASTM C 1577.

Note 3. The granular bedding placed below a precast concrete end section shall be gradation CA 6, CA 9, CA 10, CA 12, CA 17, CA 18, or CA 19.

Note 4. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

Note 5. The anchor rods for the culvert ties shall be according to the requirements of ASTM F 1554, Grade 105 (Grade 725).

CONSTRUCTION REQUIREMENTS

The concrete end sections may be precast or cast-in-place construction. Toe walls shall be either precast or cast-in-place, and shall be in proper position and backfilled according to the applicable paragraphs of Article 502.10 of the Standard Specifications prior to the installation of the concrete end sections. If soil conditions permit, cast-in-place toe walls may be poured directly against the soil. When poured directly against the soil, the clear cover of the sides and bottom of the toe wall shall be increased to 3 in. (75 mm) by increasing the thickness of the toe wall.

- (a) Cast-In-Place Concrete End Sections. Cast-in-place concrete end sections shall be constructed according to the requirements of Section 503 of the Standard Specifications and as shown on the plans.
- (b) Precast Concrete End Sections. When the concrete end sections will be precast, shop drawings detailing the slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval.

The excavation and backfilling for precast concrete end sections shall be according to the requirements of Section 502 of the Standard Specifications, except a layer of granular bedding at least 6 in. (150 mm) in thickness shall be placed below the elevation of the bottom of the end section. The granular bedding shall extend a minimum of 2 ft (600 mm) beyond each side of the end section.

Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 2/3 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut.

When individual, precast end sections are placed side-by-side for a multi-pipe culvert installation, a 3 in. (75 mm) space shall be left between adjacent end section walls and the space(s) filled with Class Sl concrete.

Method of Measurement. This work will be measured for payment as each, with each end of each culvert being one each.

Basis of Payment. This work will be paid for at the contract unit price per each for CONCRETE END SECTION, STANDARD 542001 or CONCRETE END SECTION, 542011, of the pipe diameter and slope specified.

80311

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 (DBE)

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 20.00% 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

DISPOSAL FEES (BDE)

Effective: November 1, 2018

Replace Articles 109.04(b)(5) – 109.04(b)(8) of the Standard Specifications with the following:

- “(5) Disposal Fees. When the extra work performed includes paying for disposal fees at a clean construction and demolition debris facility, an uncontaminated soil fill operation or a landfill, the Contractor shall receive, as administrative costs, an amount equal to five percent of the first \$10,000 and one percent of any amount over \$10,000 of the total approved costs of such fees.
- (6) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor’s stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements at the cost of force account work shall be detailed as follows.

- a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices and extensions.
 - d. Transportation of materials.
 - e. Cost of property damage, liability and workmen’s compensation insurance premiums, unemployment insurance contributions, and social security tax.
- (8) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being \$100.

- (9) All statements of the cost of force account work shall be furnished to the Engineer not later than 60 days after receipt of the Central Bureau of Construction form "Extra Work Daily Report". If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery."

80402

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

“701.11 Equipment Parking and Storage. During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

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:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80229

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010

Revised: August 1, 2018

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

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

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4% ^{1/}	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 ^{2/} – 97.4%	90.0%

SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%”
-----	-------------------	--------------	--------

80246

HOT-MIX ASPHALT – LONGITUDINAL JOINT SEALANT (BDE)

Effective: August 1, 2018
Revised: January 1, 2019

Add the following to Article 406.02 of the Standard Specifications.

“(d) Longitudinal Joint Sealant (LJS)1032”

Add the following to Article 406.03 of the Standard Specifications.

“(k) Longitudinal Joint Sealant (LJS) Pressure Distributor (Note 2)
(l) Longitudinal Joint Sealant (LJS) Melter Kettle (Note 3)

Note 2. When a pressure distributor is used to apply the LJS, the distributor shall be equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the hauling tank to prevent localized overheating. The distributor shall be equipped with a guide or laser system to aid in proper placement of the LJS application.

Note 3. When a melter kettle is used to transport and apply the LJS, the melter kettle shall be an oil jacketed double-boiler with agitating and recirculating systems. Material from the kettle may be dispensed through a pressure feed wand with an applicator shoe or through a pressure feed wand into a hand-operated thermal push cart.”

Revise Article 406.06(g)(2) of the Standard Specifications to read:

“(2) Longitudinal Joints. Unless prohibited by stage construction, any HMA lift shall be complete before construction of the subsequent lift. The longitudinal joint in all lifts shall be at the centerline of the pavement if the roadway comprises two lanes in width, or at lane width if the roadway is more than two lanes in width.

When stage construction prohibits the total completion of a particular lift, the longitudinal joint in one lift shall be offset from the longitudinal joint in the preceding lift by not less than 3 in. (75 mm). The longitudinal joint in the surface course shall be at the centerline of the pavement if the roadway comprises two lanes in width, or at lane width if the roadway is more than two lanes in width.

A notched wedge longitudinal joint shall be used between successive passes of HMA binder course that has a difference in elevation of greater than 2 in. (50 mm) between lanes on pavement that is open to traffic.

The notched wedge longitudinal joint shall consist of a 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the lane line, a 9 to 12 in. (230 to 300 mm) wide uniform taper sloped toward and extending into the open lane, and a second 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the outside edge.

The notched wedge longitudinal joint shall be formed by the strike off device on the paver. The wedge shall then be compacted by the joint roller.

Tack coat shall be applied to the entire surface of the notched wedge joint immediately prior to placing the adjacent lift of binder. The material shall be uniformly applied at a rate of 0.05 to 0.1 gal/sq yd (0.2 to 0.5 L/sq m).

When the use of LJS is specified, it shall be applied for the lift(s) of paving as shown on the plans. The surface to which the LJS is applied shall be dry and cleaned of all dust, debris, and any substances that will prevent the LJS from adhering. Cleaning shall be accomplished by means of a sweeper/vacuum truck, power broom, air compressor or by hand. The LJS may be placed before or after the tack or prime coat. When placed after the tack or prime coat, the tack or prime shall be fully cured prior to placement of the LJS.

The LJS shall be centered ± 2 in. (± 50 mm) under the joint of the next HMA lift to be constructed.

The width and minimum application rate of LJS shall be according to the following table.

LJS Application Table		
Overlay Thickness in. (mm)	LJS Width in. (mm)	Application Rate ^{1/} lb/ft (kg/m)
HMA Mixtures		
3/4 (19)	18 (450)	0.88 (1.31)
1 (25)	18 (450)	1.15 (1.71)
1 1/4 (32)	18 (450)	1.31 (1.95)
1 1/2 (38)	18 (450)	1.47 (2.19)
1 3/4 (44)	18 (450)	1.63 (2.43)
2 (50)	18 (450)	1.80 (2.68)
2 1/4 (60)	18 (450)	1.96 (2.92)
2 1/2 (63)	18 (450)	2.12 (3.16)
2 3/4 (70)	18 (450)	2.29 (3.41)
3 (75)	18 (450)	2.45 (3.65)
3 1/4 (83)	18 (450)	2.61 (3.89)
3 1/2 (90)	18 (450)	2.78 (4.14)
3 3/4 (95)	18 (450)	2.94 (4.38)
4 (100)	18 (450)	3.10 (4.62)
SMA Mixtures		
1 1/2 (38)	18 (450)	1.26 (1.88)
1 3/4 (44)	18 (450)	1.38 (2.06)

2 (50)	18 (450)	1.51 (2.25)
--------	----------	-------------

- 1/ The application rate has a surface demand for liquid included within it. 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.

The Contractor shall furnish to the Engineer a bill of lading for each tanker supplying material to the project. The application rate of LJS shall be verified within the first 1000 ft (300 m) of the day's scheduled application length and every 12,000 ft (3600 m) the remainder of the day. For projects less than 3000 ft (900 m), the rate shall be verified once. A suitable paper or pan shall be placed at a random location in the path of the LJS. After application of the LJS, the paper or pan shall be picked up, weighed, and the application rate calculated. The tolerance between the application rate shown in the LJS Application Table and the calculated rate shall be ± 15 percent. The Contractor shall replace the LJS in the area where the sample was taken.

A 1 qt (1 L) sample shall be taken from the pressure distributor or melting kettle at the jobsite once for each contract and sent to the Central Bureau of Materials.

The LJS shall be applied in a single pass with a pressure distributor, melter kettle, or hand applied from a roll for HMA lifts up to 2 in. (50 mm) in thickness. The LJS shall be applied in two passes for HMA lifts between 2 and 4 in. (50 and 100 mm) in thickness. At the time of installation, the pavement surface temperature and the ambient temperature shall be a minimum of 40 °F (4 °C) and rising.

The LJS shall be applied at a width of not less than or greater than 1 1/2 in. (38 mm) of the width specified. If the LJS flows more than 2 in. (50 mm) from the initial placement width, LJS placement shall stop and remedial action shall be taken.

When starting another run of LJS placement, suitable release paper shall be placed over the previous application of LJS to prevent doubling up of thickness of LJS.

The LJS shall be suitable for construction traffic to drive on without pickup or tracking of the LJS within 30 minutes of placement. If pickup or tracking occurs, LJS placement shall stop and damaged areas shall be repaired.

Prior to paving, the Contractor shall ensure the paver end plate and grade control device is adequately raised above the finished height of the LJS.

The LJS shall not flush to the final surface of the HMA pavement."

Add the following paragraph after the second paragraph of Article 406.13(b) of the Standard Specifications.

“Application of longitudinal joint sealant (LJS) will be measured for payment in place in feet (meters).”

Add the following paragraph after the first paragraph of Article 406.14 of the Standard Specifications.

“Longitudinal joint sealant will be paid for at the contract unit price per foot (meter) for LONGITUDINAL JOINT SEALANT.”

Add the following to Section 1032 of the Standard Specifications.

“1032.12 Longitudinal Joint Sealant (LJS). Longitudinal joint sealant (LJS) will be accepted according to the current Bureau of Materials and Physical Research Policy Memorandum, “Performance Graded Asphalt Binder Acceptance Procedure” with the following exceptions: Article 3.1.9 and 3.4.1.4 of the policy memorandum will be excluded. The bituminous material used for the LJS shall be according to the following table. Elastomers shall be added to a base asphalt and shall be either a styrene-butadiene diblock or triblock copolymer without oil extension, or a styrene-butadiene rubber. Air blown asphalt, acid modification, or other modifiers will not be allowed. LJS in the form of pre-formed rollout banding may also be used.

Test	Test Requirement	Test Method
Dynamic shear @ 88°C (unaged), G*/sin δ, kPa	1.00 min.	AASHTO T 315
Creep stiffness @ -18°C (unaged), Stiffness (S), MPa m-value	300 max. 0.300 min.	AASHTO T 313
Ash, %	1.0 – 4.0	AASHTO T 111
Elastic Recovery, 100 mm elongation, cut immediately, 25°C, %	70 min.	ASTM D 6084 (Procedure A)
Separation of Polymer, Difference in °C of the softening point (ring and ball)	3 max.	ITP Separation of Polymer from Asphalt Binder”

80398

HOT-MIX ASPHALT – OSCILLATORY ROLLER (BDE)

Effective: August 1, 2018
 Revised: November 1, 2018

Add the following to Article 406.03 of the Standard Specifications:

“(j) Oscillatory Roller 1101.01”

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

“TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Level Binder: (When the density requirements of Article 406.05(c) do not apply.)	P ^{3/}	--	V _S , P ^{3/} , T _B , T _F , 3W, O _T	To the satisfaction of the Engineer.
Binder and Surface ^{1/} Level Binder ^{1/} : (When the density requirements of Article 406.05(c) apply.)	V _D , P ^{3/} , T _B , 3W, O _T , O _B	P ^{3/} , O _T , O _B	V _S , T _B , T _F , O _T	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA ^{4/5/}	T _B , 3W, O _T	--	T _F , 3W, O _T	
Bridge Decks ^{2/}	T _B	--	T _F	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V_D) or oscillatory roller (O_T or O_B) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.”

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

“O_T - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O_B - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m).”

Add the following to Article 1101.01 of the Standard Specifications:

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm)48 in. (1200 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm)66 in. (1650 mm);
- (3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and
- (4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN).”; and
- (5) Self-adjusting eccentrics, and reversible eccentrics on non-driven drum(s).”

80399

HOT-MIX ASPHALT – TACK COAT (BDE)

Effective: November 1, 2016

Revise Article 1032.06(a) of the Standard Specifications to read:

“(a) Anionic Emulsified Asphalt. Anionic emulsified asphalts shall be according to AASHTO M 140. SS-1h emulsions used as a tack coat shall have the cement mixing test waived.”

80376

LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

“701.16 Lights. Lights shall be used on devices as required in the plans, the traffic control plan, and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-I107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.”

Delete the fourth sentence of the first paragraph of Article 701.17(c)(2) of the Standard Specifications.

Revise the first paragraph of Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and Class SI concrete has been placed, the work shall be protected by a barricade for at least 72 hours.”

80392

MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)

Effective: January 1, 2018

Revised: March 1, 2019

Description. In addition to those manufactured according to the current standards included in this contract, manholes, valve vaults, and flat slab tops manufactured prior to March 1, 2019, according to the previous Highway Standards listed below will be accepted on this contract:

Product	Previous Standards		
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-05	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402-01	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-09	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-07	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-07	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-07	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426-01	602426	
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-04	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506-01	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04	

The following revisions to the Standard Specifications shall apply to manholes, valve vaults, and flat slab tops manufactured according to the current standards included in this contract:

Revise Article 602.02(g) of the Standard Specifications to read:

“(g) Structural Steel (Note 4) 1006.04

Note 4. All components of the manhole joint splice shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.”

Add the following to Article 602.02 of the Standard Specifications:

“(s) Anchor Bolts and Rods (Note 5) 1006.09

Note 5. The threaded rods for the manhole joint splice shall be according to the requirements of ASTM F 1554, Grade 55, (Grade 380).”

Revise the second paragraph of Article 1042.10 of the Standard Specifications to read:

“Catch basin Types A, B, C, and D; Manhole Type A; Inlet Types A and B; Drainage Structures Types 1, 2, 3, 4, 5, and 6; Valve Vault Type A; and reinforced concrete flat slab top (Highway Standard 602601) shall be manufactured according to AASHTO M 199 (M 199M), except the minimum wall thickness shall be as shown on the plans. Additionally, catch basins, inlets, and drainage structures shall have a minimum concrete compressive strength of 4500 psi

(31,000 kPa) at 28 days and manholes, valve vaults, and reinforced concrete flat slab tops shall have a minimum concrete compressive strength of 5000 psi (34,500 kPa) at 28 days.”

80393

MAST ARM ASSEMBLY AND POLE (BDE)

Effective: August 1, 2018

Revise the first sentence of Article 1077.03(b) of the Standard Specifications to read:

“Anchor rods shall be according to Article 1006.09, Grade 105, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and threaded a minimum of 2 in. (50 mm) with matching hex head nut at the other end.”

80400

PAVEMENT MARKING REMOVAL (BDE)

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

“783.02 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Grinders (Note 1)	
(b) Water Blaster with Vacuum Recovery	1101.12

Note 1. Grinding equipment shall be approved by the Engineer.”

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

“783.03 Removal of Conflicting Markings. Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours.”

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

“The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.”

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

“783.04 Cleaning. The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast.”

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

“783.06 Basis of Payment. This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING.”

Delete Article 1101.13 from the Standard Specifications.

80371

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: November 2, 2017

Add the following to the end of the fourth paragraph of Article 109.11 of the Standard Specifications:

“If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.”

80390

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2017

Revise the Air Content % of Class PP Concrete in Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA		
Class of Conc.	Use	Air Content %
PP	Pavement Patching Bridge Deck Patching (10)	4.0 - 8.0"
	PP-1	
	PP-2	
	PP-3	
	PP-4	
	PP-5	

Revise Note (4) at the end of Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

“(4) For all classes of concrete, the maximum slump may be increased to 7 in (175 mm) when a high range water-reducing admixture is used. For Class SC, the maximum slump may be increased to 8 in. (200 mm). For Class PS, the maximum slump may be increased to 8 1/2 in. (215 mm) if the high range water-reducing admixture is the polycarboxylate type.”

80389

PROGRESS PAYMENTS (BDE)

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

80328

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: August 1, 2017

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the MPI_L and MPI_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling) Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness) Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness) Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness) Other piling	23 lb/ft (34 kg/m) 32 lb/ft (48 kg/m) 37 lb/ft (55 kg/m) See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail Steel Plate Beam Guardrail, Type A w/steel posts Steel Plate Beam Guardrail, Type B w/steel posts Steel Plate Beam Guardrail, Types A and B w/wood posts Steel Plate Beam Guardrail, Type 2 Steel Plate Beam Guardrail, Type 6 Traffic Barrier Terminal, Type 1 Special (Tangent) Traffic Barrier Terminal, Type 1 Special (Flared)	20 lb/ft (30 kg/m) 30 lb/ft (45 kg/m) 8 lb/ft (12 kg/m) 305 lb (140 kg) each 1260 lb (570 kg) each 730 lb (330 kg) each 410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms Traffic Signal Post Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m) Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m) Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m) Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m) Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m) Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m) Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	11 lb/ft (16 kg/m) 14 lb/ft (21 kg/m) 21 lb/ft (31 kg/m) 13 lb/ft (19 kg/m) 19 lb/ft (28 kg/m) 31 lb/ft (46 kg/m) 65 lb/ft (97 kg/m) 80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence) Steel Railing, Type SM Steel Railing, Type S-1 Steel Railing, Type T-1 Steel Bridge Rail	64 lb/ft (95 kg/m) 39 lb/ft (58 kg/m) 53 lb/ft (79 kg/m) 52 lb/ft (77 kg/m)
Frames and Grates Frame Lids and Grates	250 lb (115 kg) 150 lb (70 kg)

80127

STEEL PLATE BEAM GUARDRAIL MANUFACTURING (BDE)

Effective: January 1, 2019

Revise the first three paragraphs of Article 1006.25 of the Standard Specifications to read:

“1006.25 Steel Plate Beam Guardrail. Steel plate beam guardrail, including bolts, nuts, and washers, shall be according to AASHTO M 180. The guardrail shall be Class A, with a Type II galvanized coating.

Steel plates for mounting guardrail on existing culverts shall be according to AASHTO M 270 Grade 36 (M 270M Grade 250) and zinc coated according to AASHTO M 111.

The Department will accept guardrail based on the “Brand Registration and Guarantee” requirements of AASHTO M 180 and the manufacturer shall be listed as compliant through the NTPEP Program. The Department will maintain a qualified product list.”

80408

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

TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

“703.02 Materials. Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III 1095.06
- (b) Paint Pavement Markings 1095.02
- (c) Pavement Marking Tape, Type IV 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise Article 703.07 of the Standard Specifications to read:

“703.07 Basis of Payment. This work will be paid for as follows.

- a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.
- b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

Removal of temporary pavement markings will be paid for at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING REMOVAL.

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard.”

Add the following to Section 1095 of the Standard Specifications:

“1095.11 Pavement Marking Tape, Type IV. The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.
- (b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.
 - (1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.
 - (2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

Wet Retroreflectance, Initial R_L

Color	R_L 1.05/88.76
White	300
Yellow	200

- (c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.
- (e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

80298

TRAINING SPECIAL PROVISIONS (BDE) 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 1 . In the event the contractor subcontracts a portion of the contract work, he 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 insure 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 employed by him 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 that he 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 has successfully completed a training course leading to journeyman status or in which he 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, Manpower Administration, Bureau of Apprenticeship and Training 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 will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

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

TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (BDE)

Effective: November 1, 2018

Revise Article 631.04 of the Supplemental Specifications to read:

“631.04 Traffic Barrier Terminal, Type 1 Special (Tangent) and Traffic Barrier Terminal, Type 1 Special (Flared). These terminals shall be on the Department’s qualified product list.

The terminal shall be installed according to the manufacturer’s specifications. The beginning length of need point of the terminal shall be placed within 12 ft 6 in (3.8 m) of the length of need point shown on the plans.

The terminal shall be delineated with a terminal marker direct applied. No other guardrail delineation shall be attached to the terminal section.”

Revise the first paragraph of Article 631.12 of the Standard Specifications to read:

“631.12 Method of Measurement. The various types of traffic barrier terminals will be measured for payment, complete in place, in units of each. The pay limit between the traffic barrier terminal and the adjacent guardrail shall be as shown on the plans, except for the following:

- (a) Traffic Barrier Type 1, Special. The pay limit for a traffic barrier, Type 1 special shall be as shown on the manufacturer’s drawing(s).
- (b) Traffic Barrier Type 10. The pay limit for the traffic barrier terminal, Type 10 shall be at the centerline of the end shoe splice.”

80403

TRAFFIC CONTROL DEVICES - CONES (BDE)

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

80409

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

"1102.01 Hot-Mix Asphalt Plant. The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C).
WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

| Revised: April 2, 2015

| 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 Monday through Sunday 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

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (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).

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.

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). 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 bid proposal or request for proposal 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).

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.

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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.

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, 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 who 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.

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, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor 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 contracting agency deems appropriate.

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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

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, Employment Standards Administration, 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 Wage and Hour Administrator for determination. The Wage and Hour 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

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

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 at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor 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 §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, 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 Regulations, 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 section 1001 of title 18 and section 231 of title 31 of the United States Code.

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

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. 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.

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.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor 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

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.

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 of \$10 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.

3. Withholding for unpaid wages and liquidated damages. The FHWA or 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 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.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (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.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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" 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:

(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.

2. 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. 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.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.

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 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).

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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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.

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.

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.

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.

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 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee 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 grantee or subgrantee 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.

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.

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. 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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. 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) 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;

(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; 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.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. 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)

a. By signing and submitting this proposal, the prospective lower tier 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.

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 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 grantee or subgrantee 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 grantee or subgrantee 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.

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.

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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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.

* * * * *

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 is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

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.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

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.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.