RETURN WITH BID

Illinois Department of Transportation

Local Public Agency Formal Contract Proposal

PROPOSAL SUBMITTED BY		
Contractor's Name		
Street		P.O. Box
City	State	Zip Code

STATE OF ILLINOIS

COUNTY OF LAKE

(Name of City, Village, Town or Road District)

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. Lewis Avenue

SECTION NO. 16-00089-08-RS

TYPES OF FUNDS **MFT**

☒ SPECIFICATIONS (required) ☒ PLANS (required)

For Municipal Projects

Submitted/Approved/Passed

Not Applicable

☐ Mayor ☐ President of Board of Trustees ☐ Municipal Official

Date

For County and Road District Projects

Submitted/Approved

Not Applicable

Highway Commissioner

Date

Submitted/Approved

Paula J. Trigo

County Engineer/~~Superintendent of Highways~~

Nov. 11, 2016

Date

Department of Transportation

☒ Released for bid based on limited review

Paula J. Trigo

Regional Engineer

County Engineer on behalf of IDOT pursuant to

Agreement of Understanding dated January 18, 2013

Nov. 11, 2016

Date

Note: All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed.

NOTICE TO BIDDERS

County LAKE
Local Public Agency LCDOT
Section Number 16-00089-08-RS
Route CH 27

Sealed proposals for the improvement described below will be received at the office of The County Engineer of Lake County, 600 West Winchester Road, Libertyville, IL 60048 (Address) until 10:00 A.M. (Time) on December 13, 2016 (Date)

Sealed proposals will be opened and read publicly at the office of The County Engineer of Lake County 600 West Winchester Road, Libertyville, IL 60048 (Address) at 10:00 A.M. (Time) on December 13, 2016 (Date)

DESCRIPTION OF WORK

Name Lewis Avenue Resurfacing Length: 10980.00 feet (2.08 miles)
Location Lewis Avenue from 400 feet north of Wadsworth Road to the south edge of 20th Street
Proposed Improvement Milling & resurfacing; replacing curb and gutter; adjusting, reconstructing, and replacing drainage structures; replacing traffic signals, constructing sidewalk with detectable warnings; and related work

1. Plans and proposal forms will be available online at http://www.lakecountyil.gov/648/Bids---Roadwork or at the office of the Lake County Division of Transportation, 600 West Winchester Road, Libertyville, IL 60048 (Address)
2. ☒ Prequalification
   If checked, each bidder shall include a completed "Affidavit of Availability" (Form BC 57), in their proposal, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work.
3. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.
4. The following Forms shall be returned by the bidder to the Awarding Authority (not required if crossed out):
   a. BLR 12200: Local Public Agency Formal Contract Proposal (includes BLR 12200a Schedule of Prices)
   b. BC 57: Affidavit of Availability
   c. BC 261: Substance Abuse Prevention Program Certification
   d. BLR 12230: Proposal Bid Bond
   e. BLR 12325: Apprenticeship or Training Program Certification
   f. BLR 12326: Affidavit of Illinois Business Office
   g. LCDOT – CBID Printout
5. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.
6. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in depth examination. The Awarding Authority will, in no case be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.
7. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.
8. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Agency and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.
9. Permission will be given to a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

PROPOSAL

County LAKE
Local Public Agency LCDOT
Section Number 16-00089-08-RS
Route CH 27

1. Proposal of _____

for the improvement of the above section by the construction of The project includes milling and resurfacing the existing pavement; removing and replacing the curb and gutter; adjusting, reconstructing, or removing and replacing drainage structures; replacing the traffic signals at 33rd Street and 27th Street; constructing sidewalk and detectable warnings at street crossings; and related work.

a total distance of 10980.00 feet, of which a distance of 10980.00 feet, (2.08 miles) are to be improved.

2. The plans for the proposed work are those prepared by Lake County Division of Transportation and approved by the Department of Transportation* on November 11, 2016

**** County Engineer on behalf of IDOT pursuant to Agreement of Understanding dated January 18, 2013.***

3. The specifications referred to herein are those prepared by the Department of Transportation and designated as "Standard Specifications for Road and Bridge Construction" and the "Supplemental Specifications and Recurring Special Provisions" thereto, adopted and in effect on the date of invitation for bids.

4. The undersigned agrees to accept, as part of the contract, the applicable Special Provisions indicated on the "Check Sheet for Recurring Special Provisions" contained in this proposal.

5. The undersigned agrees to complete the work within XXXXXXXX working days or by October 31, 2017 unless additional time is granted in accordance with the specifications.

6. A proposal guaranty in the proper amount, as specified in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals, will be required. Bid Bonds will be allowed as a proposal guaranty. Accompanying this proposal is either a bid bond if allowed, on Department form BLR 12230 or a proposal guaranty check, complying with the specifications, made payable to:

_____ Treasurer of LAKE COUNTY

The amount of the check is the same as the amount of the BID BOND (_____).

7. In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties, which would be required for each individual proposal. If the proposal guaranty check is placed in another proposal, it will be found in the proposal for: Section Number _____.

8. The successful bidder at the time of execution of the contract will be required to deposit a contract bond for the full amount of the award. When a contract bond is not required, the proposal guaranty check will be held in lieu thereof. If this proposal is accepted and the undersigned fails to execute a contract and contract bond as required, it is hereby agreed that the Bid Bond or check shall be forfeited to the Awarding Authority.

9. Each pay item should have a unit price and a total price. If no total price is shown or if there is a discrepancy between the product of the unit price multiplied by the quantity, the unit price shall govern. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price.

10. A bid will be declared unacceptable if neither a unit price nor a total price is shown.

11. The undersigned submits herewith the schedule of prices on ~~BLR 12200a~~ the LCDOT CBID printout covering the work to be performed under this contract.

12. The undersigned further agrees that if awarded the contract for the sections contained in the combinations on ~~BLR 12200a~~ the LCDOT CBID printout, the work shall be in accordance with the requirements of each individual proposal for the multiple bid specified in the Schedule for Multiple Bids below.

Illinois Department of Transportation

SCHEDULE OF PRICES

County LAKE
Local Public Agency LCDOT
Section 16-00089-08-RS
Route CH 27

Schedule for Multiple Bids

Combination Letter	Sections Included in Combinations	Total

Schedule for Single Bid

(For complete information covering these items, see plans and specifications)

Bidder's Proposal for making Entire Improvements	

Item No.	Items	Unit	Quantity	Unit Price	Total

CONTRACTOR CERTIFICATIONS

County LAKE
Local Public Agency LCDOT
Section Number 16-00089-08-RS
Route CH 27

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

1. **Debt Deliquency.** The bidder or contractor or subcontractor, respectively, certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue unless the individual or other entity is contesting, in accordance with the procedures established by the appropriate revenue Act, its liability for the tax or the amount of tax. Making a false statement voids the contract and allows the Department to recover all amounts paid to the individual or entity under the contract in a civil action.

2. **Bid-Rigging or Bid Rotating.** The bidder or contractor or subcontractor, respectively, certifies that it is not barred from contracting with the Department by reason of a violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33E-4.

   A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

   A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

3. **Bribery.** The bidder or contractor or subcontractor, respectively, certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois or any unit of local government, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm.

4. **Interim Suspension or Suspension.** The bidder or contractor or subcontractor, respectively, certifies that it is not currently under a suspension as defined in Subpart I of Title 44 Subtitle A Chapter III Part 6 of the Illinois Administrative Code. Furthermore, if suspended prior to completion of this work, the contract or contracts executed for the completion of this work may be cancelled.

County LAKE
Local Public Agency LCDOT
Section Number 16-00089-08-RS
Route CH 27

SIGNATURES

(If an individual)

Signature of Bidder _____

Business Address _____

(If a partnership)

Firm Name _____

Signed By _____

Business Address _____

Inset Names and Addressed of All Partners _____

(If a corporation)

Corporate Name _____

Signed By _____
President

Business Address _____

Insert Names of Officers
President _____
Secretary _____
Treasurer _____

Attest: _____
Secretary

Illinois Department of Transportation

Bureau of Construction
2300 South Dirksen Parkway/Room 322
Springfield, Illinois 62764

Affidavit of Availability

For the Letting of December 13, 2016

Instructions: Complete this form by either typing or using black ink. "Authorization to Bid" will not be issued unless both sides of this form are completed in detail. Use additional forms as needed to list all work.

Part I. Work Under Contract

List below all work you have under contract as either a prime contractor or a subcontractor. It is required to include all pending low bids not yet awarded or rejected. In a joint venture, list only that portion of the work which is the responsibility of your company. The uncompleted dollar value is to be based upon the most recent engineer's or owners estimate, and must include work subcontracted to others. If no work is contracted, show **NONE.**

	1	2	3	4	Awards Pending	
Contract Number						
Contract With						
Estimated Completion Date						
Total Contract Price						Accumulated Totals
Uncompleted Dollar Value if Firm is the Prime Contractor						
Uncompleted Dollar Value if Firm is the Subcontractor						
				Total Value of All Work		

Part II. Awards Pending and Uncompleted Work to be done with your own forces.

List below the uncompleted dollar value of work for each contract and awards pending to be completed with your own forces. All work subcontracted to others will be listed on the reverse of this form. In a joint venture, list only that portion of the work to be done by your company. If no work is contracted, show NONE.

						Accumulated Totals
Earthwork						
Portland Cement Concrete Paving						
HMA Plant Mix						
HMA Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases & Surfaces						
Highway, R.R. and Waterway Structures						
Drainage						
Electrical						
Cover and Seal Coats						
Concrete Construction						
Landscaping						
Fencing						
Guardrail						
Painting						
Signing						
Cold Milling, Planning & Rotomilling						
Demolition						
Pavement Markings (Paint)						
Other Construction (List)						
Totals						

Disclosure of this information is **REQUIRED** to accomplish the statutory purpose as outlined in the "Illinois Procurement Code." Failure to comply will result in non-issuance of an "Authorization To Bid." This form has been approved by the State Forms Management Center.

Part III. Work Subcontracted to Others.

For each contract described in Part I, list all the work you have subcontracted to others.

	1	2	3	4	Awards Pending
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Total Uncompleted					

I, being duly sworn, do hereby declare that this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion dates.

Subscribed and sworn to before me

this _____ day of _____ , _____ Type or Print Name _____

Officer or Director Title

_____ Signed _____

Notary Public

My commission expires _____

Company _____

(Notary Seal)

Address _____

_____

Illinois Department of Transportation

Substance Abuse Prevention Program Certification

Letting Date: December 13, 2016 Item No.: _____

Contract No.: _____

Route: CH 27

Section: 16-00089-08-RS

Job No.: _____

County: LAKE

The Substance Abuse Prevention on Public Works Act, Public Act 95-0635, prohibits the use of drugs and alcohol, as defined in the Act, by employees of the Contractor and by employees of all approved Subcontractors while performing work on a public works project. The Contractor/Subcontractor herewith certifies that it has a superseding collective bargaining agreement or makes the public filing of its written substance abuse prevention program for the prevention of substance abuse among its employees who are not covered by a collective bargaining agreement dealing with the subject as mandated by the Act.

A. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has signed collective bargaining agreements that are in effect for all of its employees, and that deal with the subject matter of Public Act 95-0635.

_____
Contractor/Subcontractor

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative Date

B. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has in place for all of its employees not covered by a collective bargaining agreement that deals with the subject of the Act, the attached substance abuse prevention program that meets or exceeds the requirements of Public Act 95-0635.

_____
Contractor/Subcontractor

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative Date

Illinois Department of Transportation

Local Agency Proposal Bid Bond

Route CH 27
County LAKE
Local Agency LCDOT
Section 16-00089-08-RS

RETURN WITH BID

PAPER BID BOND

WE _____ as PRINCIPAL,

and _____ as SURETY,

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

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the LA acting through its awarding authority for the construction of the work designated as the above section.

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

IN THE EVENT the LA determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the LA acting through its awarding authority shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____

Principal

_____ (Company Name)

By: _____ (Signature and Title)

_____ (Company Name)

By: _____ (Signature and Title)

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

Surety

_____ (Name of Surety)

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

STATE OF ILLINOIS,

COUNTY OF _____

I. _____ , a Notary Public in and for said county,

do hereby certify that _____

(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

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

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

My commission expires _____

_____ (Notary Public)

ELECTRONIC BID BOND

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

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

Electronic Bid Bond ID Code

_____ (Company/Bidder Name)

_____ (Signature and Title)

_____ Date

Illinois Department of Transportation

Apprenticeship or Training Program Certification

Return with Bid

Route	CH 27
County	LAKE
Local Agency	LCDOT
Section	16-00089-08-RS

All contractors are required to complete the following certification:

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

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

Illinois Department of Transportation policy, adopted in accordance with the provisions of the Illinois Highway Code, requires this contract to be awarded to the lowest responsive and responsible bidder. The award decision is subject to approval by the Department. In addition to all other responsibility factors, this contract or deliver and install proposal requires all bidders and all bidders' subcontractors to disclose participation in apprenticeship or training programs that are (1) approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training, and (2) applicable to the work of the above indicated proposals or groups. Therefore, all bidders are required to complete the following certification:

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

II. The undersigned bidder further certifies for work to be performed by subcontract that each of its subcontractors submitted for approval either (A) is, at the time of such bid, participating in an approved, applicable apprenticeship or training program; or (B) will, prior to commencement of performance of work pursuant to this contract, establish participation in an approved apprenticeship or training program applicable to the work of the subcontract.

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

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

_____

_____

_____

_____

_____

_____

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. The Department at any time before or after award may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. In order to fulfill the participation requirement, it shall not be necessary that any applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract or deliver and install proposal.

Bidder: _____ By: _____
(Signature)

Address: _____ Title: _____

RETURN WITH BID

Illinois Department of Transportation

Affidavit of Illinois Business Office

County LAKE
Local Public Agency LCDOT
Section Number 16-00089-08-RS
Route CH 27

State of _____)
) ss.
County of _____)

I, _____ (Name of Affiant) of _____ (City of Affiant), _____ (State of Affiant),

being first duly sworn upon oath, states as follows:

1. That I am the _____ (officer or position) of _____ (bidder).
2. That I have personal knowledge of the facts herein stated.
3. That, if selected under this proposal, _____ (bidder), will maintain a business office in the State of Illinois which will be located in _____ County, Illinois.
4. That this business office will serve as the primary place of employment for any persons employed in the construction contemplated by this proposal.
5. That this Affidavit is given as a requirement of state law as provided in Section 30-22(8) of the Illinois Procurement Code.

_____
(Signature)

_____
(Print Name of Affiant)

This instrument was acknowledged before me on the day of _____ , _____ .

(SEAL)

_____
(Signature of Notary Public)

CONTRACTOR

PLEASE REPLACE WITH YOUR COMPLETED LCDOT CBID PRINTOUT

SPECIAL PROVISION

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CONSTRUCTION DEBRIS

STORM WATER POLLUTION PREVENTION PLAN

IEPA FORMS

STATE OF ILLINOIS
SPECIAL PROVISIONS

The following Special Provisions supplement the specifications listed in the table below, which apply to and govern the proposed improvement designated as Lake County Section **16-00089-08-RS**, and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and govern.

SPECIFICATION	ADOPTED/DATED
Standard Specifications for Road and Bridge Construction	April 1, 2016
Manual on Uniform Traffic Control Devices for Streets and Highways Illinois Supplement	2009 Edition June 2014 Revision
Supplemental Specifications and Recurring Special Provisions (indicated on the Check Sheet included herein)	January 1, 2017
Standard Specifications for Water and Sewer Construction in Illinois	7th Edition, 2014

This Project Does Include a Separate Set of Plans.

LOCATION OF IMPROVEMENT

The project is located on Lewis Avenue beginning 425 feet north of Wadsworth Road and extending north to the southern edge of 20th Street. The project is located in the City of Waukegan (south end of the project on the west side of the road) the Village of Beach Park (both sides from Wadsworth Road to 33rd Street and the west side from 33rd Street to 29th Street) and the City of Zion (east side from 33rd Street to 20th Street and west side from 29th Street to 20th Street), Lake County, Illinois.

DESCRIPTION OF IMPROVEMENT

The project includes milling and resurfacing the existing pavement; removing and replacing the curb and gutter; adjusting, reconstructing, or removing and replacing drainage structures; replacing the traffic signals at 33rd Street and 27th Street; constructing sidewalk and detectable warnings at street crossings; and related work.

DIVISION 100. GENERAL REQUIREMENTS AND COVENANTS

SECTION 102 ADVERTISEMENT, BIDDING, AWARD AND CONTRACT EXECUTION (LCDOT)

Effective: January 1, 2007
Revised: March 20, 2015

Award and execution of contract shall be in accordance with Section 102 of the "Standard Specifications" and the following:

Insurance certificates *shall be received within* ***five (5) days*** *after the contract has been mailed to the bidder. Contract performance and payment* ***bond*** *shall be received within* ***ten (10) days*** *after the contract has been mailed to the bidder. The contract shall be executed by the successful bidder and returned within fifteen (15) days after the contract has been mailed to the bidder.*

CONTRACTORS and SUBCONTRACTORS holding a ***5 – HMA Paving IDOT prequalification*** *shall be limited to paving on contracts with 1200 total tons or less. The 1200 ton limit does not include HMA sidewalk, driveways, medians, paved shoulder behind curb, and/or patching.*

In order to limit bid proposal math errors, all bids for this project **shall** be submitted using the CBID spreadsheet. The Contractor shall include in their bid proposal a hardcopy CBID printout. Proposals submitted without a hardcopy CBID printout will be rejected as nonresponsive and returned to the Contractor unread. Proposals submitted with a handwritten schedule of items will be rejected as nonresponsive and returned to the Contractor unread. A maximum of five pay items may have legible pen and ink entries/revisions to the unit and extended prices on the CBID printout to accommodate last minute supplier and subcontractor quotes. A legible pen and ink entry/revision to the project total bid will also be allowed.

To decrease LCDOT bid processing time, for projects with 25 or more pay items the Contractor shall include in their sealed bid envelope a CD with a copy of the completed CBID. The hardcopy CBID printout will serve as the bid submission, while the CD is only provided to aid in tabulating the bids. In the event that there is a difference between the hardcopy CBID printout and the electronic copy provided on the CD, the hardcopy CBID printout shall take precedence and be used to complete the bid tabulation.

If the Contractor is bidding on more than one project for which the CD copy of the CBID is required, the Contractor may include all the CBIDs on a single CD. The CD shall be clearly labeled with the Contractor's name and the project CBIDs included. The single CD shall be submitted in the sealed bid envelope of one of the projects the Contractor is bidding on.

ARTICLE 105.03(e) ENVIRONMENTAL PERMITTING AGENCIES

Effective: December 22, 2014
Revised: February 26, 2016

Add the following paragraph to Article 105.03 of the "Standard Specifications"

(e) Permitting Agency Deduction: Any monetary payment required from a permitting agency related to improper erosion and sediment control may be passed along to the Contractor as a deduction from future pay estimates. Monetary payments will include fees and violations attributable to the Contractor's actions or inaction resulting in improper erosion and sediment control. The deduction will be applied to monies due or that might become due to the Contractor. Permitting agencies include the Lake County Stormwater Management Commission, the Illinois Environmental Protection Agency, the Army Corps of Engineers, and other regulatory agencies.

ARTICLE 105.09 SURVEY CONTROL POINTS (LCDOT)

Effective: January 1, 2007
Revised: June 6, 2014

The Contractor shall furnish the Engineer with the materials required to establish survey control points according to Article 105.09 of the "Standard Specifications" and the following:

Paint: *The Contractor shall furnish, at their expense, white, pink or purple pavement marking paint in aerosol cans, for use by the Engineer. The quality of the marking paint shall be as manufactured by Aervoe-Pacific Co. (distributed by Municipal Marking Distributors, Inc., Dundee, IL) or approved equal.*

The Contractor and subcontractors shall only use white, pink or purple colors for their own markings. At no time will the Contractor use any of the J.U.L.I.E. utility colors listed in Article 107.31 of the "Standard Specifications".

Hubs: *The Contractor shall furnish, at their expense, hubs for use by the Engineer according to the following:*

1. *Shall be 1 ⅜" x ⅞" x 18" (actual dimension).*
2. *Shall be furnished in securely banded (on each end) bundles of 25 pieces.*
3. *The material shall be kiln dried Douglas fir, oak or maple and surfaced on the 2 larger sides and without splits, pitch pockets, wane, knots or decayed wood.*
4. *The tapered end on each hub shall be pencil point tapered.*

Lath: *The Contractor shall furnish, at their expense, lath for use by the Engineer according to the following:*

1. *Shall be 1 ⅛" x ½" x 48" (actual dimension).*
2. *Shall be furnished in securely banded (on each end) bundles of 50 pieces.*
3. *The material shall be kiln dried Douglas fir, oak or maple and surfaced on the 2 larger sides and without splits, pitch pockets, wane, knots or decayed wood.*
4. *The tapered end may be saw-cut tapered or pencil tapered.*

ARTICLE 106.03 SAMPLES, TESTS, AND CITED SPECIFICATIONS (LCDOT)

Effective: October 1, 2012
Revised: May 19, 2014

Hot-Mix Asphalt and Concrete Placements:

The Contractor shall notify the Engineer of proposed Hot-Mix Asphalt (HMA) and/or concrete placements according to the following:

1. By 2 p.m., the Contractor shall notify the Engineer, in person or by phone, of HMA and/or concrete placements proposed for the next working day. Upon receiving the Engineer's approval, the Contractor may schedule the HMA and/or concrete for placement. Requests for HMA and/or concrete placements called in after 2 p.m., cannot be placed for payment and should not be scheduled by the Contractor.

2. The Contractor's notification shall provide the following:
   a. A firm start time.
   b. The plant source of material.
   c. The pay items included.
   d. The project name and location - be specific on large projects.
   e. The estimated quantity of HMA and/or concrete to be used.
   f. The duration of the work.

3. In the event that the Engineer cannot be reached, the Contractor can meet the notification requirement by calling the LCDOT Materials Lab at (847) 377-7493 and leaving the notification message prior to 2 p.m. LCDOT will call the Contractor back and give approval for the next day's work. The Contractor must receive approval prior to scheduling the work for payment.

4. Cancellations due to weather or other good, unforeseen reasons need to be relayed to the Engineer and the LCDOT Materials Lab at (847) 377-7493, ASAP! Repeated cancellations without sufficient notice and/or for no good reason, in the opinion of the Engineer, will lead to a deduction for any incurred County Material Consultant costs from future pay estimates.

Concrete Test Cylinders:

The Contractor shall not transport concrete cylinders until a minimum of 8 hours have elapsed after the final set. Concrete cylinders shall be transported prior to 48 hours for standard curing. The cylinders will be transported within the above time frame, regardless of what day of the week the cylinders were cast.

A sufficient quantity of cylinders shall be cast to provide for an additional break beyond the specified break requirements. Until QC & QA (LCDOT) have confirmed that proper strength has been obtained for the specified break, QC will retain at least two additional 6" x 12" cylinders or three 4" x 8" cylinders for average strength. In the event the cylinder breaks fail to reach the required strength, according to Article 1020 of the "Standard Specifications", the two additional 6" x 12" cylinders or three 4" x 8" cylinders will be broken at a later date determined by LCDOT.

PROTECTION OF EXISTING DRAINAGE FACILITIES DURING CONSTRUCTION (LCDOT)

Effective: May 19, 2014

All existing drainage structures shall be kept free of debris resulting from construction operations. All work and material necessary to prevent accumulation of debris in the drainage structures will be considered as included in the unit bid prices of the inlet protection, inlet filters and other temporary erosion control measures. Any debris in the drainage structures resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed.

Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done according to Section 602 and Article 104.02 respectively of the "Standard Specifications".

During construction, if the Contractor's forces encounter or otherwise becomes aware of any sewers, underdrains or field drains within the right-of-way other than those shown on the plans, they shall inform the Engineer. The Engineer 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 non-compliance with this provision shall be replaced at the Contractor's own expense. Should the Engineer direct the replacement of a facility, the necessary work and payment shall be done in accordance with Section 550, Section 601 and Article 104.02 respectively of the "Standard Specifications".

ARTICLE 107.08 SANITARY PROVISIONS (LCDOT)

Effective: October 17, 2016

The Contractor shall provide temporary toilet facilities for the use of all the Contractors' personnel employed on the work site, and shall maintain same in a proper sanitary condition. The temporary facilities shall include hand sanitizing stations. At the completion of the project, the facilities shall be removed and the premises left clean. The Engineer shall approve the location of the temporary toilets.

ARTICLE 107.09 PUBLIC CONVENIENCE AND SAFETY (LCDOT)

Effective: January 1, 2007
Revised: March 20, 2015

The Contractor shall limit public inconveniences and safety conflicts according to Article 107.09 of the "Standard Specifications" and the following:

Keeping Roads Open to Traffic:

For this project the Contractor shall maintain traffic according to the Maintenance of Traffic Plan shown on the plans. The Contractor shall limit flagging operations affecting the open lanes i.e. flagging for vehicles entering or leaving the construction site etc…, to the following times:

Monday - Friday	*9:00 am*	*to*	*3:00 pm*
Saturday	*9:00 am*	*to*	*3:00 pm*

At all other times, including periods of no construction activity, the Contractor shall maintain the available traffic lanes.

If local and/or area conditions warrant the above times may be adjusted (i.e. lengthened or shortened) by the Engineer. To request a change the Contractor shall submit to the Engineer a plan including the revised start and end time a minimum of 48 hours prior to the proposed revision. The Engineer will notify the Contractor 24 hours in advance with an approval or disapproval.

If the Contractor fails to provide a plan and/or the Contractor disregards the decision by of the Engineer the Traffic Control Deficiency Charge will be applied as stated in the Special Provisions for Traffic Control and Protection.

Safety and Convenience: *The Contractor shall maintain entrances along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences caused by the Contractor, by complying with these requirements shall be considered as included in the unit bid prices of the contract and no additional compensation will be allowed.*

Contractors shall plan their work so that there will be no open holes in the pavement and that all barricades will be removed from the roadway during non-working hours, except where required for public safety.

Steel road plates may be used as temporary cover over excavations. Anytime steel road plates are in the roadway these requirements apply:

- *The steel road plate shall sit flat on the pavement and be free of defects and warping*
- *It shall be shimmed with a non-asphaltic material to prevent vertical movement*
- *If the steel road plate is not under constant surveillance, it shall be pinned to prevent horizontal movement by a minimum of 6 pins; 4 pins predrilled into the corners of the plates and 1 pin predrilled into each side parallel to the trench. Pins shall be drilled 3 inches into the pavement and not protrude above the pavement surface*
- *The steel road plate shall be at least 1 inch thick and large enough to allow a minimum of 1 foot of bearing on each side of the trench*
- *A one foot wide HMA surface course ramp shall be placed around the perimeter of the plate*
- *Multiple steel road plates shall be tack welded together to prevent separation if they are not under constant surveillance*
- *Appropriate advanced warning signs (W8-24 "STEEL PLATE AHEAD" and W8-1 "BUMP") are required*

Steel road plates may be left in place overnight, in emergency situations and with the concurrence of the Engineer. Steel road plates left in place overnight shall be attached to the roadway by a minimum of 6 pins; 4 pins predrilled into the corners of the plates and 1 pin predrilled into each side parallel to the trench. Pins shall be drilled 3 inches into the pavement and not protrude above the pavement surface.

Steel road plates left in-place for more than 72 hours, shall also be:

- *Recessed into the street surface the thickness of the steel road plate with no difference in elevation with the existing surface*
- *Secured in-place to prevent horizontal movement with HMA surface course between the existing pavement vertical edge and the steel road plate*

Road plates shall not be used from November 15th to April 15th without approval from the Engineer.

ARTICLE 107.20 PROTECTION AND RESTORATION OF PROPERTY (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

The Contractor shall protect and restore property according to Article 107.20 of the "Standard Specifications" and the following:

Trees and Shrubs: *Extra care shall be exercised when operating equipment around trees or shrubs. Injured branches or roots shall be pruned in a manner satisfactory to the Engineer and shall be painted where the cut was made. Roots exposed during excavating operations shall be neatly pruned and covered with topsoil. This work shall be done as soon as possible and shall be considered as included in the unit bid price(s) of the various excavation (e.g. Earth Excavation, Excavating and Grading Existing Shoulder, Structure Excavation, Furnished Excavation etc...) and excavation related (e.g. Storm Sewers, Grading and Shaping Ditches, Concrete Foundations, etc...) work items shown in the Summary of Quantities. No additional compensation will be allowed this work.*

ARTICLE 107.23 PROTECTION OF STREAMS, LAKES, RESERVOIRS, NATURAL AREAS, WETLANDS, PRAIRIE AREAS, SAVANNAHS, AND ENDANGERED AND THREATENED SPECIES (LCDOT)

Effective: April 1, 2008
Revised: May 19, 2014

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 and LCDOT standard LC4202 included in these plans. Concrete washout facilities shall be required on all projects 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 according to LC4202. 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: This work will not be paid for separately, but shall be included in unit bid prices of the various concrete work items(e.g. portland cement concrete pavement; portland cement concrete sidewalk, and combination concrete curb and gutter etc…), shown in the Summary of Quantities.

ARTICLE 107.25 PROTECTION AND RESTORATION OF TRAFFIC SIGNS (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

The Contractor shall protect and restore traffic signs within the limits of the project according to Article 107.25 of the “Standard Specifications” and the following:

1. *All signs removed shall be reinstalled 16 feet to 18 feet off the edge of pavement where possible. In curb sections this will vary and will be determined by the Lake County Division of Transportation.*

2. *All single sign installations shall be installed with the bottom of the sign 5 feet above edge of pavement in rural districts, and 7 feet above the edge of pavement in business, commercial or residential districts. On installations having two or more signs, the bottom of the lowest sign shall be 4 feet above edge of pavement.*

3. *All signs replaced will be erected using new "Telespar" system metal bases cut 42” long from 2¼” square material. They are to be driven into solid ground using a pneumatic driver. This work will not be paid for separately but shall be included in the lump sum cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL).*

ARTICLE 107.27 INSURANCE (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

The Contractor shall obtain and thereafter keep in force insurance according to Article 107.27 of the "Standard Specifications" and the following:

The minimum Employers Liability limits listed in paragraph 107.27(a)(2) shall be increased to the following limits:

(2) Employers Liability
   a. Each Accident $1,000,000
   b. Disease-policy limit $1,000,000
   c. Disease-each employee $1,000,000

The minimum Commercial General Liability limits listed in paragraph 107.27(b) shall be increased to the following limits along with the addition of a Personal and Advertising Injury Limit:

(1) General Aggregate Limit $4,000,000
(2) Products-Completed Operations Aggregate Limit $4,000,000
(3) Personal and Advertising Injury Limit $1,000,000
(4) Each Occurrence Limit $2,000,000

The minimum Commercial Automobile Liability limit listed in paragraph 107.27(c) shall remain at:

Bodily Injury & Property Damage
Liability Limit Each Occurrence $1,000,000

In addition to the Department, its officers, and employees, coverage shall be provided for Lake County, its agents, officers and employees, named as additional insured under ISO (Insurance Services Office) additional insured endorsement CG 20 26, edition date 07/04 or its equivalent. Coverage shall be provided for Lake County, its officers, agents and employees, all members of Boards, Commissions, Committees, Trustees and Organizations of the County, all volunteers and members of volunteer organizations and other non-paid personnel, including college and high school interns, while acting on behalf of the County. The Contractor's insurance shall be primary and non-contributory.

The contractual liability insurance coverage shall be broad enough to respond to the liability assumed by the Contractor in the following Hold Harmless Clause:

Hold Harmless Clause

The Provider agrees to indemnify, save harmless and defend the County of Lake, its agents, servants, and employees and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the County of Lake, its agents, servants, or employees or any other person indemnified hereunder.

In the event the Contractor fails to obtain or maintain any insurance coverage required under this agreement, Lake County may purchase such insurance coverage and charge the expense thereof to the Contractor.

ARTICLE 107.29 OPENING OF SECTION OF HIGHWAY TO TRAFFIC (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Work under construction shall be opened to traffic according to Article 107.29 of the "Standard Specifications" and the following:

The Contractor shall work expeditiously to open traffic lanes closed due to roadwork. The Engineer shall be the sole judge of when a lane is ready to be opened to traffic. The opening of a lane to traffic shall be in accordance to Section 107.29 of the "Standard Specifications".

Roadwork requiring a closure of a lane, which has been opened previously to traffic, will be allowed at the discretion of the Engineer and under the following conditions:

1. *The lane closure shall only be in effect while workers are present in or near the closed lane.*
2. *The closed lane will be reopened to traffic at the end of the workday.*
3. *All traffic control devices pertaining to the lane closure shall be removed from the roadway at the end of the workday.*

SECTION 108 PROSECUTION AND PROGRESS (LCDOT)

Effective January 1, 2007
Revised: October 10, 2016

It is the intent of the County that this project be constructed in an orderly and timely manner. Toward this end, the Contractor shall take special note of the provisions of Article 105.06, Article 108.01 paragraph 2, and Article 108.02 of the "Standard Specifications" which shall be adhered to.

The Contractor shall coordinate all work between their forces and subcontractors to enable completion within the allotted working days or by the designated completion date.

ARTICLE 108.06 LABOR, METHODS, AND EQUIPMENT

Effective: May 29, 2015

The Contractor and each subcontractor shall meet the requirements of LRS12, Special Provision for Wages of Employees on Public Works except as follows:

The certified payroll(s) submitted by the Contractor and each subcontractor shall be submitted electronically in a PDF format. The accompanying statement signed by the Contractor or subcontractor may be scanned or contain an electronic signature. The documents shall be submitted via e-mailed to the Engineer.

DIVISION 200. EARTHWORK, LANDSCAPING, AND EROSION CONTROL

DIVISION 200 PHOSPHORUS FERTILIZER NUTRIENT BAN (LCDOT)

Effective: January 1, 2009
Revised: May 19, 2014

Phosphorus Fertilizer Nutrient shall not be used on Lake County Highways.

20100XXX TREE REMOVAL (XX) (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Description: This work shall consist of cutting, grubbing, removing and disposing of trees and stumps.

General: The work shall be performed according to Article 201.04 of the "Standard Specifications" and the following:

Cut trees and limbs shall be disposed of within five working days. The cut trees and limbs shall be disposed of according to Article 202.03 of the "Standard Specifications".

Method of Measurement: Tree Removal will be measured for payment according to Article 201.10(b) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per unit diameter for TREE REMOVAL of the size range specified. *The unit price shall include all equipment, materials and labor required to remove and dispose of designated trees and stumps.*

20101100 TREE TRUNK PROTECTION (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Description: This work shall consist of furnishing, installing and removing tree trunk protection for trees adjacent to the project site.

General: The work shall be performed according to Article 201.05 of the "Standard Specifications" and the following:

Prior to construction, the Contractor shall install a snow fence or other highly visible barrier around designated trees in a manner meeting the Engineer's approval. Visual barriers, such as single strand wire or plastic flagging, are not acceptable for this purpose. The barrier shall be maintained in the proper location and in good repair until the completion of construction. Removal and disposal of the barrier shall be the Contractor's responsibility.

Method of Measurement: Tree Trunk Protection will be measured for payment as each per tree according to Article 201.10(c) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per each for TREE TRUNK PROTECTION.

20101200 TREE ROOT PRUNING (LCDOT)

Effective: January 1, 2007
Revised: May 13, 2015

Description: This work shall consist of pruning existing tree roots prior to trenching or excavation operations.

General: The work shall be performed according to Article 201.06 of the "Standard Specifications" and the following:

Before any trenching or excavation in the area of a tree, tree roots shall be cut with appropriate root pruning equipment to a minimum of 24" deep. The cuts shall be made 6" to 12" closer to the tree than the construction limit. This allows for root regeneration (within the 6" to 12" area) during the construction period. Pruning shall not be done at the construction limit, since the cut surfaces of the roots will remain exposed resulting in root dieback.

The application of Fertilizer Nutrients and Supplemental Watering shall be performed according to Article 201.06 of the "Standard Specifications". The Fertilizer Nutrients and Supplemental Watering shall not be paid for separately, but shall be included in the contract unit price for TREE ROOT PRUNING.

Removed material shall be disposed outside the right of way according to Article 202.03 of the "Standard Specifications".

Method of Measurement: Tree Root Pruning will be measured for payment as each per tree according to Article 201.10(d) of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per each for TREE ROOT PRUNING. *The unit price shall include all equipment, materials, and labor required to prune the existing tree roots and to transport & dispose of the removed material. The unit price shall also include all equipment materials and labor required to accomplish the application of the fertilizer nutrients and supplemental watering.*

ARTICLE 202.03 REMOVAL AND DISPOSAL OF SURPLUS, UNSTABLE, AND UNSUITABLE MATERIALS AND ORGANIC WASTE (LCDOT)

Effective: February 18, 2013
Revised: May 13, 2015

Description: This work shall consist of the off-site disposal at pre-approved Clean Construction or Demolition Debris (CCDD) facilities of excess uncontaminated soil generated by Lake County Division of Transportation (LCDOT) contract construction projects.

Definitions:

Clean construction or demolition debris (CCDD): CCDD is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed asphalt pavement generated from construction or demolition activities. CCDD material may include small incidental quantities of soil that are comingled as part of the removal process. When uncontaminated soil is mixed with any of these materials, the uncontaminated soil is also considered CCDD. Uncontaminated soil that is not mixed with other CCDD materials is not CCDD.

Uncontaminated Soil: What constitutes "uncontaminated soil" for purposes of CCDD and uncontaminated soil fill operations is defined in 35 Ill. Adm. Code 1100. Uncontaminated soil means soil that does not contain contaminants in concentrations that pose a threat to human health and safety and the environment.

General: CCDD that does not contain any uncontaminated soil may be disposed of at CCDD facilities without additional paperwork. CCDD containing uncontaminated soil from LCDOT construction sites may be disposed of at the facilities listed below.

LCDOT's Responsibility: LCDOT will collect and analyze soil samples for pH from the areas with no Potential Impacted Properties (PIPs), and complete the associated IEPA 662 form. The Contractor is relieved of the requirement to have the pH testing performed according to Article 202.03 as revised by the SUPPLEMENTAL SPECIFICATION FOR SECTION 202. EARTH AND ROCK EXCAVATION (2015). For areas with PIPs, LCDOT will perform the applicable soil testing based on LCDOT's due diligence procedures, and complete the associated IEPA 663 forms. Signed IEPA forms 662 and/or 663 are included in the bid package.

Contractor's Responsibility:
The Contractor is expected to use one or more of the County's pre-approved uncontaminated soil disposal facilities listed below. Should a Contractor elect to use an alternate facility for uncontaminated soil disposal, the Contractor shall be responsible for all costs associated with testing, trucking, and tipping fees for proper disposal of all accepted loads, and all costs associated with proper disposal of all rejected loads.

The Contractor shall stage and transport material to the pre-approved receiving facility and shall be responsible for coordination with such facilities on operating hours.

The Contractor shall submit a Material Disposal Plan a minimum of 14 days prior to beginning earthwork activities. The Material Disposal Plan shall detail the methods of removal and disposal of all un-contaminated soil and CCDD leaving the site, for review and approval by the Engineer.

In the event that a pre-approved disposal facility rejects the material, the Contractor shall return the material to the project site for stockpile at a location and manner designated by the Engineer according to the special provision for REJECTED LOAD TRANSPORTATION.

No soil testing shall be conducted by the Contractor with the exception of onsite photo ionization detectors (PID) screening (at the Contractor's option).

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

Basis for Payment: The off-site disposal of uncontaminated soil and/or CCDD, including transportation, facility disposal fees and all other work necessary, will not be paid for but shall be included in the contract unit price per cubic yard of EARTH EXCAVATION. Rejected Loads will be paid for according to the special provision for REJECTED LOAD TRANSPORTATION.

Pre-Approved Facilities for Receiving Uncontaminated Soil and/or CCDD from LCDOT Projects

Midwest Aggregates 28435 W. Route 173 Antioch, IL 60002 (847) 395-2595 Mr. Jim Mertes	Reliable Sand and Gravel Co., Inc. 2121 S River Road McHenry, IL 60051 (815) 385-5020 Mr. Don Roberts	47 Acres/Southwind Business Park 2250 Southwind Boulevard Bartlett, IL 60103 (630) 497-8700 Mr. William Haworth
Lake in the Hills CCDD Pingree Rd/Virginia Rd Lake in the Hills, IL 60156 (630) 497-8700 Mr. Michael Vondra	Reliable Lyons CCDD 4226 S Lawndale Avenue Lyons, IL 60534 (630) 497-8700 Mr. William Haworth	Blue Heron Business Park – Bartlett 23108 W Bartlett Road Bartlett, IL 60103 Mr. William Haworth
Petersen Sand & Gravel CCDD 914 W Route 120 Lakemoor, IL 60050 (847) 395-3313 Mr. Steve Thelen	Raymond Street – CCDD 1400 Route 25 South Elgin, IL 60177 (630) 497-8700 Mr. William Haworth	Gifford East – CCDD 1395 Gifford Road Elgin, IL 60120 Mr. William Haworth
Thelen Sand & Gravel 28955 E IL Route 173 Antioch, IL 60002 (847) 395-3313 Mr. Steve Thelen	Middle St – CCDD 1155 W Middle St South Elgin, IL 60177 (630) 497-8700 Mr. William Haworth	

20200100 EARTH EXCAVATION (LCDOT)

Effective: January 1, 2007
Revised: January 28, 2015

Description: This work shall consist of the excavation and transportation of suitable excavated material to embankment locations throughout the limits of the project. This work shall also consist of the excavation, transportation and off-site disposal of excess and unsuitable materials.

For this Project the Earth Excavation shall consist of:

1. ☒ *Excavation to the subgrade elevation.*
2. ☒ *Excavation for topsoil placement.*
3. ☒ *The removal of existing hot-mix asphalt pavement and aggregate base course not included in any other pay item.*
4. ☐ *Undercutting, as determined by the Engineer to include:*
   - a. ☐ *Removal of existing topsoil under proposed embankment.*
   - b. ☐ *Removal of unsuitable material in wet areas.*
5. ☐ *Undercutting, based on the recommendations of the soil survey and report.*
   - a. *An estimated quantity of excavation for undercutting has been included in the quantity of Earth Excavation and is shown on the plans.*
   - b. *Undercutting may be employed only at the discretion of the Engineer after it has been determined that the provisions of Section 301 of the "Standard Specifications" will not yield sufficient results to allow the timely progress of the project.*

General: This work shall conform to the requirements of Section 202 of the "Standard Specifications" and the following:

Removal and disposal of unstable, unsuitable and/or excess material will not be paid for separately, but is included in the contract unit price for Earth Excavation. All unstable, unsuitable and/or excess material shall be disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

All suitable excess material from sewer trenches, side roads, entrances or other necessary excavations may be used in the construction of the roadway. Placement and compaction of this material shall be considered included in the unit price for Earth Excavation.

Excavation required to: clean side road ditches, construct driveways, and/or construct side road approaches, will not be paid for separately, but shall be considered included in the unit cost of Earth Excavation.

Earth moved more than once due to construction staging and/or procedures selected by the Contractor, will not be paid for separately, but shall be considered included in the unit cost of Earth Excavation.

When embankments are to be widened, if directed by the Engineer, steps shall be cut into the existing slopes according to Article 205.03 of the "Standard Specifications" and the IDOT D1 standard BD-51Benching Detail for Embankment Widening, at no additional cost to the contract.

Incidental Dewatering: In the event that excavations require dewatering, the Contractor shall furnish all labor, equipment and material necessary for dewatering. All dewatering operations shall be approved by the Engineer before implementation. For projects covered by an NPDES Permit the Contractor shall develop a dewatering plan in compliance with NPDES regulations. The plan shall be submitted to the Engineer and Lake County Stormwater Management Commission (LCSMC) for approval. The cost of all equipment, materials and labor necessary to comply with the above provisions will not be paid for separately, but shall be considered included in the unit price for Earth Excavation, and no additional compensation will be allowed.

A Soil Survey and Report:

☐ *Was performed – A copy is available online with the project plans and contract specifications and it is available for inspection and review at LCDOT.*

☒ *Was not performed.*

Method of Measurement: Earth Excavation will be measured in its original position and the volume in cubic yards computed by the method of average end areas.

Basis of Payment: This work will be paid for at the contract unit price per cubic yard for EARTH EXCAVATION. *The unit price shall include all equipment and labor required to excavate, transport and distribute earth.*

28000400 PERIMETER EROSION BARRIER (LCDOT)

Effective: January 1, 2007
Revised: October 17, 2016

Description: This work shall consist of constructing, removing and disposing of perimeter erosion barrier as part of the project's temporary erosion control system.

General: The work shall be performed according to Section 280 of the "Standard Specifications" and the following:

The perimeter erosion barrier shall be limited to temporary silt filter fence meeting the requirements of AASHTO Standard M 288-00. This specification is applicable to the use of a geotextile as a vertical, permeable interceptor designed to remove suspended soil from overland water flow. The function of a temporary silt fence is to filter and allow settlement of soil particles from sediment-laden water. The purpose is to prevent the eroded soil from being transported off the construction site by water runoff.

All removed materials shall be disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

Materials:

Geotextile Requirements: The geotextile used for the temporary silt fence shall be classified as supported (with a wire or polymeric mesh backing) or unsupported (no backing). The temporary silt fence geotextile shall meet the requirements of Table 6 included below. All numeric values except Apparent Opening Size (AOS) represent Minimum Average Roll Values (MARV as defined in ASTM D4439). The values for AOS are the Maximum Average Roll Values.

Table 6 – Temporary Silt Fence Requirements

Requirements	Test Methods	Wire Backed Supported Silt Fence [a]	Unsupported Silt Fence	
			Geotextile Elongation >=50% [b]	Geotextile Elongation <50% [b]
Maximum Post Spacing		4 feet	4 feet	6 feet
Grab Strength	ASTM D 4632			
Machine direction		90 lbs	124 lbs	124 lbs
X-Machine direction		90 lbs	100 lbs	100lbs
Permittivity [c]	ASTM D 4491	0.05 sec^{-1}	0.05 sec^{-1}	0.05 sec^{-1}
Apparent Opening Size	ASTM D 4751	0.024in maximum average roll value		
Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours of exposure		

Notes:

a) Silt fence support shall consist of 14-guage steel wire with a mesh backing of 6" x 6" or prefabricated polymeric mesh of equivalent strength.

b) As measured according to ASTM D 4632.
c) These default filtration property values are based on empirical evidence with a variety of sediments. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests should be performed by the agency to confirm suitability of these requirements.

Support Posts: The support posts may be composed of wood, steel or a synthetic material. The posts shall be a minimum length of 3 feet plus the buried depth. They shall have sufficient strength to resist damage during installation and to the support the applied loads due to material build up behind the silt fence.

1) Hardwood posts shall be a minimum of 1.2" x 1.2"
2) No. 2 southern pine posts shall be a minimum of 2.6" x 2.6"
3) Steel posts may be U, T, L, or C shape, weighing 1.3 lbs per foot.

Fence Support: The wire or polymer support fence shall be at least 30" high and strong enough to support the applied loads. Polymer support fences shall meet the same ultraviolet degradation requirements as the geotextile material (see table 6).

The wire support fence shall:

- Be a minimum of 14-gauge.
- Have a minimum of six horizontal wires.
- The maximum vertical wire spacing shall be 6".

Construction:

The silt fence shall be installed with a minimum height above ground of 30". The geotextile at the bottom of the fence shall be buried, in a "J" configuration to a minimum depth of 6", in a trench so that no flow can pass under the silt fence. The trench shall be backfilled and the soil compacted over the geotextile.

The geotextile shall be spliced together with a sewn seam or two sections of fence may be overlapped instead. The sewn seam shall be positioned only at a support post.

The Contractor must demonstrate to the satisfaction of the Engineer that the geotextile can withstand the anticipated sediment loading.

The posts shall be placed at the spacing shown on the project plans. The posts shall be driven or placed a minimum of 20" into the ground. The depth shall be increased to 24" if the fence is placed on a slope of 3:1 or greater. If the 20" depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

The support fence shall be securely fastened to the upslope side of the fence post. The support fence shall extend from the ground surface to the top of the geotextile.

When un-supported fence is used, the geotextile shall be securely fastened to the fence posts.

Field monitoring shall be performed to verify that the placement of an armor system does not damage the geotextile.

Silt fences should be continuous and transverse to the flow. The silt fence should follow the contours of the site as closely as possible. The fence shall also be placed such that run off cannot flow around the end(s) of the fence.

The silt fence should be located so that the drainage area is limited to an area equivalent to 1000 square feet for each 10 feet of fence length. Caution should be used where the site slope is greater than 1:1, and/or water flow rates exceed 0.1 cubic feet per second for each 10 feet of fence length.

Maintenance:

The Contractor shall inspect all temporary silt fences immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall immediately correct any deficiencies.

The Contractor shall also make a daily review of the location of silt fences in areas where construction activities have altered the natural contour and drainage runoff to ensure that the silt fences area properly located for effectiveness. Where deficiencies exist as determined by the Engineer, additional silt fence shall be installed as directed by the Engineer.

Damaged or otherwise ineffective silt fences shall be repaired or replaced promptly.

Sediment deposits shall either be removed when the deposit reaches half the height of the fence or a second silt fence shall be installed as directed by the Engineer.

The silt fence shall remain in place until the Engineer directs it to be removed. After the fence removal, the Contractor shall remove and dispose of any excess sediment accumulations, dress the area to give it a pleasing appearance, and cover with vegetation all bare areas according to the contract requirements.

The removed silt fence may be used at other locations provided the geotextile and other material requirements continue to be met to the satisfaction of the Engineer.

During the construction operation when any loose material is deposited in the flow line of ditches, gutters or drainage structures so the natural flow of water is obstructed, the material shall be removed at the close of each working day.

At the conclusion of the construction operations all drainage structures shall be free from all dirt and debris. This work will not be paid for separately but shall be considered included in the unit cost of PERIMETER EROSION BARRIER.

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

Basis of Payment: This work will be paid for at the contract unit price per foot for PERIMETER EROSION BARRIER. *The unit price shall include all work and materials necessary to properly install the barrier and to remove and dispose of the used materials at the completion of the project. Maintenance requirements shall be included and paid for under the special provision for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS.*

28000510 INLET FILTERS (LCDOT)

Effective: October 17, 2016

Description: This work shall consist of furnishing, constructing, removing, and disposing of inlet filters as part of the project's temporary erosion control system.

General: The work shall be performed according to Section 280 of the "Standard Specifications", and the following:

During the construction operation when any loose material is deposited in the flow line of ditches, gutters or drainage structures so the natural flow of water is obstructed, the material shall be removed at the close of each working day.

At the conclusion of the construction operations all drainage structures shall be free from all dirt and debris. This work will not be paid for separately but shall be considered included in the unit cost of INLET FILTERS.

Method of Measurement: This work will be measured for payment as individual items and the unit of measurement will be each regardless of the size or type of inlet being protected.

Basis of Payment: This work will be paid for at the contract unit price per each for INLET FILTERS. *The unit price shall include all work and materials necessary to properly install the inlet filter and to remove and dispose of the used materials at the completion of the project. Maintenance requirements other than the loos material discussed above shall be included and paid for under the special provision for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS.*

DIVISION 300. SUBGRADES, SUBBASES, AND BASE COURSES

35101400 AGGREGATE BASE COURSE, TYPE B (LCDOT)

Effective: December 14, 2012
Revised: May 19, 2014

Description: This work shall consist of furnishing and placing aggregate base course material on a prepared subgrade or subbase.

Materials: The aggregate shall meet the requirements of Article 1004.04 of the "Standard Specifications" except that:

The aggregate material shall be limited to crushed gravel, crushed stone or crushed concrete.

The plasticity index requirements will be waived.

General: The work shall be performed according to Section 351 of the "Standard Specifications".

Method of Measurement: Aggregate Base Course, Type B will be measured for payment in tons according to Article 311.08(b) of the "Standard Specifications". The following excess moisture content correction will apply to Aggregate Base Course, Type B:

> When the unit of measurement for the aggregate is tons, the aggregate may be weighed in trucks or freight cars. The Contractor shall furnish or arrange for the use of scales of a type approved by the Engineer. If, at the time the Type B aggregate is weighed, it contains more than six percent of absorbed and free moisture by weight, a deduction for the amount of moisture in excess of this amount will be made in determining the pay quantity. Any aggregate that has been stockpiled will be weighed at the time it is incorporated into the work.

Basis of Payment: This work will be paid for at the contract unit price per ton for AGGREGATE BASE COURSE, TYPE B. *The unit price shall include all equipment, materials and labor required to furnish, weigh and place the base course.*

DIVISION 400. SURFACE COURSES, PAVEMENTS, REHABILITATION, AND SHOULDERS

ARTICLE 406.11 SURFACE TESTS (LCDOT)

Effective: April 1, 2008
Revised: May 19, 2014

The completed surface course will be tested for smoothness in the wheel paths with a 16 ft straightedge according to Article 406.11 of the "Standard Specifications" and the following:

The Contractor shall furnish the appropriate personnel and equipment required to perform the surface course testing according to Article 406.11 of the "Standard Specifications". The testing shall be performed to the satisfaction of the Engineer. The testing shall be performed at a time and date chosen by the Engineer, which may or may not be the day of paving. Traffic control and protection for the testing shall be included. The testing, including all required personnel and equipment, will be considered included in the unit bid prices for Hot-Mix Asphalt Surface Course of the Mix and, N value specified and provided at no additional cost to the Department. No additional compensation will be allowed for testing not performed on the day of paving.

At the Engineer's discretion the surface testing may include sections of the highway repaired with partial depth or full depth pavement patching and/or areas of pavement replacement.

406005XX LEVELING BINDER (HAND METHOD), NXX (LCDOT)

Effective: February 1, 2014
Revised: May 19, 2014

Description: This work shall consist of patching potholes and small damaged areas that occur in the milled pavement surface or the existing pavement surface with leveling binder (hand method) of the gyrations N value (gyrations) specified.

This work does not include patching pavement that has been damaged by the milling machine. See the special provision for HOT-MIX ASPHALT SURFACE REMOVAL.

Materials: The hot-mix asphalt materials shall meet the requirements of Section 1030 of the "Standard Specifications".

The Leveling Binder (Hand Method) will be designed and constructed according to Section 406 of the "Standard Specifications".

General: The work shall be performed according to Section 406 of the "Standard Specifications" and the following:

At the direction of the Engineer, holes and depressions in the pavement surface which exceed ¾" in depth shall be repaired by removal of loose and damaged material, and replaced with Leveling Binder (Hand Method). The leveling binder shall be compacted with a roller to the satisfaction of the Engineer. The material shall be compacted to produce a tight surface conforming to the adjacent area. Hand tamping may be permitted if approved by the Engineer.

Method of Measurement: Leveling Binder (Hand Method) will be measured for payment according to Article 406.13 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per ton for LEVELING BINDER (HAND METHOD) of the N value (gyrations) specified. *The unit price shall include all equipment, materials and labor required to perform the pothole patching.*

42400800 DETECTABLE WARNINGS (LCDOT)

Effective: February 13, 2007
Revised: May 14, 2015

Description: This work shall consist of furnishing and installing detectable warnings in concrete accessibility ramps.

Materials: The detectable warnings shall be cast iron panels of the sizes shown on the plans and shall meet the following material specification:

The detectable warning plate shall be constructed of gray iron meeting the requirements of Article 1006.14 of the "Standard Specifications" and ASTM A48, CLASS 30A, 30B or 35B; or cast ductile iron meeting the requirements of Article 1006.15 of the "Standard Specifications".

The coating system shall consist of a rust inhibiting epoxy primer and a finish coat.

The epoxy primer shall have the following properties:

Property	Test Method	Performance
Humidity	ASTM D1735	1000 Hours Minimum
Water Immersion	ASTM D870	250 Hours Minimum
Corrosion Resistance (Salt Spray)	ASTM B117	1000 Hours Minimum

Cold Rolled Steel Lab Panels

The finish coat shall be a powder coat and shall have the following properties:

Property	Test Method	Performance
Color	---	Federal Yellow
Corrosion Resistance (Salt Spray)	ASTM B117	1000 Hours Minimum

Cold Rolled Steel Lab Panels

General: The installation of detectable warnings shall meet the requirements of Article 424.09 of the "Standard Specifications".

Method of Measurement: This work will be measured for payment in place installed, in square feet. *The concrete area under the detectable warnings will be measured for payment as PORTLAND CEMENT CONCRETE SIDEWALK of the thickness specified, with no deductions made for the detectable warnings panels located within the ramp.*

Basis of Payment: This work will be paid for at the contract unit price per square foot of DETECTABLE WARNINGS. *The unit price shall include all equipment, materials and labor required to install the panels.*

440001XX HOT-MIX ASPHALT SURFACE REMOVAL
X4401198 HOT-MIX ASPHALT SURFACE REMOVAL VARIABLE DEPTH (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Description: This work shall consist of removing the existing hot-mix asphalt (HMA) surface to a depth specified on the plans with a self-propelled milling machine.

General: The work shall be performed according to Section 440 of the "Standard Specifications" and the following:

If the milling machine cuts too deep or tears out areas of the existing pavement which were not designated for removal, the holes shall be filled with leveling binder at the Contractor's expense.

Temporary ramps at butt joints shall be provided according to Article 406.08 of the "Standard Specifications". Temporary ramps will not be paid for separately but shall be included in the contract unit bid price for the hot-mix asphalt surface removal, of the depth specified.

Penalty – Failure by the Contractor to provide the temporary bituminous ramp shall be grounds for assessment of a penalty of **$100.00** *per lane, per day, per ramp location, for each calendar day thereafter that such facility remains incomplete, after written notification from the Engineer. Such penalty shall be deducted from monies due or to become due to the Contractor under the Contract.*

Method of Measurement: Hot-Mix Asphalt Surface Removal will be measured for payment in place and the area computed in square yards for each specified increment thickness of material removed.

Basis of Payment: This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL of the depth specified. *The unit price shall include all equipment, materials, and labor required to remove the HMA surface.*

44201XXX CLASS D PATCHES (LCDOT)

Effective: January 1, 2007
Revised: May 5, 2015

Description: This work shall consist of removing the existing pavement, excavating the subgrade if necessary, and placing new pavement - class D patches of the type specified, at locations designated by the Engineer.

Materials: The materials shall meet the requirements of Article 442.02 of the "Standard Specifications".

The Hot-Mix Asphalt Base Course will be designed and constructed according to Section 355 of the "Standard Specifications".

General: The work shall be performed according to Section 442 of the "Standard Specifications" and the following:

The pavement patching shall be limited to 10" of Hot-Mix Asphalt Base Course.

The quantities shown on the plans are estimated. The actual size and location of patches will be determined in the field by the Engineer after the milling is complete. The total patching for the project is estimated at 5% of the total existing surface area (ESA). The total patching area is apportioned as follows:

Patch Type (% of Total Patching)	Patch Size Limits	Estimate Calculation
Type I (10%)	*<5 yd^2*	*0.10 x 0.05 x ESA*
TYPE II (15%)	*5 yd^2 to < 15 yd^2*	*0.15 x 0.05 x ESA*
TYPE III (45%)	*15 yd^2 to < 25 yd^2*	*0.45 x 0.05 x ESA*
TYPE IV (30%)	*>25 yd^2*	*0.30 x 0.05 x ESA*

Method of Measurement: Class D Patches will be measured for payment in place, and the area computed in square yards.

Basis of Payment: CLASS D PATCHES will be paid for at the contract unit price per square yard for the depth and type specified. *The unit price shall include all equipment, materials and labor required to install the patches.*

DIVISION 600. INCIDENTAL CONSTRUCTION

60100XXX PIPE DRAINS (LCDOT)

Effective: January 1, 2007
Revised: March 3, 2016

Description: This work shall consist of constructing pipe drains of the required inside diameter.

Materials: The pipe drain materials shall meet the requirements of Article 601.02(a) of the "Standard Specifications" except that:

The pipes shall be limited to:

- *(5) Polyvinyl Chloride (PVC) pipe [1040.03(a)]*
- *(6) Corrugated Polyvinyl Chloride (PVC) pipe with a smooth interior [1040.03(d)]*
- *(8) Corrugated Polyethylene (PE) Pipe with a Smooth Interior [1040.04(a)]*

General: The work shall be performed according to Section 601 of the "Standard Specifications" and the following:

The work shall include constructing pipe drains to replace and/or relocate existing drainage lines (field tiles, sump pump outlets, etc…) encountered during construction.

The work shall also include providing a drainage outlet for traffic signal and/or interconnect handholes when in the opinion of the Engineer the additional drainage is required. The handhole drainage pipe shall extend from the handhole and outlet in a drainage ditch or drainage structure.

Pipe drains emptying into a drainage ditch shall be fitted with a concrete collar as shown on Lake County Division of Transportation standard LC6020 (section A-A). The rodent shields shown on LC6020 shall also be included.

Pipe drain connections to handholes and/or drainage structures shall be made as on Lake County Division of Transportation standard LC6020 (Detail C).

Method of Measurement: Contingency quantities of 4" and 6" pipe drain have been included in this contract so that if drainage lines are encountered, and/or handhole drainage is required by the Engineer, a unit price will have been established for this work. Pipe drains shall be measured in place, in feet, of actual pipe installed.

Basis of Payment: This work will be paid for at the contract unit price per foot for PIPE DRAINS of the size specified. *Payment will be based on the actual length of pipe installed without a change in unit price because of adjustment in plan quantities, and no extra compensation will be allowed for any delays, inconveniences or damage sustained by the Contractor in performing the work. The unit price shall include all materials, equipment and labor required to install the pipe drains, including concrete collars and rodent shields for ditch/side slope outlets; and drilling and grouting for connections to culverts, drainage structures and/or handholes.*

60108104 PIPE UNDERDRAINS, TYPE 1, 4" (LCDOT)

Effective: January 1, 2007
Revised: March 3, 2016

Description: This work shall consist of constructing pipe underdrains.

Materials: The pipe underdrain materials shall meet the requirements of Article 601.02(b) of the "Standard Specifications" except that:

The pipe shall be limited to:

- *(2) Perforated Polyvinyl Chloride (PVC) Pipe [1040.03(b)]*
- *(3) Perforated Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior [1040.03(c)]*
- *(5) Perforated Corrugated Polyethylene (PE) Pipe with a Smooth Interior [1040.04(a)]*

General: The work shall be performed according to Section 601 of the "Standard Specifications" and the following:

Rodent shields and square concrete collars (where required) as shown on LCDOT standard drawing LC6020, shall be included in PIPE UNDERDRAINS, TYPE 1, 4".

Method of Measurement: Pipe underdrains shall be measured in place, in feet, of actual pipe installed.

Basis of Payment: This work will be paid for at the contract unit price per foot for PIPE UNDERDRAINS, TYPE 1, 4". *The unit price shall include furnishing and placing all pipe, fittings, connecting pipes, rodent shields, bedding and concrete collars. The unit price shall also include all equipment, materials and labor required to furnish and construct the pipe underdrains.*

SECTION 602 CATCH BASIN, MANHOLE, INLET, DRAINAGE STRUCTURE, AND VALVE VAULT CONSTRUCTION, ADJUSTMENT, AND RECONSTRUCTION (LCDOT)

Effective: October 17, 2016

Description: This work shall consist of constructing storm sewers.

General: The work shall be performed according to Section 602 of the "Standard Specifications" and the following:

The cost of connecting existing storm sewer to proposed structures shall be included in the unit cost of the proposed structure. Additional pipe required to complete the connections will be paid for at the contract unit price for "STORM SEWER" of the type, size and class required

All frames with closed lids to be furnished as part of this contract, for the construction, adjustment or reconstruction of manholes, catch basins, inlets, valve vaults, or meter vaults shall have cast into the lid one of the following words: Lids for storm sewer structures shall bear the word STORM. Lids for sanitary sewer structures shall bear the word SANITARY. Lids for water system structures shall bear the word WATER. Additionally, open grates or lids shall include the wording DUMP NO WASTE, DRAINS TO WATERWAYS. This work shall be included in the unit cost of the structure being constructed, adjusted or reconstructed.

Basis of Payment: This work will be paid for according to Article 602.16 of the "Standard Specifications".

SECTION 604 FRAMES, GRATES, AND MEDIAN INLETS (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Description: This work shall be according to Section 604 of the "Standard Specifications" and the following:

This work shall consist of providing an environmental notice prominently cast into the above grade portion of the frame or grate/lid for all new or proposed drainage structures.

General: *The environmental notice shall be* "DUMP NO WASTE, DRAINS TO WATERWAYS" *or similar wording. The frames, lids and grates shall be according to Section 604 of the "Standard Specifications". The notice shall be cast into the Type 1 lids (open only), Type 8 grates, Type 11 grates, and Type 24 grates.*

Basis of Payment: This work will not be paid for separately, but shall be included in the unit cost of the drainage structure with frame and grate/lid specified.

6060XXXX COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.XX (ABUTTING EXISTING PAVEMENT) (LCDOT)

Effective: January 1, 2011
Revised: May 19, 2014

Description: This work shall consist of constructing type B-6.XX concrete curb and gutter abutting existing pavement.

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", IDOT Standard Drawing 606001 and the following:

One inch expansion joints shall be constructed at maximum intervals of 150 feet.

The end treatments as shown on the plans shall conform to the applicable special details. Where no end treatment is specified, curb and gutter endings shall be transitioned to a flat section over the final six feet

Prior to placing the curb and gutter the existing pavement shall be saw cut full depth to provide a clean edge to form the curb and gutter.

Method of Measurement: Combination Concrete Curb and Gutter, Type B-6.XX (Abutting Existing Pavement) 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". Transitions from one type of curb and gutter to another will be included in the measured quantities for the type having the largest cross sectional area of concrete.

Basis of Payment: This work will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, (ABUTTING EXISTING PAVEMENT) of the type specified. *The unit price shall include all equipment, labor and materials required to complete the construction of the curb and gutter. Any and all excavation, saw cutting, and material removal required to construct the curb and gutter shall be included in the unit price for the COMBINATION CONCRETE CURB AND GUTTER, (ABUTTING EXISTING PAVEMENT) of the type specified.*

DIVISION 700. WORK ZONE TRAFFIC CONTROL AND PROTECTION, SIGNING, AND PAVEMENT MARKING

SECTION 780 PAVEMENT STRIPING (LCDOT)

Effective: July 1, 2007
Revised: May 19, 2014

Description: This work shall consist of furnishing and applying thermoplastic pavement markings.

Materials: The materials shall be according to Article 780.02 of the "Standard Specifications" and the following:

Article 1095.01 for Thermoplastic Pavement Markings, paragraph (a) Ingredient Materials, subparagraph (4) Glass Beads, shall be modified by adding the following sentence:

> *The percentage of Glass Beads, Type A, shall be raised to 45% by decreasing the percentage of filler material specified in subparagraph (3) by 15%.*

General: This work shall be performed according to Section 780 of the "Standard Specifications" and the following:

The equipment used to apply thermoplastic pavement markings, under this contract, shall be limited to hand-operated equipment only. Truck-mounted equipment shall not be used.

Method of Measurement:

Lines will be measured for payment in place in feet. Double yellow lines will be measured as two separate lines.

Words and symbols shall conform to the sizes and dimensions specified in the Illinois Manual on Uniform Traffic Control Devices and IDOT standard 780001. They will be measured based on the total areas indicated in Table 1 of Section 780 of the "Standard Specifications", or as indicated on the plans.

Basis of Payment: This work will be paid for at the contract price per foot of applied THERMOPLASTIC PAVEMENT MARKING – LINE of the width specified; and/or per square foot for THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS.

78300200 RAISED REFLECTIVE PAVEMENT MARKER REMOVAL (LCDOT)

Effective: January 1, 2007
Revised: May 21, 2014

Description: This work shall consist of removing existing raised reflective pavement markers.

General: The work shall be performed according to Section 783 of the "Standard Specifications" and the following:

The work shall include the removal of the raised reflective pavement marker and patching the resulting hole with hot-mix asphalt leveling binder. The leveling binder shall be compacted and leveled to the same elevation as the surrounding existing pavement surface.

Basis of Payment: This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL. *The unit price shall include all equipment, materials and labor required to remove the existing raised reflective pavement marker and place the leveling binder.*

DIVISION 800. ELECTRICAL

85000200 MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION (LCDOT)

Effective: October 1, 2016
Revised:
LC850.01

Description: This work shall consist of maintaining an existing traffic signal installation that has been designated to remain in operation during construction.

General: This work will be performed according to Section 850 of the "Standard Specifications" and the following:

Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the contract or any portion thereof.

The Contractor shall have electricians on staff with IMSA Level II certification to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including cameras, emergency vehicle pre-emption equipment, traffic counters, detection equipment, traffic signal control equipment, terminal servers, media converters, transit signal priority equipment, flashing beacons, uninterruptable power supply (UPS) and batteries, handholes, lighted signs, radios, modems, master controllers, telephone service installations, communication equipment, communication cables, conduits to adjacent intersections, and other traffic signal equipment.

Video encoders, layer II and layer III switches will be maintained by the County's PASSAGE Consultant. The Contractor shall provide cabinet access to the PASSAGE Consultant as necessary to maintain communications on the PASSAGE network. Power supplies for encoders and switches shall be furnished by LCDOT. Any electrical work necessary to troubleshoot or replace power supplies shall be performed by the Contractor.

The Contractor will not be required to pay the energy charges for the operation of the existing traffic signal installation.

Maintenance will not include Automatic Traffic Enforcement equipment, e.g. red light enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while the traffic signal is on Contractor maintenance.

The Contractor shall check all controllers every month, which will include opening the cabinet door and visually inspecting all timing intervals, relays, detectors, and pre-

emption equipment to ensure that they are functioning properly. This item includes all portions of the emergency vehicle pre-emption system. The Contractor shall not clear equipment log buffers. The Contractor shall at all times maintain in stock a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part of the system fails 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, 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 Traffic Engineer. When the signal is flashing **RED** or when the power is out, the Contractor shall be required to place at least 1 STOP sign (R1-1-36) meeting MUTCD requirements at each approach of the intersection as a temporary means of regulating traffic according to the Repair Timetable in the project special provisions. At approaches where a yellow flashing indication is directed by the Traffic Engineer, STOP signs will not be required. The Contractor shall maintain a sufficient number of STOP signs for all the signals under the Contractor’s maintenance and have enough spare STOP signs in stock at all times to replace those which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24-hour telephone number for traffic signal maintenance. The Contractor, or his representative, shall be available on a 24-hour basis to respond to emergency calls by the Engineer, Traffic Engineer or other parties.

Traffic signal equipment which is lost or not returned to the County for any reason shall be replaced with new equipment meeting the requirements of the project special provisions and “Standard Specifications”, or in the absence of applicable specifications, meeting the requirements of the Traffic Engineer.

The Contractor shall respond to all emergency calls from the County or others according to the Repair Timetable 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 County. The Contractor may initiate 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 or Traffic Engineer cannot contact the Contractor's designated personnel, the Traffic Engineer shall have the County’s Traffic Signal Maintenance Contractor perform the required maintenance work. The County’s Traffic Signal Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within 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 County’s Traffic Signal

Maintenance Contractor to open the cabinet and review the operation of the existing traffic signal installation that has been transferred to the Contractor for maintenance.

The Traffic Engineer may require the Contractor to transfer maintenance of a signal back to the County's Traffic Signal Maintenance Contractor (or other electrical contractor) for a short time. This may become necessary due to other signal projects in the area, or if the County needs to perform work at the signal. Any costs incurred by the Contractor for maintenance transfer inspections of this type shall be included in cost of pay item MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

Any proposed activity in the vicinity of a highway-rail grade crossing shall 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.

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 Traffic Engineer.

Basis of Payment: This work shall be paid for at the Contract unit price each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately.

LAKE COUNTY PAY ITEMS

LC200051 REJECTED LOAD TRANSPORTATION (LCDOT)

Effective: February 18, 2013
Revised: May 13, 2015

Description: This work shall consist of transporting loads that have been rejected by CCDD facilities back to the project site, and stockpiling the material on the project site at a location specified by the Engineer.

General: The work shall be performed according to the applicable portions of the ARTICLE 202.03 REMOVAL AND DISPOSAL OF SURPLUS, UNSTABLE, AND UNSUITABLE MATERIALS AND ORGANIC WASTE special provision and the following:

This pay item is being provided to establish a unit price for transportation costs in the event that material is rejected at a CCDD facility and must be returned to the project site. Work shall include transporting the rejected material back to the project site, furnishing and installing plastic sheeting for the material to be placed on to prevent contact with the existing ground, placing the material in a pile or separated piles as directed by the Engineer, and covering the material to protect it from the weather. An excavator or loader may be required push the material into a tighter pile or spread the material on the plastic.

After further analysis by the Engineer of the rejected material, additional work effort will be necessary and will be paid separately according to Art. 109.04.

Method of Measurement: Payment shall be made per 20 cu yd load of material that is either en route to a CCDD facility, or at a CCDD facility and must be returned to the project site.

Basis of Payment: REJECTED LOAD TRANSPORTATION will be paid for at the contract unit price per load. A load shall consist of 20 cubic yards of rejected material. If the truck capacity is greater or less than 20 cubic yards, the load shall be adjusted proportionally. (A truck with a 12 cu yd capacity would counts as 12/20 or 0.60 loads).

Payment will be made for all trucks traveling from the CCDD site back to the project site, and for all trucks that were en route to the CCDD site and were turned back to the project site.

The unit price shall include all equipment, materials and labor required to transport and stockpile the rejected loads.

LC200501 MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS (LCDOT)

Effective: July 21, 2008
Revised: May 20, 2014

Description: This work shall consist of maintaining the temporary erosion control systems installed by the Contractor on the project. The maintenance shall be performed as directed by the Engineer, to control siltation at all times during the duration of the project.

General: The work shall be performed according to Section 280 of the "Standard Specifications" and the following:

The Maintenance of Temporary Erosion Control Systems shall include:

- Any repairs to the various temporary erosion control systems.
- The removal of entrapped sediment.
- Cleaning of any silt filter fabric.

When a temporary erosion control system is in need of maintenance, the Engineer will give the Contractor written notice. If the Contractor fails to maintain the temporary erosion control systems within 48 hours of receiving the written notice, the Engineer may proceed to maintain the systems as deemed necessary. The cost of this maintenance will be deducted from any compensation due, or which may become due the Contractor under this contract.

The sediment basin(s) shall be cleaned out (accumulated silt removed) any time the basin(s) become 75% filled. Any additional materials and work required by the Engineer will be measured and paid for as specified.

Removed sediment and other materials shall be disposed of according to Article 202.03 of the "Standard Specifications".

Method of Measurement: Work performed under this pay item shall be submitted by the Contractor to the Engineer on a force account basis according to Article 109.04(b) of the "Standard Specifications". The Engineer may use any, all or none of this pay item.

Basis of Payment: The quantity for this item is established by the Lake County Division of Transportation, based on the Engineer's Estimate and the following formula.

Contract Pay Item	**Percent of Engineer's Estimate for Pay Item**
Temporary Ditch Checks	*20%*
Perimeter Erosion Barrier	*100%*
Inlet Protection (Special)	*60%*
Inlet Filters	*60%*
Seeding *Sodding,* *Seeding (complete)* *Sodding (complete) **	*20%*

** if more than one of these items is included in the pay items then the sum is used. Temporary erosion control seeding is not included in the maintenance calculation.*

The quantity for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS *for this contract is* **113,766.00 units**.

The unit price for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS will be $1.00. Therefore, one unit will equal $1.00 of force account work performed according to Article 109.04 (b) of the "Standard Specifications".

LC600200 INSTALL SURVEY MONUMENTS (LCDOT)

Effective: January 1, 2007
Revised: September 4, 2014

Description: This work shall consist of installing survey monument(s) at the location(s) shown on the plans.

Materials: The Lake County Division of Transportation will supply the survey monument(s). The Contractor shall supply all the materials necessary to install the monument(s).

General: After the final surface course has been placed the Engineer will install four Mag™ nails for each point to be monumented. The Contractor shall use the following procedure to install the survey monuments.

1. At each monument location, the Engineer shall install four Mag™ nails in the surface. Each nail shall be one foot from the center and in a direct line with the opposite nail to be used for setting the new monument.

2. The Contractor shall use a hammer drill mounted with a 1¼" diameter masonry bit, to drill a hole 4½" deep, centered within the four Mag™ nails.

3. The Contractor shall use a drilling machine mounted with a four-inch diamond core bit, to cut a hole, ¾" deep, centered on the initial hole. The Contractor shall chisel out the hole to a level depth of ¾".

4. The Contractor shall remove debris from the hole and insure that it is dry before applying the epoxy adhesive.

5. The Contractor shall fill the hole with an epoxy adhesive. The adhesive shall be Mark-29.9, a two-component epoxy adhesive, manufactured by Poly-Carb, Inc., or approved equal. Equivalent adhesives shall meet the requirements of ASTM Specification C881, Type IV, Grade 3 for temperatures at or above 50°F or AASHTO Specification M237-90, Table 2 Type III for the two component, epoxy adhesive if the temperature is between 31°F and 50°F. Equivalent adhesives shall be approved by the Engineer before installation.

6. The Contractor shall place the new monument in the center of the hole. Set the monument so that the center of the legend top is ⅜" below the pavement surface. Aggregate can be used to adjust the monument elevation to obtain the correct depth.

7. The Contractor shall use the four Mag™ nails and a string line or ⅛" chalk line to center the monument in the hole to the nearest 0.005 foot. This can be accomplished by drawing the string across two diagonally opposite Mag™ nails.

8. Each monument shall be protected from traffic for a minimum of 90 minutes.

9. The Contractor shall notify the Engineer prior to installing the survey monuments. The Engineer shall be present during the installation process.

Basis of Payment: This work will be paid for at the contract unit price per each for INSTALL SURVEY MONUMENTS. *The unit price shall include all labor, equipment and materials required to complete the monument installation.*

LC78002X GROOVED THERMOPLASTIC PAVEMENT MARKINGS (LCDOT)

Effective: March 1, 2015
Revised: October 27, 2016

Description: This work shall consist of furnishing, grooving and applying inlaid thermoplastic pavement markings.

Materials: The materials shall be according to Article 780.02 of the "Standard Specifications" and the following:

Article 1095.01 for Thermoplastic Pavement Markings, paragraph (a) Ingredient Materials, subparagraph (4) Glass Beads, shall be modified by adding the following sentence:

The percentage of Glass Beads, Type A, shall be raised to 45% by decreasing the percentage of filler material specified in subparagraph (3) by 15% .

General: The Contractor shall supply the Engineer with a copy of the pavement marking material manufacturer's recommendations for constructing a groove.

Construction Requirements: The work shall be according to Section 780 of the "Standard Specifications" and the following:

Grooving for Thermoplastic Pavement Markings:

Equipment: Plane the grooved lines according to details in the plan and per manufacturer's recommendations. The grooving equipment shall be equipped with either a free-floating saw blade cutting head or a free-floating grinder cutting head configuration with diamond or carbide tipped cutters and shall produce an irregular textured surface.

Pavement Grooving Methods: The grooves for recessed pavement markings shall be constructed using the following methods:

(a) Wet Cutting Head Operation. When water is required or used to cool the cutting head, the groove shall be flushed with high pressure water immediately following the cut to avoid build up and hardening of slurry in the groove. The pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

(b) Dry Cutting Head Operation. When used on HMA pavements, the groove shall be vacuumed or cleaned by blasting with a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to remove loose aggregate, debris, and dust generated during the cutting operation. When used on PCC pavements, the groove shall be flushed with high pressure water or shot blasted to remove any PCC particles that may have become destabilized during the grooving process. If high pressure water is used, the pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

Pavement Grooving: Grooving shall not cause ravels, aggregate fractures, spalling or disturbance of the joints to the underlying surface of the pavement. Grooves shall be cut into the pavement prior to the application of the pavement marking material. Grooves shall be cut such that the width is 1 inch greater than the width of the pavement marking line as specified on the plans. Grooves for letters and symbols shall be cut in the shape of the symbol and such that all dimensions are 1 inch greater than the corresponding dimensions of the symbol.
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The position of the edge of the grooves shall be a minimum of 2 inches from the edge of all longitudinal joints. The Contractor shall achieve straight alignment with the grooving equipment.

The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 120 mils ± 10mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The Engineer may periodically check groove depths. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

At the start of grooving operations, a 50 ft test section shall be installed and depth measurements shall be made at 10 ft intervals within the test section. The individual depth measurements shall be within the allowable ranges according to this Special Provision. If it is determined the test section has not been grooved at the appropriate depth or texture, adjustments shall be made to the cutting head and another 50 ft test section shall be installed and checked. This process shall continue until the test section meets the requirements of this Special Provision.

For new HMA pavements, grooves shall not be installed within 14 days of the placement of the final course of pavement.

Final Cleaning:

Concrete – If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and pavement marking tape. Immediately prior to the application of the pavement marking material or primer sealer, the groove shall be cleaned with a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure. Use of the air blower does not decrease the amount of time required for the groove to dry.

New HMA - Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

Thermoplastic Pavement Marking Application: Apply the thermoplastic pavement markings according to Section 780 of the "Standard Specifications" and the following:

The equipment used to apply thermoplastic pavement markings, under this contract, shall be limited to hand-operated equipment only. Truck-mounted equipment shall not be used.

Method of Measurement: Lines will be measured for payment in place in feet. Double yellow lines will be measured as two separate lines.

Words and symbols shall conform to the sizes and dimensions specified in the Illinois Manual on Uniform Traffic Control Devices and IDOT standard 780001. They will be measured based on the total areas indicated in Table 1 of Section 780 of the "Standard Specifications", or as indicated on the plans.

Basis of Payment: This work will be paid for at the contract price per foot of applied GROOVED THERMOPLASTIC PAVEMENT MARKING – LINE of the width specified; and/or per square foot for GROOVED THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS. *The unit price shall include all equipment, materials and labor required to furnish, groove and install the thermoplastic pavement markings.*

IDOT DESIGN TEMPORARY PAY ITEMS

X0323388 TRAFFIC COUNTER

Description: This work shall consist of furnishing and installing a traffic counter system, including wireless detector equipment, at the intersection as shown on the plans.

Materials: The counter equipment shall be manufactured by Trafficware.

This pay item includes the following system components:

- NEMA Base Station Kit, Trafficware Part Number 50283-2100 (1 each)
- Panel Antenna Kit, Trafficware Part Number 50287-2000 (1 each)
- Valence Pod, Trafficware Part Number 50285-2000 (4 each)
- Detector Sealant Package, Trafficware Part Number 9000-2000 (4 each)
- Wireless Access Point, Trafficware Part Number 50284-2103 (1 each)
- Dual Applicator Tool from Trafficware, Part Number 8020-0002 (1 each)
- Ethernet patch cable (1 each)

System Components:

The NEMA Base Station Kit includes:

- Base Station
- 2.4 GHz Antenna
- Power Cord
- RPTNC to RPSMA RF Cable
- Valence Power.

The Access Point Kit includes:

- Access Point
- Mounting Hardware
- Coaxial Cable
- Connectors
- Omni-directional Antenna
- Lightning Suppression Equipment.

The Panel Antenna Kit includes:

- Directional Panel Antenna
- 6-foot Coaxial Cable
- Lightning Suppression Component
- Antenna Mounting Pipe
- Mounting Bracket.

The Valence Pod includes:

- Wireless Detector (Pod)
- Plastic Clamshell.

General: The Contractor shall be responsible for activating and testing the equipment and detectors prior to installation. The testing shall be performed at the Trafficware vendor's Chicago area office with LCDOT personnel in attendance. The Contractor shall contact the LCDOT Traffic Signal Engineer (ph 847-377-7474) at least five business days in advance to schedule the equipment testing. Prior to leaving the vendor's office, the Contractor shall label each component with its installation location and document the equipment serial numbers on a field installation drawing. All equipment to be installed at one location shall be boxed together with the intersection name prominently written on the outside.

Any equipment and materials included in the specifications that are not required for the equipment installation shall be placed in their original packaging and returned to the Lake County Division of Transportation (LCDOT) Traffic Signal Engineer by appointment, unless otherwise stated in these specifications.

Installation:

Base Station Kit Installation: The base station kit shall be installed according to the manufacturer's recommendations. The Detector Base Station wireless access point shall communicate with the wireless access point using the wireless mode unless otherwise shown on the plans and/or directed by the Engineer.

Prior to installing the detector base station kit components in the traffic signal controller cabinet, the Contractor shall confirm the proposed equipment location with the Engineer.

The Contractor shall install the power panel and required cables in the cabinet in a suitable location in a workmanlike manner.

Base Station Antenna Installation: Prior to installing the detector base station wireless antenna, the Contractor shall confirm the location and method of installation with the Engineer. The Contractor shall drill the cabinet housing as directed using the size drill bit recommended by the manufacturer. All burrs shall be removed and rough edges smoothed to prevent chafing of the wires. The Contractor shall install the external base station antenna securely to prevent tampering and shall seal the fixture with a weatherproof silicone caulk.

The Contractor shall furnish a three-foot minimum length Ethernet patch cable and connect the detector base station to the existing PASSAGE switch in the traffic signal cabinet or the adjacent communication cabinet as directed by the Engineer. The Contractor shall make all other cable connections required to place the detector base station and the counting system into proper operation. The Contractor shall reposition or reconfigure any existing equipment or cables within the cabinet as directed by the Engineer to allow for the installation of the detector base station. Any unused cables and harnesses included in the NEMA base station kit shall be coiled and stored in the cabinet for future use as directed by the Engineer.

Panel Antenna Kit Installation: The Contractor shall install the directional panel antenna using the clamp kit and pipe included in the directional antenna kit, on the mast arm or pole. The antenna shall be oriented to point toward the wireless detection units to which it is assigned to communicate with. The Contractor shall install the coaxial cable and lightning suppression components to achieve proper operations of the counting system, including a drip loop in the cable. The coaxial cable shall be plugged into the antenna and the wireless access point.

The mounting shall meet manufacturer's recommendations using approved banding materials and installation procedures as defined in the specifications. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of the wires.

Valence Pod Installation: The Contractor shall drill the roadway pavement using a 4.5 inch outside diameter drill bit capable of drilling a hole 2.75 inches deep. The Contractor shall provide a compatible percussion type drill for use during installation. The use of a pavement saw will not be allowed. The wireless sensor shall be installed in a hole, drilled 2.75" deep, in the pavement utilizing the clamshell plastic housing.

If the Contractor saw cuts the pavement, the Engineer shall specify a new location for the installation and the Contractor shall be responsible for patching the pavement according to the "Standard Specifications". No additional compensation will be allowed for the saw cut or the patching.

If water is used in the drilling application, the hole shall be completely dry prior to the detector unit installation to avoid any interaction with the epoxy sealant. If a pilot bit is used to start the drilling process, it must be removed prior to coring the full depth hole. The Contractor shall chisel out the bottom of the hole to provide a flat surface for the detector according to the manufacturer's recommended installation procedures.

The wireless sensor shall be oriented in the direction of traffic according to the product labeling. The Contractor shall record the serial number and associated location of each installed wireless sensor and shall allow the Engineer to verify orientation of the sensor prior to applying the epoxy sealant. The installation shall be secured and sealed according to manufacturer's recommendations.

Detector Sealant Package Installation: The Contractor shall utilize the dual applicator tool included in installation toolkit, and apply the epoxy sealant according to the manufacturer's recommendations. One package of sealant is sufficient to seal one wireless detector unit installation. The Contractor shall clean the dual applicator tool after each installation according to Trafficware's recommendations.

Wireless Access Point Installation: The wireless access point shall communicate with the detector base station using the wireless mode unless otherwise shown on the plans and/or directed by the Engineer. The mounting of the access point shall meet the manufacturer's recommendations using approved banding materials and installation procedures as defined in the specifications. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of the wires. The mounting shall be within four feet of the antenna location and/or as directed by Engineer. The access point shall be mounted with its front facing toward the traffic signal cabinet and the coaxial connectors facing down.

The included lightning suppression components shall be installed according to the manufacturer's recommendations using materials and installation procedures as defined in the specifications. The Contractor shall connect the six-foot coaxial cable included in the access point kit between antenna and access point. If field conditions require a longer cable, the Contractor shall install a 12-foot coaxial cable as directed by the Engineer. The 12-foot cable is included in the INSTALLATION TOOLKIT pay item. The coaxial cable shall be plugged into the antenna and the wireless access point.

The antenna installation shall be according to the plans. The antenna will be the omni-directional antenna included in the wireless access point kit or a directional panel antenna, as shown on the plans. The mounting hardware shall be according to manufacturer's recommendations using materials and installation procedures as described in the specifications. The antenna shall be banded to the mast arm or pole as indicated in the plans or as directed by the Engineer. Any unused cables, harnesses, mounting hardware, antennas, or peripheral equipment included in the access point kit shall be delivered to the LCDOT Traffic Signal Engineer by appointment.

Basis of Payment: This work shall be paid for at the unit price per each for TRAFFIC COUNTER. *The unit price shall include all equipment, materials, connectors and labor required to complete the traffic counter installation. The unit price shall also include furnishing and installing power supplies and peripherals, communications cables, the Ethernet cable, and included hardware, caulking the antenna fixture, and making all necessary connections to place the system into proper operation. No additional compensation will be made for a drill, drill bit, compressor, generator, supplemental drilling equipment, or repairing damaged drilling equipment.*

X0324380 REMOVE AND REPLACE LID

Description: This work shall consist of removing and disposing of an existing lid and replacing it with a new lid at the location shown on the plans and/or as directed by the Engineer.

General: The existing lid is incorrectly labeled “SANITARY” as required by the special provision for Section 602, CATCH BASIN, MANHOLE, INLET, DRAINAGE STRUCTURE, AND VALVE VAULT CONSTRUCTION, ADJUSTMENT, AND RECONSTRUCTION (LCDOT) included herein.

The existing lid shall be removed and disposed of according to Article 202.03 of the “Standard Specifications”

A new lid with a “STORM” label shall be installed.

Basis of Payment: This work will be paid for at the contract unit price per each for REMOVE AND REPLACE LID. *The unit price shall include all equipment, materials and labor required to remove and dispose of the existing lid and to furnish and install the new lid.*

X0325479 RELOCATE EXISTING ITS EQUIPMENT TYPE A (LCDOT)

Description: This work shall consist of the removal, storage, and relocation of existing ITS equipment, including associated power supplies, and patch cables, as shown on the plans. The equipment is to be relocated is located in the cabinet and mounted on the existing traffic signal mast arms.

General: The ITS equipment shall be removed and relocated as shown on the plans and/or as directed by the Traffic Engineer. Any damage sustained by the ITS equipment during the removal, storage, transport, and/or reinstallation operations shall be repaired or replaced in kind to the satisfaction of the Traffic Engineer at the Contractor’s expense.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

Basis of Payment: This item will be paid for at the Contract unit price each for RELOCATE EXISTING ITS EQIUPMENT TYPE A. *The unit price shall include all equipment, materials and labor required to disconnect the existing equipment; package and store it; transport it; install the equipment in the new locations; and in operation to the satisfaction of the Traffic Engineer. The unit price shall also include the all equipment, materials and labor required to disconnect the existing power supplies and all fiber optic, serial, and/or Ethernet jumper cables; package and store them; transport them; install the power supplies and all fiber optic, serial, and/or Ethernet jumper cables necessary for proper operation in the new location; and in operation to the satisfaction of the Traffic Engineer.*

X0327698 LED INTERNALLY ILLUMINATED STREET NAME SIGN (LCDOT)

Effective: October 1, 2016
Revised:
LC891.01

Description: This work shall consist of furnishing a street name sign which is internally illuminated with light emitting diodes, and installing the sign on a traffic signal mast arm or span wire.

Materials:

1. Description: The LEDs shall be white in color and utilize InGaN or UV thermally efficient technology. The LED Light Engines shall be designed to fit inside a standard fluorescent illuminated street sign housing in lieu of fluorescent lamps and ballasts. 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. The sign assembly shall consist of a four-, six-, or eight-foot aluminum housing. White translucent 3M DG^3 reflective sheeting sign faces with the street name applied in 3M/Scotchlite Series 1177 or current 3M equivalent transparent green shall be installed in hinged doors on the side of the sign for easy access to perform general cleaning and maintenance operations. Illumination shall occur with LED Light Engine as specified.

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

3. General Construction:

    a. The LED Light Engine shall be a single, self-contained device, for installation in an existing street sign housing. The power supply must be designed to fit and mounted on the inside wall at one end of the street sign housing. The LED Light Engine shall be mounted within the inner top portion of the housing and no components of the light source shall sit between the sign faces.

    b. 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.

4. Mechanical Construction:

    a. The sign shall be constructed using a weatherproof, aluminum housing consisting of an extruded aluminum top with a minimum thickness of .140” x 10 ¾” deep (including the drip edge). The extruded aluminum bottom is

.094” thick x 5 7/8” deep. The ends of the housing shall be cast aluminum with a minimum thickness of .250”. A six-foot sign shall be 72 5/8” long and 22 5/16” tall and not weigh more than 77 pounds. An eight-foot sign shall be 96 5/8” long and 22 5/16” tall and not weigh more than 92 pounds. All corners are continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal around the entire housing.

b. The door shall be constructed of extruded aluminum. Two corners are continuous TIG welded 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, .040” x 1 1/8” open stainless steel hinge. The door shall be held secure onto a 1” wide by 5/32” thick neoprene gasket by three (six total for two-way sign) quarter-turn fasteners to form a watertight seal between the door and the housing.

c. The sign face shall be constructed of .125” white translucent polycarbonate. The letters shall be 8” upper case and 6” lower case. The sign face legend background shall consist of 3M/Scotchlite Series 4090T or current equivalent 3M translucent DG^3 white VIP (Visual Impact Performance) diamond grade sheeting (ATSM Type 9) and 3M/Scotchlite Series 1177 or current 3M equivalent transparent green acrylic EC (electronic cut-able) film applied to the front of the sign face. The legend shall be framed by a white polycarbonate border. A logo symbol and/or name of the community may be included with approval of the Engineer.

d. All surfaces of the sign shall be etched and primed in accordance to industry standards before receiving appropriate color coats of industrial enamel. The sign frame shall be painted black with a durable powder coated process.

e. All fasteners and hardware shall be corrosion resistant stainless steel. No tools are required for routine maintenance.

f. All wiring shall be secured by insulated wire compression nuts.

g. 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 provide a weather tight seal.

h. Each sign shall be activated by a photocell mounted/installed on the side of the sign frame.

i. Brackets and Mounting: LED internally-illuminated street name signs will be factory drilled to accommodate mast arm two-point support assembly mounting brackets.

5. Electrical:

   a. Photocell shall be rated 105-305V, turn on at 1.5 fcs. with a 3-5 second delay. A manufacturer's warranty of six years shall be provided. Power consumption shall be no greater than 1 watt at 120V.

   b. 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%.

   c. 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%.

   d. The LED Light Engine shall cycle ON and OFF with a photocell as shown on the detail sheet and shall not exceed the following maximum power values:

4-Foot Sign	60 W
6-Foot Sign	90 W
8-Foot Sign	120 W

   The signs shall not be energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power source (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

6. Photometric Requirements:

   a. The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m^2.

   b. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.

   c. 12, 1.25 watt LED units shall be mounted on 1-inch x 22-inch metal cone printed circuit boards (MCPCB). The viewing angle shall be 120 degrees. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.

7. 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 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.

General: The sign shall be mounted on the mast arm three feet to the right of the furthest right signal head, as viewed by the approaching traffic.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

The Manufacturer/Vendor shall supply shop drawings of the fixtures, sign, sign message and mounting hardware for approval. All hardware used to install the sign shall be according to the manufacturer's recommendations.

Basis of Payment: This work will be paid for at the contract unit price per each for LED INTERNALLY ILLUMINATED STREET NAME SIGN, of the size specified. The unit price shall include *all associated equipment; hardware; photocell; wiring; connections; materials and labor required to furnish and install the sign, and place it in operation to the satisfaction of the Traffic Engineer*. The #14 2/C cable from the signal cabinet to the sign shall be paid for separately.

X1400102 OUTDOOR RATED NETWORK CABLE (LCDOT)

Effective: October 1, 2016
Revised:
LC873.02

Description: This work shall consist of furnishing and installing a network cable from the traffic signal cabinet to the associated field device as shown on the plans.

Materials: The outdoor rated network cable shall be a black Category 5e cable, meeting the TIA/EIA 568-B.2 telecommunication standards. The cable shall be composed of 24 AWG solid bare copper conductors, twisted pairs, polyolefin insulation, inner LLPE jacket, overall shield (100% coverage), 24 AWG stranded TC drain wire, industrial grade sunlight- and oil-resistant LLPE jacket. The cable shall be capable of performing from -40 ºF to 160 ºF.

Each end of the cable shall be terminated with an RJ-45 connector installed according to the TIA/EIA 568B standard. The drain wire at the cabinet end shall be terminated with a ring lug and attached to a suitable ground point.

General: The work shall be performed according to the applicable portions of Section 873 of the "Standard Specifications", and details as shown on the plans.

Basis of Payment: This work will be paid for at the contract unit price per foot for OUTDOOR RATED NETWORK CABLE. *The unit price shall include all equipment, materials and labor required to furnish and install the cable, and making all connections necessary for proper operation. The unit price shall also include furnishing and installing the RJ-45 connectors, ring terminals and grounding the cable.*

X4240800 DETECTABLE WARNINGS (SPECIAL) (LCDOT)

Effective: February 11, 2015
Revised: May 14, 2015

Description: This work shall consist of furnishing and installing detectable warnings in hot-mix asphalt accessibility ramps.

Materials: The detectable warnings shall be cast iron panels of the sizes shown on the plans and shall meet the following material specification:

The detectable warning plate shall be constructed of gray iron meeting the requirements of Article 1006.14 of the "Standard Specifications" and ASTM A48, CLASS 30A, 30B or 35B; or cast ductile iron meeting the requirements of Article 1006.15 of the "Standard Specifications".

The coating system shall consist of a rust inhibiting epoxy primer and a finish coat.

The epoxy primer shall have the following properties:

Property	Test Method	Performance
Humidity	ASTM D1735	1000 Hours Minimum
Water Immersion	ASTM D870	250 Hours Minimum
Corrosion Resistance (Salt Spray)	ASTM B117	1000 Hours Minimum

Cold Rolled Steel Lab Panels

The finish coat shall be a powder coat and shall have the following properties:

Property	Test Method	Performance
Color	---	Federal Yellow
Corrosion Resistance (Salt Spray)	ASTM B117	1000 Hours Minimum

Cold Rolled Steel Lab Panels

General: The installation of detectable warnings shall meet the requirements of Article 424.09 of the "Standard Specifications".

Prior to ordering/installing the detectable warnings the Contractor shall provide Engineer with documentation from the Manufacturer that the detectable warnings can be installed in HMA pavement.

Method of Measurement: This work will be measured for payment in place installed, in square feet. *The hot-mix asphalt area under the detectable warnings will be measured for payment as HOT-MIX ASPHALT SURFACE COURSE of the mix, design and thickness specified, with no deductions made for the detectable warnings panels located within the ramp.*

Basis of Payment: This work will be paid for at the contract unit price per square foot of DETECTABLE WARNINGS. *The unit price shall include all equipment, materials and labor required to install the panels.*

X6050500 REMOVE FRAMES AND GRATES, SPECIAL

Description: This work shall consist of removing and disposing of existing frames and grates at the locations shown on the plans and/or as directed by the Engineer.

General: The frames and grates to be removed are type 11, for use in B-6.12 curb and gutter. They are directly connected to existing storm sewer and culvert pipes. The Contractor shall carefully remove the existing frame and grate from the existing pipe to minimize any damage to the pipe. New type 24 frames and grates shall be installed on the pipe.

Basis of Payment: This work will be paid for at the contract unit price per each for REMOVE FRAMES AND GRATES, SPECIAL. *The unit price shall include all equipment, materials and labor required to remove and dispose of the existing frames and grates. The proposed frames and grates will be paid for separately as FRAMES AND GRATES, TYPE 24.*

X6700405 ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED) (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Description: This work shall consist of furnishing and maintaining in good condition, for the exclusive use of the Engineer, a weatherproof building at a location approved by the Engineer.

General: The field office shall meet the requirements of Article 670.02 of the "Standard Specifications", and the following:

- *The field office and the required equipment, supplies and services shall meet the approval of the Engineer.*
- *An electric pencil sharpener shall be included in the field office equipment.*
- *A hand sanitizer shall be included in the restroom facilities.*

Penalty: Failure by the Contractor to meet the specified occupancy date for any field office shall be grounds for assessment of a penalty of **$100** per day for each calendar day thereafter that such facility remains incomplete in any respect. Failure by the Contractor to equip, heat, cool, power, supply or clean the field office shall be grounds for assessment of a penalty of **$100** per day for each calendar day that the field office remains incomplete after receipt of written notification from the Engineer. Such penalty shall be deducted from monies due or to become due the Contractor under the Contract.

Basis of Payment: This item will be paid for at the contract unit price per calendar month for ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED). *The unit price shall include all supplies, equipment, materials and labor required to furnish and maintain the field office.*

X7810300 RECESSED REFLECTIVE PAVEMENT MARKER (LCDOT)

Effective: December 2, 2013
Revised: May 20, 2014

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

Materials: The reflective pavement marker lens shall be a 3M 190 series pavement marker or an approved equal. The reflector holder shall be a MarkerOne Series R100 reflector holder or an approved equal. The epoxy used shall be as recommended by the pavement marker manufacturer.

Installation: The spacing and orientation of the pavement markers shall be as shown on the plans and/or as directed by the Engineer.

A recessed groove shall be cut in the pavement 5.25” wide and 1.0” deep on a 15.5” diameter. A 3.5’ long groove shall taper from 0” (normal pavement) to 0.35” depth (full-recessed) before and after the groove. For additional detail see the LCDOT standard LC7805.

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

Inspection: A straight edge shall be placed across the recess to check that the top of the marker is below the pavement. The inspection and acceptance shall be according to Article 781.04 of the “Standard Specifications”.

Basis of Payment: This work will be paid for at the contract unit price each for RECESSED REFLECTIVE PAVEMENT MARKER. *The unit price shall include all costs for cutting the grooves into the pavement. The unit price shall also include all equipment, materials and labor required to install the recessed reflective pavement markers.*

X8100105 CONDUIT SPLICE

Description: This work shall consist of locating existing conduit and connecting (splicing) it to proposed conduit at locations shown on the plans or as directed by the Engineer.

General: This work shall be performed according to Section 810 of the "Standard Specifications" and the following:

The Contractor shall locate the existing conduit and make any necessary preparations required to connect the existing conduit to the proposed galvanized steel conduit.

Basis of Payment: This work will be paid for at the contract unit price each for CONDUIT SPLICE. *The unit price shall include all equipment, connections, materials and labor, necessary to locate the existing conduit; prepare the existing conduit for connection to the new galvanized steel conduit; and complete the connection. The proposed conduit will be measured and paid for according to UNDERGROUND CONDUIT, of the type and size shown on the plans.*

X8570226 FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL (LCDOT)

Effective: October 1, 2016
Revised:
LC857.01

Description: This work shall consist of furnishing and installing a full-actuated controller and type IV cabinet at locations shown on the plans and/or as designated by the Traffic Engineer.

General: This work shall be performed according to Sections 857 and 863 of the "Standard Specifications" and the following:

The controller shall conform to ITE ATC Standard 5.2b. The controller shall be the latest model available that is compatible with "*Centracs"* software, currently in use by LCDOT. The controller software compatibility requirements are based upon the controller's location in the communication system, and shall be as shown on the plans. The controller shall have the latest version of NTCIP software compatible with *"Centracs"* installed, and be equipped with an Ethernet port and a removable data key to save the controller database.

The cabinet shall be designed for NEMA TS2 Type 1 operation. The cabinet shall be pre-wired for a minimum of eight phases of vehicular; four phases of pedestrian; and four phases of overlap operation. Individual load switches shall be provided for each vehicle, pedestrian and right turn overlap phase.

- **Cabinets:** Controller cabinets shall have a footprint of approximately 44 inches wide by 26 inches deep. Type IV cabinets shall be 65 inches high, and shall provide a third shelf for mounting additional equipment. The cabinets shall be fabricated of 1/8" thick unpainted aluminum alloy 5052-H32. The surface shall be smooth and free of marks and scratches. All external hardware shall be stainless steel.
- **Cabinet Doors:** The cabinet shall include front and rear doors of NEMA type 3R construction with a cellular neoprene gasket that is rain tight. The door hinges shall be continuous 14-gauge stainless steel and shall be secured with ¼-20 stainless steel carriage bolts. The standard equipment shall include a three-point locking system that secures the door at the top, bottom and center. A corbin lock with two keys shall also be furnished. The door shall be equipped with a two-position doorstop, one at 90° and one at 120°.
- **Controller Harness:** The cabinet shall include a TS2 Type 2 “A” harness in addition to the TS2 Type 1 harness.
- **Surge Protection:** The cabinet shall have a 120VAC Single Phase Modular filter Plug-in type, supplied from an approved vendor.
- **BIU:** The BIU shall be secured by mechanical means.
- **Switch Guards:** All switches shall include switch guards.
- **Back Panel:** The back panel wiring shall be securely covered with a piece of Plexiglas. The Plexiglas shall have a minimum thickness 1/8-inch.
- **Heating:** The cabinet shall include one 200-watt, thermostatically-controlled, electric heater.
- **Lighting:** The cabinet shall include four LED light assemblies along the top and sides of the cabinet. The LED panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- **Plan & Wiring Diagrams:** The cabinet shall include a 12” x 15” moisture sealed container attached to door for plan and wiring diagrams.
- **Pull-out Drawer:** The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1½ inch 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 complete set of cabinet prints and manuals. This drawer shall support 50 pounds in weight when fully extended. The drawer shall open and close smoothly. The drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches wide.
- **Detector Racks:** The cabinet shall include a full-size rack fully wired to support one BIU, sixteen channels of vehicle detection, and four channels of EVP.
- **Field Wiring Labels:** All field wiring shall be labeled.
- **Field Wiring Termination:** Approved channel lugs shall be required for all filed wiring termination.
- **Power Supply:** The power supply shall include a nonconductive shield.
- **Circuit Breaker:** The signal circuit breaker shall be sized for the proposed load. The signal circuit breaker shall be rated a minimum of 30 amps.

- **Police Door:** The controller shall include wiring and termination for a plug-in manual phase advance switch.
- **Railroad Pre-Emption Test Switch:** A railroad pre-emption test switch shall be provided from an approved vendor.
- **Malfunction Management Unit (MMU):** The cabinet shall include a 16 Channel, LCD display, IP addressable (Ethernet) MMU. The MMU shall be connected to the Ethernet switch with a CAT 5e cable, and configured for proper communication.
- **Door Alarm:** The front and rear doors shall be equipped with switches wired to the traffic signal controller alarm 1 input for logging and reporting of a door open condition.

Basis of Payment: This item will be paid for at the Contract unit price per each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL. *The unit price shall include all equipment, materials and labor required to furnish and install the cabinet and controller, complete with necessary connections and equipment for proper operation.*

X8730571 ELECTRIC CABLE IN CONDUIT, COAXIAL (LCDOT)

Effective: October 1, 2016
Revised:
LC873.04

Description: This work shall consist of furnishing and installing a coaxial cable from the traffic signal cabinet to the associated field device as shown on the plans.

Materials: The coaxial cable shall be an RG-6/U Type low loss digital coaxial cable. The cable shall be a 75-ohm coaxial cable with 18 AWG solid 0.040” bare copper conductor, tinned copper braided shield (95% min), and black polyvinyl chloride jacket. The nominal outside diameter shall be 0.274 inches. The cable shall be rated suitable for outdoor use by the manufacturer.

General: The work shall be performed according to the applicable portions of Section 873 of the “Standard Specifications”, the details shown on the plans and the following:

Crimp-on BNC plug connectors with 75-ohm resistance shall be used at both the PTZ camera and traffic signal cabinet ends of the cable. The Contractor shall use a hand crimping tool recommended by the plug connector manufacturer to perform the termination.

No splices shall be allowed in the cable between the PTZ camera and the traffic signal cabinet.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, COAXIAL. *The unit price shall include all equipment, materials and labor required to furnish and install the cable making all electrical connections necessary for proper operation.*

X8730800 ELECTRICAL CABLE IN CONDUIT, VIDEO NO 20 4 C (LCDOT)

Effective: October 1, 2016
Revised:
LC873.03

Description: This work shall consist of furnishing and installing a security and alarm cable from the traffic signal cabinet to the associated field device as shown on the plans.

Materials: The video cable shall be a Riser-CMR, 4-20 AWG stranded bare copper conductors, insulated and shielded, with a gray PVC jacket and a ripcord meeting the camera manufacturer's recommendations. The conductor jackets shall be Black, Red, White, and Green.

General: The work shall be performed according to the applicable portions of Section 873 of the "Standard Specifications", the details shown on the plans and the following:

No splices shall be allowed in the cable between the PTZ camera and the traffic signal cabinet.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, VIDEO NO. 20 4 C. *The unit price shall include all equipment, materials and labor required to furnish and install the cable making all electrical connections necessary for proper operation.*

IDOT LOCAL ROADS TEMPORARY PAY ITEMS

XX000856 MAILBOX REMOVAL AND RELOCATION (LCDOT)

Effective: September 1, 2011
Revised: May 19, 2014

Description: This work shall consist of removing and relocating an existing mail box.

General: This work shall consist of removing and relocating an existing mail box to the proposed location shown on the plans. The new location of the mail box shall be approved by the Engineer.

The relocated mailbox shall be installed on a new 4" x 4" square or 4½" diameter round treated wood post. The new post shall be embedded no more than 24" into the ground. The resulting hole shall be backfilled with a suitable excavated material, approved by the Engineer.

The existing post shall be removed and disposed of according to the requirements of Article 202.03 of the "Standard Specifications". The hole for the existing post shall be backfilled and the area restored.

Method of Measurement: This work will be measured for payment as each mailbox to be relocated.

Basis of Payment: This work will be paid for at the contract unit price per each for MAILBOX REMOVAL AND RELOCATION. *The unit price shall include all equipment, materials and labor required to relocate the mailbox and to restore the existing location. No additional compensation will be allowed for any temporary relocation or for the removal and disposal of the existing post.*

XX003168 WORK ZONE PAVEMENT MARKING REMOVAL, SPECIAL

Description: This work shall consist of removing and disposing of pavement marking tape type III.

General: This work shall be performed according to Section 703 of the "Standard Specifications" and the following:

The method of removal shall be limited to hand tools. The Contractor shall not use torches and/or water blasters to remove the type III tape.

Method of Measurement: This work will be measured for payment according to Article 703.06 of the "Standard Specifications". Letters and symbols will be measured in place, as the length of 4" tape used to construct the individual letters and symbols.

Basis of Payment: This work will be paid for at the contract unit price per foot WORK ZONE PAVEMENT MARKING REMOVAL, SPECIAL. *The unit price shall include all equipment, materials and labor required to remove and dispose of the pavement marking tape type III.*

XX005723 VIDEO DETECTION SYSTEM COMPLETE INTERSECTION (LCDOT)

Effective: October 1, 2016
Revised:
LC801.03

Description: This work shall consist of furnishing and installing a system that monitors vehicles on a roadway via the processing of video 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.

Materials: The Video Detection System Complete Intersection shall be one of the following systems:

- Autoscope Encore, Terra TIP, Terra TAP
- Iteris RZ-4 WDR, Vantage Edge 2, Vantage TS2-IM, Edge Connect
- Autoscope AIS-IV, Terra RackVision,

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.

The Video Detection System Complete Intersection shall also include a LCD monitor in the traffic signal cabinet with BNC connector for video input. Surge protection and grounding shall be provided to protect the video detection cameras and components located in the traffic signal cabinet.

Installation: The video detection camera shall be installed on top of the luminaire arm. Occasionally overhead utility wires may obstruct the camera's field of view and prevent proper detector placement. In the event of an obstructed view, the camera shall be installed on a J-hook below the luminaire arm, instead of the normal mounting bracket.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

If the Video Detection System Complete Intersection will be connected to the Gigabit Ethernet network, it shall communicate over 10/100 Base T Ethernet to a Layer II (Datalink) Switch and/or a Layer III (Network) Switch. Layer II and Layer III switches shall be installed as shown on the plans.

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 Traffic Engineer.*
If required, the cost of the J-hook shall be included in the cost of VIDEO DETECTION SYSTEM COMPLETE INTERSECTION. If required, the LAYER II (DATALINK) SWITCH and/or the LAYER III (NETWORK) SWITCH will be paid for separately.

XX005940 REMOTE CONTROLLED VIDEO SYSTEM (LCDOT)

Effective: October 1, 2016
Revised:
LC801.02

General: This work shall consist of furnishing and installing an IP based remote-controlled video system at a location designated by the Traffic Engineer. The work shall include a color camera, dome assembly, all mounting hardware, connectors, cables, power injectors, and related equipment necessary to complete the installation according to the manufacturer's specifications.

Materials: The PTZ camera shall be one of the following approved models:

- Siqura HSD820H2-E
- AXIS Q6035-E
- Cohu 3720HD

The Contractor shall furnish the required number of power injectors for the camera make and model selected, including operation of the camera heater, as well as all required mounting hardware, connectors, patch cables, and power supplies.

Installation: The camera shall be installed as shown on the plans, either on the luminaire arm near the luminaire, or on the combination mast arm assembly pole, angled toward the center of the intersection using a mounting bracket compatible with the camera and procured from one of the approved camera manufacturers. When installed on the pole, the camera's dome shall be mounted at a minimum distance of 12 inches from the pole. When installed on the luminaire arm, the camera shall be installed with a 30-degree tilt-adjustable bracket. The camera and any external hardware and housing shall be installed with stainless steel straps.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

The Contractor shall contact the Traffic Engineer prior to installing the camera and associated wiring, to receive final approval on the camera location.

If the Remote Controlled Video System will be connected to the Gigabit Ethernet network, then a Layer II (Datalink) Switch and/or a Layer III (Network) Switch shall be required. Layer II and Layer III switches shall be installed as shown on the plans.

Basis of Payment: This item will be paid for at the contract unit price per each for REMOTE CONTROLLED VIDEO SYSTEM. *The unit price shall include all associated equipment, hardware, cables, materials and labor required to install the complete system in place and in operation to the satisfaction of the Traffic Engineer.*
The OUTDOOR RATED NETWORK cable from the traffic signal cabinet will be paid for separately. If required, the LAYER II (DATALINK) SWITCH and/or the LAYER III (NETWORK) SWITCH will be paid for separately.

XX006343 SEEDING (COMPLETE) (LCDOT)

Effective: January 1, 2007
Revised: June 20, 2016

Description: This work shall consist of furnishing, excavating, transporting and placing topsoil; preparing the seed bed and placing the seed; furnishing and placing erosion control blanket; and applying fertilizer nutrients to seeded areas as shown on the plans.

Materials: The materials shall meet the requirements of the following Articles of the "Standard Specifications":

- Topsoil – Article 1081.05(a)
- Seed Mixture – Article 250.07
- Seeds - Article1081.04
- Fertilizer - Article 1081.08
- Erosion Control Blanket – Article 1081.10

General: This work shall conform to Section 211 [topsoil], Section 250 [seeding] and Section 251 [erosion control blanket] of the "Standard Specifications" except as follows:

A 4" (nominal) thickness layer of topsoil shall be placed in all areas that will be seeded. The Contractor shall provide all topsoil from outside the right-of-way. The topsoil placement shall also comply with the "Illinois State Agency Historic Resources Preservation Act" (Public Act 86-707, effective January 1, 1990). Under this Act:

1. *The Contractor shall complete a Cultural and Natural Resources Review of Borrow Areas form for Borrow/Waste/Use Areas (BDE form 2289 3/14/16 included herein), along with all required attachments, and submit them to the Engineer at the earliest possible date.*

2. *The Engineer shall submit the Cultural and Natural Resources Review of Borrow Areas form to IDOT for review and approval. Any and all costs incurred, associated with said review and approval will be borne by the Contractor.*

3. *The Contractor shall not begin work on any Borrow/Use areas until the Cultural and Natural Resources Review of Borrow Areas form has been approved.*

The seed mixture shall be limited to Class 2A, as described in Article 250.07 of the "Standard Specifications". Seeding shall be performed in disturbed areas immediately after the work is completed.

Method of Measurement: Seeding (Complete) will be measured for payment in place and the area computed in square yards.

To assist the Contractor, the following material quantities are estimated to be required for the sodding area:

Topsoil	1608.0	*SQ YD*
Seeding, Class 2A	1608.0	*SQ YD*
Nitrogen Fertilizer Nutrient	32.0	*LBS*
Potassium Fertilizer Nutrient	32.0	*LBS*
Erosion Control Blanket	1608.0	*SQ YD*

Basis of Payment: This work will be paid for at the contract unit price per square yard for SEEDING (COMPLETE). *The unit price shall include all equipment, materials and labor required to furnish, place and establish seeded landscape area(s).*

XX006344 SODDING (COMPLETE) (LCDOT)

Effective: January 1, 2007
Revised: June 20, 2016

Description: This work shall consist of furnishing, excavating, transporting and placing topsoil, sod and fertilizer nutrients in areas shown on the plans.

Materials: The materials shall meet the requirements of the following Articles of the "Standard Specifications":

Topsoil – Article 1081.05(a)
Sod – Article 1081.03
Fertilizer - Article 1081.08

General: The work shall be performed according to Section 211 [topsoil] and Section 252 [sod] of the "Standard Specifications" and the following:

The topsoil placement shall also comply with the "Illinois State Agency Historic Resources Preservation Act" (Public Act 86-707, effective January 1, 1990). Under this Act:

1. *The Contractor shall complete a Cultural and Natural Resources Review of Borrow Areas form for Borrow/Waste/Use Areas (BDE form 2289 3/14/16 included herein), along with all required attachments, and submit them to the Engineer at the earliest possible date.*

2. *The Engineer shall submit the Cultural and Natural Resources Review of Borrow Areas form to IDOT for review and approval. Any and all costs incurred, associated with said review and approval will be borne by the Contractor.*

3. *The Contractor shall not begin work on any Borrow/Use areas until the Cultural and Natural Resources Review of Borrow Areas form has been approved.*

Method of Measurement: Sodding (Complete) will be measured for payment in place and the area computed in square yards.

To assist the Contractor, the following material quantities are estimated to be required for the sodding area:

Topsoil (4" nominal layer)	3197.9	*Sq. Yds.*
Sodding	3197.9	*Sq. Yds.*
Nitrogen Fertilizer Nutrient	64.0	*Lbs.*
Potassium Fertilizer Nutrient	64.0	*Lbs.*

Basis of Payment: This work will be paid for at the contract unit price per square yard for SODDING (COMPLETE). *The unit price shall include all equipment, materials and labor required to furnish, place and establish sodded landscape area(s).*

XX006655 LAYER II (DATALINK) SWITCH (LCDOT)

Effective: October 1, 2016
Revised:
LC801.01

Description: This work shall consist of furnishing and installing a Layer II Ethernet switch used to transmit data from one traffic signal cabinet to another traffic signal cabinet containing a Layer II switch or a Layer III (Network) switch.

Materials: The Layer II switch shall be a Cisco IE-2000-8TC-B Industrial Ethernet Switch with SFPs. The Layer II (Datalink) Switch shall be procured from the County's PASSAGE Consultant. The PASSAGE Consultant shall program this equipment for the appropriate location in the County's communication network.

General: The Layer II switch and its power supply shall be mounted to either a standard DIN rail or an equipment mounting channel in the cabinet. The power supply shall be hard-wired to the cabinet power, not plugged into one of the traffic signal cabinet power outlets.

Basis of Payment: This item will be paid for at the contract unit price each for LAYER II (DATALINK) SWITCH. *The unit price shall include all equipment, materials, and labor required to furnish and install the switch, including all necessary connectors, cables, fiber optic jumpers, hardware, software, and other peripheral equipment required to place the switch in operation to the satisfaction of the Traffic Engineer.*

XX006658 FLOCCULATION LOGS
XX006659 FLOCCULATION POWDER (LCDOT)

Effective: January 1, 2007
Revised: May 20, 2014

Description: This work shall consist of furnishing and applying Flocculation Logs and/or Flocculation Powder on the project site to minimize soil erosion, bind soil particles, remove suspended particles, and act as a construction aide.

Materials: The polymer shall be a water soluble anionic polyacrylamide (PAM). PAMs are manufactured in various forms to be used on specific soil types. Using the wrong PAM may result in performance failures. All site specific soils shall be tested by a Certified Professional in Erosion and Sediment Control (CPESC) each time a PAM is used. The following measures shall be adhered to:

a) Toxicity: All vendors and suppliers of PAM, PAM mix, or PAM blends, shall supply a written toxicity report, which verifies that the PAM, PAM mix or PAM blends, exhibits acceptable toxicity parameters which meet or exceed the requirements for the State and Federal Water Quality Standards. **Cationic formulations of PAM, PAM blends, polymers or Chitosan are not allowed.**

b) Performance: All vendors and suppliers of PAM, PAM mix or PAM blends shall supply written “site specific” testing results, demonstrating that a performance of 95% or greater of nephelometric turbidity units (NTU) or total suspended solids (TSS) is achieved from samples taken. In addition to soil testing, a CPESC shall design the installation plan for the polymers based on mix time and point of entry.

c) Safety: PAM shall be mixed and/or applied in according to all Occupational Safety and Health Administration (OSHA) material safety data sheet (MSDS) requirements and the manufacturer’s recommendations for the specified use.

Construction Requirements:

Flocculation Powder Dry Form Application: Dry form powder may be applied by hand spreader or mechanical spreader. Pre-mixing of dry form PAM into fertilizer, seed or other soil amendments is allowed when approved by the CPESC. The application method shall insure uniform coverage of the target area. Application rates typically range from 10 – 18 pounds per acre.

Flocculation Powder Hydraulically Applied Application: PAM is typically used as part of hydraulically applied slurry containing at least mulch and seed to quickly establish vegetation (temporary or permanent). When used without seed, PAM provides temporary erosion protection for cut & fill surfaces. Application rates typically range from 10 - 18 pounds per acre.

Flocculation Powder Installation constraints: Flocculation Powder shall be applied to non-frozen soil surfaces, only. An unfrozen soil surface is defined as any exposed soil surface free of snow, standing water, ice crystals, etc.., which is comprised of discrete soil particles unbound to one another by surface or intestacy ice. The temperature shall be at least 40° F, when hydraulically applying the Flocculation Powder

Flocculation Log Installation: A Flocculation Log is a semi-hydrated polyacrylamide block that is placed within storm water and/or construction site drainage to remove fine particles and reduce NTU values. Placement of Flocculation Logs should be as close to the source of particle suspension as possible. Ideal performance of the Flocculation Logs occurs when the product is used in conjunction with other best management practices (BMPs). Each Flocculation Log is specifically formulated for the soil and water chemistry at the site. Soil and water samples will determine which formula Flocculation Log is needed. The samples will also aid in determining proper placement.

Flocculation Products Maintenance plan: As with any other BMP, this system will need to have a maintenance plan in place. The Contractor shall perform the following items as directed by the Engineer:

1. Reapplication of Flocculation Powder to disturbed areas
2. Reapplication of Flocculation Powder to temporary areas
3. Replacement of Flocculation Logs
4. Adjustments to the Storm Water Pollution Prevention Plan

Method of Measurement: An estimated quantity of Flocculation Logs is included in the summary of quantities to establish a unit price only. A typical dry log weighs about 10 pounds and is approximately 5” x 4” x 12”. Payment will be made based on the actual number of logs used. An estimated quantity of Flocculation Powder is included in the summary of quantities to establish a unit price only. Payment will be made based on the actual quantity (weight) of powder applied.

Basis of Payment: FLOCCULATION LOGS will be paid for at the contract unit price per each. FLOCCULATION POWDER will be paid for at the contract unit price per pound. *Payment will be based on the actual number of logs and/or the actual weight of the powder used without a change in unit price because of adjustment in plan quantities, and no extra compensation will be allowed for any delays, inconveniences or damage sustained by the Contractor in performing the work. The unit price shall include all equipment, materials and labor required to furnish and apply flocculation logs and/or flocculation powder.*

XX006729 PERIMETER EROSION BARRIER, ROLLED EXCELSIOR (LCDOT)

Effective: May 5, 2015
Revised: October 17, 2016

Description: This work shall consist of constructing, removing and disposing of a rolled excelsior perimeter erosion barrier as part of the project's temporary erosion control system.

General: The work shall be performed according to Section 280 of the "Standard Specifications" and the following:

The perimeter erosion barrier shall be limited to rolled excelsior. The purpose is to prevent the eroded soil from being transported off the construction site by water runoff.

All removed materials shall be disposed of outside the right-of-way according to Article 202.03 of the "Standard Specifications".

Materials: The rolled excelsior shall consist of a polypropylene multi-filament woven netting sealed with metal clips or knotted at the ends. The filler material shall be 70% bark-free hardwood mulch ground at 1.5" and 30% bark-free hardwood mulch ground fine. The density shall be a minimum of 3.3 pounds per cubic foot based on a moisture content of 18% at manufacturing. The netting material shall retain 89% of its strength after 500 hours of exposure to sunlight. The maximum opening in the netting shall not exceed 1x1 mm in a tubular knit design.

Construction: The rolled excelsior logs shall be installed according to the manufacturer's specifications.

Maintenance: The Contractor shall inspect all rolled excelsior logs immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall immediately correct any deficiencies.

The Contractor shall also make a daily review of the location of rolled excelsior logs in areas where construction activities have altered the natural contour and drainage runoff to ensure that the rolled excelsior logs are properly located for effectiveness. Where deficiencies exist as determined by the Engineer, additional rolled excelsior logs shall be installed as directed by the Engineer.

Damaged or otherwise ineffective rolled excelsior logs shall be repaired or replaced promptly.

Sediment deposits shall either be removed when the deposit reaches half the height of the rolled excelsior log or a second rolled excelsior log shall be installed as directed by the Engineer.

The rolled excelsior log shall remain in place until the Engineer directs it to be removed. After the rolled excelsior log removal, the Contractor shall remove and dispose of any excess sediment accumulations, dress the area to give it a pleasing appearance, and cover with vegetation all bare areas according to the contract requirements.

The removed rolled excelsior logs may be used at other locations provided the netting and other material requirements continue to be met to the satisfaction of the Engineer.

During the construction operation when any loose material is deposited in the flow line of ditches, gutters or drainage structures so the natural flow of water is obstructed, the material shall be removed at the close of each working day.

At the conclusion of the construction operations all drainage structures shall be free from all dirt and debris. This work will not be paid for separately but shall be considered included in the unit cost of PERIMETER EROSION BARRIER, ROLLED EXCELSIOR.

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

Basis of Payment: This work will be paid for at the contract unit price per foot for PERIMETER EROSION BARRIER, ROLLED EXCELSIOR. *The unit price shall include all work and materials necessary to properly install the barrier and to remove and dispose of the used materials at the completion of the project. Maintenance requirements shall be included and paid for under the special provision for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS.*

XX006898 STAMPED COLORED PORTLAND CEMENT CONCRETE

Description: This work shall consist of constructing a concrete section with an imprinted stamped pattern, adjacent to proposed concrete sidewalk and proposed curb and gutter. The section shall be 5" thick, integrally colored, with an imprinted pattern, surface hardener, and cure/sealer.

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

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

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

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

The Contractor shall furnish the materials and construct the median surface using the Textured Pattern, Integral Color and Color Hardener from the manufacturers listed below. The final pattern and color selections will be approved by Engineer.

Manufacturer	Textured Pattern	Integral Color	Color Hardener
Bomanite Corporation P.O. Box 599 Madera, CA 93639-0599 Phone: (559) 673-2411 Fax: (559) 673-8246	Canyon Stone	Sienna (IC)	Caramel (CH)
Scofield Systems L.M. Scofield Company 1652 E. Main Street Suite 200 St. Charles, IL 60174 Phone: (630) 377-5959 Fax: (630) 377-5952	Canyon Stone	Barcelona Brown (1017)	Pecan Tan (A-55)
Brickform Solomon Colors, Inc. 11061 Jersey Boulevard Rancho Cucamonga, CA 91730 Phone: (800) 483-9628 Fax: (217) 744-2605	Brickform Random Stone	Mesa Buff (LC-2310)	Sun Buff (1090)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Method of Measurement: Stamped colored portland cement concrete will be measured for payment in place and the area computed in square feet.

Basis of Payment: This work will be paid for at the contract unit price per square foot for STAMPED COLORED PORTLAND CEMENT CONCRETE. *The unit price shall include all labor, equipment and materials necessary to construct the stamped concrete section.*

XX007017 TERMINATE FIBER IN CABINET (LCDOT)

Effective: October 1, 2016
Revised:
LC871.03

Description: This work shall consist of terminating existing or new fibers in a field cabinet, inside a building, as shown on the plans and/or as directed by the Traffic Engineer.

General: This pay item shall include splices between existing fiber optic cables and any splices shown on the plans as a bid item.

All multimode connectors shall be ST compatible, with ceramic ferrules. Singlemode fiber terminations shall utilize pre-fabricated, factory-terminated (SC compatible with ceramic ferrules) pigtails fusion spliced to bare fibers. The splicing of pigtails for singlemode fibers is included in the cost of TERMINATE FIBER IN CABINET. The pre-fabricated pigtails shall have all of their fibers color coded to match the singlemode fibers in the fiber optic cable. All fusion splices shall be secured on aluminum splice trays capable of accommodating the required number of fusion splices, including necessary splice holders and a compatible splice tray cover. The tray dimensions shall not exceed 7.5” x 4.1” x 0.45” and shall be mounted within the enclosure using suitable hardware that allows removal for maintenance purposes without the use of tools. All individual splice trays shall be labelled. Splice trays and connector bulkheads shall be included in the cost of TERMINATE FIBER IN CABINET. Connector bulkheads shall be the proper type for the fiber enclosure at the location, and shall be properly secured to the enclosure.

The quality of all fiber splices shall be verified by testing and documentation according to Article 801.13(d) of the “Standard Specifications,” to the satisfaction of the Traffic Engineer.

Basis of Payment: This work shall be paid for at the contract unit price per each for TERMINATE FIBER IN CABINET. *The unit price shall include all equipment; materials; connectors; pigtails; splice trays; bulkheads; testing and documentation; and labor required to terminating each required multimode or singlemode fiber.* Terminations involving new fiber optic cable installed under this contract, including any terminations shown on the plans as an included item, shall be included in the unit cost of the applicable FIBER OPTIC CABLE of the type, size, and number of fibers specified.

XX007952 TERMINAL SERVER (LCDOT)

Effective: October 1, 2016
Revised:
LC801.09

Description: This work shall consist of furnishing and installing a terminal server used to transmit signal controller data from one or more traffic signal controllers onto the Lake County PASSAGE Gigabit Ethernet network. The Contractor shall furnish and install the required hardware at the location shown on the plans and/or as directed by the Traffic Engineer.

General: The terminal server shall be a Digi PortServer TS Hcc 4 four-port serial-to-Ethernet device. The terminal server shall be properly configured for its location within the Lake County PASSAGE Network, and for proper communication with the signal equipment being connected to it. LCDOT will provide configuration parameters, including IP addresses and serial drop addresses, to the Contractor following the preconstruction meeting.

Basis of Payment: This item will be paid for at the contract unit price per each for TERMINAL SERVER. *The unit price shall include all equipment, materials and labor required to furnish, install, configure, and place into operation the terminal server to the satisfaction of the Traffic Engineer.*

XX008251 SPLICE FIBER IN CABINET (LCDOT)

Effective: October 1, 2016
Revised:
LC871.02

Description: This work shall consist of fusion splicing singlemode fibers in a field cabinet, inside a building, as shown on the plans and/or as directed by the Traffic Engineer.

General: This pay item shall include splices between existing fiber optic cables and any splices shown on the plans as a bid item.

Splices shall be secured in fiber optic splice trays within fiber optic distribution enclosures. All fusion splices shall be secured on aluminum splice trays capable of accommodating the required number of fusion splices, including necessary splice holders and a compatible splice tray cover. The tray dimensions shall not exceed 7.5" x 4.1" x 0.45" and shall be mounted within the enclosure using suitable hardware that allows removal for maintenance purposes without the use of tools. All individual splice trays shall be labelled. Splice trays shall be included in the unit cost of SPLICE FIBER IN CABINET.

The quality of all fiber splices shall be verified by testing and documentation according to Article 801.13(d) of the "Standard Specifications," to the satisfaction of the Traffic Engineer.

All optical fibers shall be spliced to provide continuous runs. Splices shall only be allowed in equipment cabinets, in buildings, as shown on the plans and/or as directed by the Traffic Engineer.

All splices shall be made using a fusion splicer that automatically positions the fibers using a system of light injection and detection. The Contractor shall provide all equipment and consumable supplies.

Basis of Payment: This work shall be paid for at the contract unit price per each for SPLICE FIBER IN CABINET. *The unit price shall include all equipment; materials; fiber optic splice trays; testing and documentation; and labor required to fusion splice singlemode fiber optic cable.* Splices involving new fiber optic cable installed under this contract, and any splices shown on the plans as an included item, shall be included in the unit cost of the applicable FIBER OPTIC CABLE of the type, size, and number of fibers specified.

XX206400 MAILBOX POST (LCDOT)

Effective: January 1, 2007
Revised: May 19, 2014

Description: This work shall consist of removing and replacing existing broken and/or rotted mailbox post(s) at locations shown on the plans and/or as directed by the Engineer.

General: The Engineer will determine which mailbox posts need to be replaced. This work shall consist of:

- Removing the existing mailbox from the broken and/or rotted post.
- Removing the existing post.
- Installing a new 4" x 4" square or 4½" diameter round treated wood post
- Mounting the existing mailbox on the new post.

The new post shall be embedded no more than 24" into the ground. The resulting hole shall be backfilled with suitable excavated material approved by the Engineer.

The old post shall be disposed of according to the requirements of Article 202.03 of the "Standard Specifications".

Method of Measurement: This work will be measured for payment as one each for each new mailbox post installed.

Basis of Payment: This work will be paid for at the contract unit price per each for MAILBOX POST. *The unit price shall include the removal and disposal of the existing post, backfilling the post hole(s) and all equipment, materials and labor required to install the new mailbox post. No additional compensation will be allowed for any temporary relocation of the mailbox.*

IDOT SPECIAL PAY ITEMS FOR ROAD AND BRIDGE CONSTRUCTION

Z0018700 DRAINAGE STRUCTURE TO BE REMOVED

Description: This work shall consist of removing existing manholes, catch basins, and inlets at locations shown on the plans and/or as directed by the Engineer.

General: The work shall be performed according to Section 605 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per each for DRAINAGE STRUCTURE TO BE REMOVED. *The unit price shall include all equipment, materials and labor required to remove and dispose of the existing drainage structure.*

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Traffic Control Plan (L.C.-T- Section 700)
Effective 06/01/2012

Traffic Control shall be performed according to the applicable sections of the “Standard Specifications”, the “Supplemental Specifications”, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways”, the “Quality Standard for Work Zone Traffic Control Devices”, any special details and Highway Standards as shown on the plans and the special provisions contained herein.

Special attention is called to Articles 105.03(b), 105.05, and 107.09, and to Sections 701, 704, and 782 of the “Standard Specifications”, and to the following Highway Standards, Details, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the Engineer at least 72 hours in advance of beginning work.

STANDARDS

701101-05	701106-02	701421-07	701422-08
701426-08	701602-07	701801-05	701901-04

DETAILS

LC7000	LC7003	LC7004	LC7200
LC7201	LC7203		

RECURRING SPECIAL PROVISIONS

LRS3 Special Provision for Work Zone Traffic Control Surveillance

DETOURS

Detours and road closures on county maintained roads within Lake County, Illinois shall be according to the applicable Articles and Sections of the “Standard Specifications”, the “Supplemental Specifications”, the “Illinois Manual on Uniform Traffic Control Devices for Streets and Highways”, the Lake County Division of Transportation’s Detour Procedures and Guidelines, any special details and Highway Standards as shown on the Detour Plan and the Special Provisions contained herein. The LCDOT Detour Procedures and Guidelines are available from the LCDOT, Traffic Engineering Section upon request.

Traffic Control and Protection (Special) (L.C.-T- Section 700)
Effective 06/01/2012

The Traffic Control and Protection (Special) shall meet the requirements of Division 700. Work Zone Traffic Control and Protection, Signing, and Pavement Marking of the "Standard Specifications" except as follows:

Article 701.01 Description shall be replaced with the following:

> **701.01 Description**. This item of work shall consist of furnishing, installing, maintaining, replacing, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic during the construction or maintenance of this improvement.

Article 701.02 Materials shall be modified by adding the following paragraph:

> Traffic control devices include signs and their supports, signals, pavement markings, barricades and their approved weights, channeling devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

Article 701.04 General shall be modified by adding the following as the first paragraph:

> Traffic Control and Protection (Special) shall be provided as shown on the plans and applicable Highway Standards; as required in these special provisions and the applicable sections of the "Standard Specifications"; and/or as directed by the Engineer.

Article 701.04 General shall be modified by adding the following to the fourth paragraph:

> The Contractor shall dispatch men, materials, and equipment to correct any such deficiencies. The Contractor shall respond to any call from LCDOT concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two hours from the time of notification.

Article 701.10 Surveillance shall be replaced with the following:

The Contractor is required to conduct routine inspections of the work site at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the MUTCD, the Traffic Control Standards, the IDOT Quality Standard For Work Zone Traffic Control Devices, or will no longer present a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

The Contractor shall ensure that all the traffic control devices he/she installs are operational, functional and effective 24 hours a day, seven days a week, including holidays.

Article 701.13 Flaggers (a) shall be modified by revising the second paragraph of subparagraph (a) by adding the following:

The Engineer will determine when a side road or entrance shall be closed to traffic. The flagger shall be positioned as shown on the plans or as directed by the Engineer.

Article 701.14 Signs (a) Road Construction Ahead Signs shall be modified by changing the following in the paragraph:

"ROAD WORK AHEAD" signs shall be required in lieu of "ROAD CONSTRUCTION AHEAD" SIGNS

Article 701.14 Signs (b) Work Zone Speed Limit Signs shall be revised to read:

(b) Work Zone Speed Limit Signs. The Lake County Division of Transportation will specify whether a project meets the criteria for a Work Zone Speed Limit. When specified, the work zone speed limit signs shall be installed as shown on the LCDOT Work Zone Speed Limit Signing Diagram, LC7203, at a maximum of 20 feet lateral distance of the locations shown on the plans. Failure to install and maintain the required amount of signs at the proper sign spacing shall result in an immediate traffic control deficiency.

All permanent "SPEED LIMIT" signs located within the work zone shall be removed or covered. If the speed limit sign is to be covered, it shall be done in a manner that no part of the legend shall be visible in any lighting condition. This work shall be completed by the Contractor after the method of covering the speed limit signs has been approved by the Engineer.

The work zone speed limit signs and the end work zone speed limit signs in advance of and at the end of the lane closure(s) shall be used for the duration of the closure(s).

The work zone speed limit signs will be removed when roadway conditions return to normal or when the construction project is suspended for more than 30 days.

Article 701.14 Signs shall be modified by adding the following section (c),

(c) Temporary Construction Information Signs. When indicated in the traffic control plan or as directed by the Engineer the Contractor shall furnish, install, maintain, relocate, and remove for various stages of construction Temporary Construction Information Signs.

Temporary Construction Information Signs may include:

Driveway	White Legend on Green Background
Caution – New Lanes Open	Black Legend on Orange Background

The signs, as shown on Lake County Detail LC7201, shall be installed according to the traffic control plan and/or as directed by the Engineer.

Article 701.15 Traffic Control Devices (b) Type I, II and III Barricades shall be deleted and replaced with the following:

Type II barricades shall be used at all locations that call for Type I, or Type II barricades.

Type II barricades are used to channelize traffic; to delineate unattended obstacles, patches, excavations, drop-offs, and other hazards; and as check barricades

Any drop off greater than three inches, but less than six inches, located within eight feet of the pavement edge shall be protected by Type II barricades equipped with mono-directional steady burn lights. The barricades shall be placed at a spacing of 100 feet center to center. For any drop off within eight feet of the pavement edge that exceeds six inches, the Type II barricades equipped with mono-directional steady burn lights shall be placed at a spacing of 50 feet center to center. Barricades that must be placed in excavated areas shall have leg extensions installed so that the top of the barricade is in compliance with the height requirements of IDOT Standard 701901.

Check barricades shall be placed in work areas perpendicular to traffic every 1,000 feet, at one per lane and one per shoulder, to prevent motorists from using work areas as a traveled way. Two additional check barricades shall be placed in advance of each patch excavation or any other hazard in the work area. The first will be placed at the edge of the open traffic lane and the second centered on the closed lane. Check barricades shall be Type II and equipped with flashing amber light.

Type III barricades are used to close traffic lanes and to close roads.

Article 701.15 Traffic Control Devices (e) Direction Indicator Barricades shall be modified by adding the following paragraph.

The direction indicator barricades shall meet the requirements for Type II barricades as stated in this special provision. The top panel, which faces traffic, shall be as shown in IDOT Highway Standard 701901. The top panel, facing away from traffic shall have a 12 inch x 24 inch orange and white diagonal panel. The bottom panels shall be eight inches x 24 inches with orange and white diagonal sheeting, as shown in LCDOT's Special Detail LC7200.

Article 701.15 Traffic Control Devices (j) Portable Changeable Message Signs shall be modified by adding the following paragraphs:

The PCMS shall be compatible and fully functional with the LCDOT's Transportation Management Center PASSAGE PCMS Control Software. A list of approved PCMS's manufacturers and traffic control vendors is available upon request from the LCDOT. The PCMS shall be tested and approved by the LCDOT and can be sufficiently controlled by the LCDOT NTCIP compliant software. If the PCMS has not been tested or approved by either the Illinois State Toll Highway Authority or the LCDOT then the PCMS will need to be tested and certified by the Delcan Corporation at the Contractor's expense.

Lake County Division of Transportation (PASSAGE)
Software Developer:
Delcan
650 East Algonquin Road, Suite 101
Schaumburg, IL 60173

In case of a Traffic Incident Management (TIM) event or other County/State declared Emergency Management event, the use of the PCMS may be pre-empted from the Contractor's use by the Lake County Transportation Management Center for the duration of the incident. If the PCMS must be moved from the limits of the work site to an offsite location to better facilitate

the use of the PCMS during the incident, the Contractor will be compensated for the labor and equipment to move the PCMS to the designated location and back, according to Article 109.04 (b) of the “Standard Specifications”. In order to facilitate the movement of the PCMS in a timely manner, the LCDOT may use County Forces to move the PCMS to the designated location and/or back, at no additional cost to the Contractor.

When the sign(s) are displaying messages, they shall be considered a traffic control device. At all other times when no message is displayed, they shall be considered equipment.

Basis of Payment. Changeable message signs will be paid for at the contract unit price per calendar month for each sign as CHANGEABLE MESSAGE SIGN, as stated in Article 701.20 of this special provision.

Article 701.17 Specific Construction Operations (c) Surface Courses and Pavement (1) Prime Coat shall be replaced by the following:

(1) Prime Coat. "FRESH OIL" signs (W21-2) shall be used when the prime coat is applied to pavement that is open to traffic. The signs shall remain in place until tracking of the prime ceases. These signs shall be erected a minimum of 500 feet preceding the start of the prime and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 of the “Standard Specifications” as modified by this special provision (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency deduction. All signs shall have an amber flashing light attached.

Article 701.17 Specific Procedures (c) Surface Courses and Pavement (2) Cold Milling shall be replaced by the following:

(2) Cold Milling. "ROUGH GROOVED SURFACE" signs (W8-I107) shall be used when the road has been cold milled and is open to traffic. The signs shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 feet preceding the start of the milled pavement and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency deduction. All signs shall have an amber flashing light attached.

Article 701.17 Specific Procedures (c) Surface Course and Pavement shall be modified by adding the following paragraph:

(6) Area Reflective Crack Control Treatment Fabric. "SLIPPERY WHEN WET" signs (W8-5) shall be used when crack control fabric is applied to pavement that is open to traffic. These signs shall remain in place until the binder course is laid. The signs shall be erected a minimum of 500 feet preceding the start of the crack control treatment and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 of the “Standard Specifications” as modified by this special provision (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency deduction. All signs shall have an amber flashing light attached.

Article 701.18 Highway Standards Application (b) Standard 701316 and 701321 (2) g. Detector Loops, shall be replaced with the following:

g. Detection. Microwave Vehicle Sensors shall be installed as directed by the Engineer. The LCDOT shall approve the proposed microwave vehicle sensor before the Contractor may furnish or install it. The Contractor shall install, wire and adjust the alignment of the sensor according to the manufacturer’s recommendations and requirements. The Engineer shall approve the installation. An alternate method of detection may be used if it has been demonstrated and approved by the Department.

The microwave vehicle sensor shall meet the following requirements:

- Detection Range: Adjustable to 60 feet
- Detection Angle: Adjustable, horizontal and vertical
- Detection Pattern: 16 degree beam width minimum [at 50 feet the pattern shall be approximately 15.5 feet wide]
- Mounting: Heavy-duty bracket, predrilled and slotted for pole mounting
- LED Indicator Light: For detection verification

Article 701.18 Highway Standards Application (j) Urban Traffic Control, Standards 701501, 701502, 701601, 701602, 701606, 701701, and 701801 (1) General, shall be modified by adding the following paragraphs:

Whenever a lane is closed to traffic using IDOT standard 701601, 701606, or 701701, the pavement width transition sign (W4-2R or W4-2L) shall be used in lieu of the "WORKERS" sign (W21-1 or W21-1a)

Whenever any vehicle, equipment, workers or their activities infringe on the shoulder or within 15 feet of the traveled way, and the traveled way remains unobstructed, then the applicable Traffic Control Standard shall be 701006, 701011, 701101, or 701701. The "SHOULDER WORK AHEAD" sign (W21-5(0)-48) shall be used in lieu of the "WORKERS" sign (W21-1 or W-21-1a).

Article 701.18 Highway Standards Application shall be modified by adding the following section (l):

(l) IDOT standard 701331. When IDOT standard 701331 is specified on two-lane, two-way roadways, a “LANE SHIFT AHEAD” sign shall be added 500 feet in advance of W1-3 or W1-4 sign. The Road Work sign (W20-1) shall be extended to a total of 1500’ from the start of the lane shift.

Article 701.19 Method of Measurement shall be replaced completely with the following:

701.19 Method of Measurement.

These items of work will be measured on a lump sum basis for furnishing installing, maintaining, replacing, relocating and removing the traffic control devices required in the plans and these special provisions.

Article 701.20 Basis of Payment shall be replaced completely with the following:

701.20 Basis of Payment

This work will be paid for at the contract unit price per lump sum for TRAFFIC CONTROL AND PROTECTION (SPECIAL). The payment will be in full for all labor, materials, transportation, and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans and specifications, except for the following items, which will be paid for separately.

1) Temporary Bridge Traffic Signals
2) Temporary Rumble Strips [where each is defined as 25 feet]

3) Temporary Raised Pavement Markers
4) Sand module impact attenuators
5) Portable Changeable Message Signs
6) Temporary Concrete Barrier
7) Temporary Pavement Marking-Letters and Symbols
8) Temporary Pavement Marking-Line at width specified

The salvage value of the materials removed shall be reflected in the bid price for this item.

Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered as part of TRAFFIC CONTROL AND PROTECTION (SPECIAL) and no additional compensation will be allowed.

Any traffic control devices required by the Engineer to implement the Traffic Control Plan as shown in the plans and specifications of the contract shall be considered included in the pay item TRAFFIC CONTROL AND PROTECTION (SPECIAL).

If the Engineer requires additional work involving a substantial change of location and/or work which differs in design and/or work requiring a change in the type of construction, as stated in Article 104.02(d) of the “Standard Specifications”, the standards and/or the designs, other than those required in the plans, 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 for the reasons listed above will be in accordance with Article 109.04 of the “Standard Specifications”.

Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed according to standards and/or designs other than those included in the plans. The Contractor shall submit revisions or modifications to the traffic control plan shown in the contract to the Engineer for approval. No additional payment will be made for a Contractor requested modification.

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

Adjusted Contract Price = 0.25P + 0.75P [1±(X-0.1]

P = the contract price for TRAFFIC CONTROL AND PROTECTION (SPECIAL)

$$X = \frac{\text{Difference between original and final value of work for which traffic control and protection is required.}}{\text{Original value of work for which traffic control and protection is required.}}$$

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 that require the use of TRAFFIC CONTROL AND PROTECTION (SPECIAL).

In the event LCDOT cancels or alters any portion of the contract that result in the elimination or incompletion of any portion of the work, payment for partially completed work will be made according to Article 104.02 of the “Standard Specifications”.

LAKE COUNTY DOT TRAFFIC SIGNAL GENERAL REQUIREMENTS

Effective: October 15, 2016
Revised:
LC800.01

All work and equipment performed and installed under this Contract shall be governed by and shall comply with:

SPECIFICATION	ADOPTED/DATED
The State of Illinois **"Standard Specifications for Road and Bridge Construction"** referred to as "**Standard Specifications**"	**April 1, 2016**
The State of Illinois **"Manual on Uniform Traffic Control Devices for Streets and Highways,"** referred to as **"MUTCD"**	**June 2014**
The National Electrical Code referred to as **"NEC"**	**2011 Edition**
The National Electrical Manufacturers Association **(All publications for traffic control items)** referred to as **"NEMA"**	All applicable current documents published prior to Contract Letting Date
The International Municipal Signal Association **("Official Wire & Cable Specifications Manual,")** referred to as **"IMSA"**	All applicable current documents published prior to Contract Letting Date
The Institute of Transportation Engineers **ATC 5.2b Standard**	**September 25, 2006**
AASHTO "Standard Specifications" **LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals**	**2015 Edition & 2017 Interim Revisions**
Supplemental Specifications and Recurring Special Provisions	**April 1, 2016**

The project Special Provisions supplement the above specifications, manuals, and codes. In case of conflict with any part or parts of said documents, the project Special Provisions shall take precedence and shall govern.

The following terms and acronyms are used:

IDOT	Illinois Department of Transportation
District 1	IDOT District 1
LCDOT	The Lake County Division of Transportation
Traffic Engineer	The LCDOT Traffic Engineer or designee
PASSAGE	Lake County's ITS System
PASSAGE Consultant	Parsons Transportation Group

The intent of these Special Provisions is to prescribe the materials and construction methods commonly used in traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be indicated on the plans or as directed by the Engineer.

All traffic signal work related to the traffic signal cabinet shall be performed with at least one electrician holding a current IMSA Traffic Signal Technician Level 2 certification present on site and actively overseeing and directing the work, unless approved in advance by the Traffic Engineer.

The work performed under this Contract shall consist of furnishing and installing all traffic signal work as shown on the plans and as specified herein in a manner acceptable and approved by the Resident 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 District 1 approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within District 1 and shall:

a. Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.

b. Maintain an inventory of District 1 approved controllers and cabinets.

c. Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.

d. Technical staff shall attend traffic signal "turn-on" and inspection 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. The submittal shall be by email, and shall include a cover letter and one PDF file with all pay items for the project.

General requirements include:

a. All material approval requests shall be submitted within 7 calendar days after the preconstruction meeting. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.

b. Product data and shop drawings shall be arranged by pay item. Pages of the submittal should be numbered.

c. When hard copy submittals are necessary for another agency, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials will be submitted, in addition to the electronic copy required above. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.

d. 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, in addition to the electronic copy required above.

e. Partial or incomplete submittals will be returned without review.

f. Certain non-standard mast arm poles and structures will require additional review from IDOT's Bureau of Bridges and Structures. Examples include special mast arms and non-standard length mast arm pole assemblies. The Contractor shall account for the additional review time in their schedule.

g. The County Section Number, permit number, or IDOT contract number, project location/limits and corresponding pay code number shall be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.

h. 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 include all test data, dates, and times.

i. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.

j. After the Traffic Engineer reviews the submittals for conformance with the design concept of the project, the drawings will be stamped indicating their status as ‘APPROVED’, ‘APPROVED AS CORRECTED’, ‘NOT APPROVED’, or ‘RESUBMIT’. Review schedule will be according to Article 801.05(b). Since the Traffic 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 Traffic Engineer’s approval thereof.

k. All submitted items reviewed and marked ‘APPROVED AS CORRECTED’, ‘NOT APPROVED’, or ‘RESUBMIT’ shall 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.

l. 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 Resident Engineer. In general, substitutions will not be acceptable. Requests for substitutions shall 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 Resident Engineer.

m. The Contractor shall not order major equipment (i.e., mast arm assemblies) prior to Resident 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 1. LCDOT reserves the right to request that any controller and cabinet be tested at a District 1 approved Equipment Supplier’s facility prior to field installation. Such testing will be at no extra cost to the contract. All permanent or temporary "railroad interconnected” controllers and cabinets, shall be new, built, tested and approved by the controller Equipment Supplier, in the Equipment Supplier’s District 1 approved facility, prior to field installation. The Equipment Supplier shall provide the technical equipment and assistance as required by the Traffic Engineer to fully test this equipment.

LIQUIDATED DAMAGES FOR UNTIMELY WORK

A primary concern of LCDOT is to maintain a safe and efficient roadway for the public. Therefore, the Contractor shall proceed with the traffic signal work as soon as conditions and project staging permit. If in the opinion of the Traffic Engineer construction conditions are suitable for traffic signal work, and the Contractor has not yet begun the traffic signal work, the Resident Engineer shall notify the Contractor to proceed. The Contractor shall begin the traffic signal work within seven calendar days after notification to proceed. The Contractor shall continue to prosecute the traffic signal work until completion, or until he can no longer proceed due to conditions beyond their control. The Contractor shall notify the Resident Engineer of any conditions impeding and/or delaying their prosecution of the work. Failure by the Contractor to proceed with the traffic signal work as specified herein shall result in liquidated damages of **$500.00** per calendar day per occurrence.

For projects involving detector loop installations or replacement, the following additional conditions apply. If in the opinion of the Traffic Engineer, construction conditions are suitable for loop installation(s), the Resident Engineer shall notify the Contractor to proceed. The detector loops shall be installed and fully operational within 14 calendar days following notification to proceed by the Resident Engineer. This 14-day period shall be in effect throughout the entire year, including the off season, regardless of the Contractor's working day status. Failure by the Contractor to complete the loop installation(s) within the specified timeframe shall result in liquidated damages in the amount of **$500.00** per calendar day, per intersection.

ELECTRIC CABLE REQUIREMENTS

Add the following to Article 1076.04 of the “Standard Specifications”:

(f) The electric service cable and tracer cable shall have an XLP jacket. All other cable jackets shall be polyvinyl chloride, meeting the requirements of IMSA 19-1 or IMSA 20-1, except as noted. The jacket color for signal cable, fiber optic cable, and tracer cable shall be black. The jacket color for lead-in and communications cable shall be gray. All cabling between the signal cabinet and the signal heads shall be solid copper, not multi-stranded. Heat shrink splices shall be used according to the District 1 “Standard Traffic Signal Design Details".

MAINTENANCE AND RESPONSIBILITY

Revise Article 801.11 of the “Standard Specifications” to read:

a. Existing traffic signal installations and/or any electrical facilities at locations included in this Contract 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 County of Lake, State of Illinois, Department of Transportation, Division of Highways, County, Transit Agency, Private Developer, or the Municipality in which it is located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this Contract that have the pay item MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION, TEMPORARY TRAFFIC SIGNAL INSTALLATION, and/or MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION, shall become the full responsibility of the Contractor. The Contractor shall supply the Resident Engineer and the County’s Traffic Signal Maintenance Contractor one 24-hour emergency contact name and telephone number. The Contractor shall provide sufficient qualified personnel to respond to all notifications of malfunctions on a round-the-clock basis (24 hours a day, 7 days a week). The Contractor is required to keep a time and date log of all maintenance items, including the time of the initial report, the response time, and the time of final permanent repair. The Contractor shall provide this information to the Resident Engineer, upon request.

b. When the project has a pay item for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION, TEMPORARY TRAFFIC SIGNAL INSTALLATION, and/or MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION, the Contractor shall notify the Traffic Engineer at **(847) 377-7000** of their intent to begin any physical construction work on the project. This notification shall be a minimum of ten calendar days prior to the start of construction to allow sufficient time for an inspection of the existing traffic signal installation(s) and the transfer of maintenance to the Contractor. If work is started prior to the inspection, maintenance of the traffic signal installation(s) will be immediately transferred to the Contractor without an inspection. The Contractor shall then 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 to or the

replacement of damaged equipment shall meet the approval of the Traffic Engineer at the time of final inspection or the traffic signal installation will not be accepted.

c. Automatic Traffic Enforcement equipment including red lighting running and railroad crossing camera systems are owned and operated by others. The Contractor shall not be responsible for maintaining this equipment. This equipment shall be de-activated while the traffic signal is on Contractor maintenance. The Contractor shall notify the municipality of the equipment de-activation.

d. LCDOT, regional transit, IDOT, and other agencies may also have equipment connected to existing traffic signal or peripheral equipment including 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.

e. For contracts that include pay items for milling or pavement patching that may result in destruction of loop detectors, but do not include installation or modification of the traffic signals, maintenance transfers are not required. These contracts do require a notification of intent to work and an inspection. A minimum of ten calendar days prior to the loop removal, the Contractor shall notify the Traffic Engineer at **(847) 377-7000**, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection.

f. The Contractor is advised that the existing and/or temporary traffic signal installation shall remain in operation during all construction stages, except for the most unavoidable down time. Any plan to shut down the traffic signal installation for a period exceeding 15 minutes shall receive prior approval from the Traffic Engineer. Approval to shut down the traffic signal installation will only be granted during the hours of 9:00 A.M. to 3:00 P.M. on weekdays. Shutdowns will not be allowed during inclement weather, weekends or holiday periods.

g. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by LCDOT, the County's Traffic Signal Maintenance Contractor or the public, shall be investigated and repairs started. The Contractor shall restore service and complete permanent repairs according to the following Repair Timetable. Failure to provide this service will result in liquidated damages of **$500** per calendar day per occurrence. The Traffic Engineer reserves the right to assign any work not completed within this timeframe to the County's Traffic Signal Maintenance Contractor. All costs associated with the completion of the uncompleted repair shall be the responsibility of the Contractor. Failure to pay these costs to the Traffic Signal Maintenance Contractor within one month after the incident will result in additional liquidated damages of $500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. County personnel, the

County's Traffic Signal Maintenance Contractor, and the County's PASSAGE Consultant may inspect any signalizing device on LCDOT's highway system at any time without notification.

h. Any proposed activity in the vicinity of a highway-rail grade crossing shall 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.

i. At signals where the Contractor is responsible for maintenance, including temporary traffic signals and newly constructed traffic signals that are not yet accepted by the County, the Contractor shall be responsible for clearing snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment in compliance with the REPAIR TIMETABLE. Two clearly visible signal indications of all colors and arrows are required to be maintained at all time.

j. In the event of power loss at locations where the Contractor is responsible for maintenance, including temporary traffic signals and newly constructed traffic signals that are not yet accepted by the County, the Contractor shall be responsible for working with Lake County personnel to make connections of portable County-supplied generators at the maintained location, as directed by the Traffic or Resident Engineer.

Immediately after performing any work related to a signal maintenance item (troubleshooting, temporary repair, permanent repair, etc.) the Contractor shall contact the Lake County PASSAGE Transportation Management Center (TMC) at **(847) 377-7000.**

All items shall be repaired within the time frame described in the Repair Timetable. The times listed are noncumulative. Any repairs not specifically covered in the Repair Timetable, or described elsewhere, shall be completed within a time frame matching the most similar line item in the Repair Timetable.

REPAIR TIMETABLE
(non cumulative)

ITEM	RESPONSE TIME	SERVICE RESTORATION	PERMANENT REPAIRS
KNOCKDOWNS/FAILURE/DAMAGE:			
Cabinet	1 hr	24 hrs	2 wks
Controller (Local or Master)	1 hr	24 hrs	2 wks
Adaptive Control Hardware	1 hr	24 hrs	3 wks
Detector Loop/Magnetometer	1 hr	n.a.	2 wks
Loop Detector/Amplifier	1 hr	4 hrs	2 wks
Video Detection Camera	1 hr	4 hrs	2 wks
PTZ Camera	2 hrs	48 hrs	2 wks
Detector Interface Card/Mini Hub	1 hr	4 hrs	2 wks
Modem	2 hrs	NWD	2 wks
Load Switch	1 hr	2 hrs	2 hrs
Signal Head/Lenses	1 hr	2 hrs	NWD
Pole/Mast Arm	1 hr	2 hrs	ENG
Cabling/Conduit	1 hr	4 hrs	ENG
Interconnect/Communication	1 hr	NWD	ENG
Graffiti/Advertising	NWD	NWD	NWD
Telemetry, Electrical	1 hr	2 hrs	NWD
Ethernet Switches/Video Encoders	1 hr	48 hrs	2 wks
Highway Advisory Radio (HAR)	1 hr	48 hrs	2 wks
Indicators/switches/LEDs/displays	NWD	n.a.	2 wks
Snow/Ice/Debris/Other Obstructions	1 hr	2 hrs	NWD
Outages not covered elsewhere	1 hr	2 hrs	NWD
Filter/Cleanliness/fans/thermostat	NWD	NWD	n.a.
Misalignment (conflicting)	1 hr	2 hrs	NWD
Misalignment (non-conflicting)	2 hrs	4 hrs	NWD
COMPLAINTS/CALLS/ALARMS:			
Timing/Phasing/Programming	1 hr	2 hrs	ENG
Coordination Alarm/Cycle Fail	NWD	ENG	ENG
Controller Alarm/Status Change	1 hr	NWD	1 wk
Detector Alarm/Status change	NWD	NWD	ENG
UPS	1 hr	2 hrs	2 wks
CMU Flash/Local Flash	1 hr	2 hrs	1 wk
Door Open/Maint. Req.	1 hr	4 hrs	NWD

LEGEND: hr=hour, hrs=hours, NWD=next week day, days=calendar days, ENG=acceptable to Traffic Engineer, wk=week, wks=weeks, n.a.=not applicable

MODIFICATION OF IDOT SPECIAL PROVISION REQUIREMENTS

When IDOT Special Provisions for traffic signal items are included in an LCDOT Contract or Permit project, the following modifications shall apply to the noted Special Provisions.

Contact Information: The Contractor shall utilize the LCDOT contact information for LCDOT projects in place of the personnel, phone numbers, and directives provided in the following District 1 Special Provisions when they are included in the Contract:

800.02TS Optimize Signal System
800.03TS Re-Optimize Signal System
805.01TS Electric Service Installation
886.01TS Detector Loop
890.01TS Temporary Traffic Signal Installation
890.02TS Temporary Traffic Signal Timing
895.02TS Remove Existing Traffic Signal Equipment

All references in the above special provisions to Traffic Signal Engineer, Area Traffic Signal Engineer, Area Traffic Signal Maintenance and Operations Engineer, Bureau of Traffic Operations, Traffic Operations Engineer, State, State's Traffic Signal Maintenance Contractor, and State's Electrical Maintenance Contractor shall be replaced with the LCDOT Traffic Engineer and the phone number shall be **847-377-7000**. Submittals, requests for reviews, scheduling of appointments, and requests for materials and information shall be directed to the LCDOT Traffic Engineer instead of IDOT, District 1, or the State's Maintenance Contractor.

Traffic Signal Timing Consultant Requirements: Add the following paragraph to the following District 1 Special Provisions:

800.02TS Optimize Signal System
800.03TS Re-Optimize Signal System
890.02TS Temporary Traffic Signal Timing

All work shall be based upon the LCDOT Countywide Synchro model. The Consultant shall contact the Traffic Engineer at **847-377-7000** to acquire the required portion of the countywide model to be updated for the particular project. Upon completion of the project, the Consultant shall provide LCDOT with the revised and updated files for inclusion into the Countywide Synchro Model. Graphics displays for LCDOT's traffic signal systems do not need to be furnished to LCDOT.

Pedestrian Pushbutton Station Requirements: Add the following paragraph to the following District 1 Special Provision:

888.01 TS Pedestrian Push Button

The pedestrian push button signs shall be retroreflective R10-3, 9”x12” signs displaying the “Push Button For” legend with the Walking Man symbol and arrow, unless shown otherwise in the plans. The pedestrian push button station shall be natural, unfinished aluminum with rounded corners sized to accommodate the 9”x12” sign.

DAMAGE TO TRAFFIC SIGNAL SYSTEM

Revise Article 801.12(b) of the “Standard Specifications” to read:

Any traffic control equipment damaged or not operating properly from any cause whatsoever shall be repaired and/or replaced. All inoperable components shall be replaced with new equipment meeting the special provisions or the current LCDOT requirements. The Contractor shall provide replacement components at no additional cost to the Contract and/or owner of the traffic signal system. Final repairs or replacement of damaged equipment shall meet the approval of the Traffic 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, unless approved by the Traffic Engineer.

Temporary replacement of damaged or knocked down mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Traffic Engineer.

Automatic Traffic Enforcement equipment, including Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause whatsoever, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

VIDEO AND NETWORK SYSTEM REQUIREMENTS

For all projects including installation or relocation of video and/or network equipment, the Contractor shall contact the TMC at **847-377-7000** after installation to confirm proper operation of the equipment within the PASSAGE system. This includes confirming that the camera horizon is properly adjusted, camera lens is clear, network settings are correct and all devices are communicating correctly with the TMC. For equipment requiring an IP address or other LCDOT assigned parameters, the Contractor should request the information from the TMC a minimum of one week in advance of the traffic signal “turn-on.” The Contractor shall be responsible for making any changes necessary to the camera mounting, aiming, and/or equipment programming to meet the PASSAGE requirements and/or to operate the equipment to the satisfaction of the Traffic Engineer. Contacting the TMC for confirmation of equipment operation does not constitute an installation review and does not relieve the

Contractor of the responsibility to correct deficiencies identified at the “turn-on.” The cost of meeting these requirements shall be included in the associated pay item and no additional compensation shall be made. Calls to the TMC shall be made according to the PASSAGE System Support section of this special provision.

TRAFFIC SIGNAL INSPECTION (“TURN-ON”)

Revise Article 801.15(b) of the “Standard Specifications” to read:

It is LCDOT’s intent to have all electric work completed and the equipment field-tested by the Equipment Supplier, prior to LCDOT’s "turn-on" field inspection. The Contractor shall 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. In the event the Traffic Engineer determines that the work is not complete and that the inspection will require more than two hours to complete, the inspection may be cancelled and the Contractor will be required to reschedule at another date.

The Contractor may request a “turn-on” and inspection of the completed traffic signal installation at each separate location. This request shall be made to the Traffic Engineer at **(847) 377-7000** a minimum of ten calendar days prior to the time of the requested inspection. When the Contract includes the pay item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor shall notify the Signal Coordination and Timing (SCAT) Consultant of the “turn-on”/detour implementation schedule, as well as stage changes and signal phase changes during construction. The SCAT Consultant shall be in attendance at each temporary and permanent traffic signal “turn-on.”

The Contractor shall provide a representative from the Equipment Supplier’s office to attend the traffic signal inspection for both permanent and temporary traffic signal "turn-ons.” Signal indications being tested shall match the lane configurations and markings at the intersection. If any conflicting signal indications are visible to motorist or pedestrians while testing, the Contractor shall be responsible to provide police officer(s) to direct traffic.

Upon demonstration that the signals are operating properly according to the Contract and to the satisfaction of the Traffic Engineer, the Traffic Engineer will allow the signals to be placed in continuous operation. The Traffic Engineer will inspect the traffic signal installation, with the assistance of the Contractor, and provide a written “punch-list” of deficient items requiring completion. The Contractor shall complete all “punch-list” work within 30 calendar days of notification. If this work is not completed within 30 days, LCDOT reserves the right to have the work completed by others at the Contractor’s expense. This cost will be in addition to Liquidated Damages for Untimely Work.

The Contractor shall furnish all equipment and/or parts to keep the traffic signal installation operating. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until LCDOT acceptance is granted.

When the Contractor has completed the “punch-list” work, he/she shall contact the Traffic Engineer to schedule a follow-up inspection of the traffic signal installation. If the Traffic Engineer determines that any “punch-list” items have not been completed, he may cancel the inspection, and the Contractor will need to reschedule.

It is possible that during any follow-up inspections of the traffic signal installation, deficient items may be identified that were not identified at the “turn-on” inspection, or included in the initial “punch-list”. The Traffic Engineer shall advise the Contractor of any such items, and it shall be the Contractor’s responsibility to complete these items prior to acceptance of the traffic signal.

Acceptance of the traffic signal by LCDOT shall be based on the inspection results and successful operation during a minimum 72-hour “burn-in” period following activation of the traffic signal and related equipment. Therefore, due to the required “burn-in” period, acceptance of the traffic signal shall not occur at the time of the “turn-on.” Upon notification by the Contractor that all noted deficiencies have been corrected, and after the “burn-in” period, the Traffic Engineer shall perform an acceptance inspection of the traffic signal installation. If approved, the traffic signal acceptance shall be given verbally at the inspection, followed by written correspondence from the Traffic Engineer. The Agency that is responsible for the maintenance of each traffic signal installation will assume the traffic signal maintenance upon acceptance by the Traffic Engineer.

LCDOT requires the following Final Project Documentation from the Contractor prior to acceptance of the traffic signal. The documentation shall be provided in hard copy and electronic format as indicated below.

1. One copy (11”x17”) and one electronic PDF file of as-built signal plans with field revisions marked in red.

2. One copy of the operation and service manuals for the signal controller and the associated control equipment.

3. Five copies (11"x17") and one electronic PDF file of the cabinet wiring diagrams.

4. Five copies and one electronic PDF file of the traffic signal installation cable log.

5. All manufacturer and Contractor warrantees and guarantees required by Article 801.14 of the Standard Specifications.

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 will be subject to removal and disposal at the Contractor's expense.

LOCATING UNDERGROUND FACILITIES

Revise Section 803 of the "Standard Specifications" to read:

Once the Contractor has taken maintenance of an existing County facility or has constructed underground facilities, they are responsible for locating the facilities according the J.U.L.I.E. requirements at no additional cost to the Contract.

Contractor requests for equipment locates will be granted only once prior to the start of construction. Additional requests shall be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any item(s) damaged during the construction, at his/her own expense.

Locate requests shall be directed to LCDOT's Traffic Signal Maintenance Contractor or to the LCDOT Traffic Engineering Department at **(847) 377-7000**.

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 call J.U.L.I.E. at **1-800-892-0123**. The location of some utilities may require contacting other Agencies or Municipalities.

The Contractor should note that IDOT does not participate in J.U.L.I.E. Underground work that is proposed to take place within IDOT right-of-way requires the Contractor to contact IDOT for the procedures involved in locating their facilities.

RESTORATION OF WORK AREA

Add to Section 801 of the "Standard Specifications":

Restoration of the traffic signal work area shall be included in the related pay item including foundation, conduit, handhole, trench and backfill, etc. and no extra compensation shall be allowed. All roadway surfaces including shoulders, medians, sidewalks, pavement, etc. shall be restored to match the previously existing conditions. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded, according to Section 250 and Section 252 of the Standard Specifications respectively, except that Phosphorus fertilizer nutrient shall not be used on Lake County Highways or within Lake County right-of-way, and a knitted straw mat shall be applied to seeded areas, according to Article 1081.10 (b) of the Standard Specifications. Areas in front of residences are to restored within two weeks of the completion of work causing the disturbance regardless of the duration of the project remaining. The traffic signal work area includes any area where the Contractor or their subcontractors perform work to install, repair, or maintain County owned traffic, lighting, or PASSAGE equipment, regardless of the presence of an actual traffic signal.

CABINET NEATNESS AND WIRING

The Contractor shall ensure that all wiring and peripheral equipment in any new traffic signal cabinet is in a neat and orderly fashion that is acceptable to the Traffic Engineer. This applies to controller cabinets, master cabinets, railroad cabinets, communication

cabinets, electrical service cabinets, or any other new cabinet called for in the project plans.

All conduit entrances into the cabinet shall be sealed with a pliable waterproof material. Electrical cables inside the cabinet shall be neatly trained along the base and back of the cabinet. Each conductor shall be connected individually to the proper terminal. The spare conductors shall be bound into a neat bundle. All cables, including those for signals, vehicle detection, pushbuttons, emergency vehicle preemption, video transmission, and communication shall be neatly arranged and bundled within the cabinet to the satisfaction of the Traffic Engineer. Each cable shall be marked with an identification number which corresponds to the number and description on the cabinet cable log.

When modernizing or modifying an existing cabinet, the new cables being installed shall be trained, bundled, and labeled to the satisfaction of the Traffic Engineer. When working inside an existing cabinet, the Contractor shall minimize disturbance to existing cables and cabinet wiring. Any existing cables and cabinet wiring disturbed by the Contractor shall be re-trained, bundled, and/or labeled to the satisfaction of the Traffic Engineer.

Unless indicated elsewhere in the plans and specs, all equipment in the cabinet shall be wired through the UPS except lighted street name signs and luminaires.

Components with Ethernet capabilities shall be connected to the Switch or other communications equipment in the cabinet as directed by the Traffic Engineer. All equipment, materials, labor and hardware, including Ethernet patch cables, required to provide cabinet neatness and wiring to the satisfaction of the Traffic Engineer shall be included in the applicable pay item for FULL ACTUATED CONTROLLER AND TYPE IV CABINET SPECIAL, FULL-ACTUATED CONTROLLER IN EXISTING CABINET, and/or MODIFY EXISTING CONTROLLER.

The County shall not accept maintenance of the traffic signal installations until the requirements of this specification are satisfied.

EQUIPMENT SUPPLIER AND VENDOR REPRESENTATION

The Traffic Engineer reserves the right to request a representative of the Equipment Supplier and/or Vendor be present at the activation of new traffic equipment. The traffic equipment may include signal heads, cabinets, controllers, amplifiers, preemption, detection, monitoring, communication/transmission, fiber-optic/telemetry, radio, microwave, infrared, illuminated signs, streetlights, push buttons, lighted crosswalks, uninterruptable power supplies, adaptive, counters, and any other new equipment being installed and activated. The representative shall be a qualified technician trained in the proper installation and operation of the equipment being installed under the Contract or permit.

The Traffic Engineer reserves the right to cancel the “turn-on,” transfer, or other scheduled activity if, in their opinion, knowledgeable personnel from the Equipment Supplier or Vendor are not present. Rescheduling, and any associated costs, shall be the responsibility of the Contractor, and shall be subject to availability of LCDOT Traffic staff.

This provision is in addition to the requirement contained herein that the Contractor provide a representative from the Equipment Supplier to attend the traffic signal inspection for both permanent and temporary traffic signal “turn-on”.

Any costs associated with Equipment Supplier and/or Vendor representation shall be included in the unit price of the associated traffic equipment being activated. Any unforeseen costs incurred by the Contractor to provide this representation shall not be the responsibility of the County.

INTERRUPTION OF COMMUNICATION

The interruption of communication with County equipment shall be kept to an absolute minimum. Communication includes controller telemetry, video transmission, camera control signals, Highway Advisory Radio, wireless interconnect, telephone (POTS/ISDN/DSL), high speed Internet, cellular modem, or any other County communication equipment. This provision applies to cable types including copper, multimode fiber optic, singlemode fiber optic, telephone cables, Ethernet cables, or any other cable used by the County to monitor and maintain its various signal and ITS equipment.

The Contractor shall plan ahead, and shall stage their construction work accordingly, so that he/she can interrupt communication, and then restore communication, with as little down time as possible. For example, when a section of existing interconnect is being relocated, the new handholes and conduits should be installed prior to disconnecting the interconnect cable. The interconnect cable can then be disconnected, pulled out of the existing conduit, pulled through the new conduit, and re-connected. In addition, when an existing fiber optic cable is to be re-used, the Contractor shall be prepared to immediately replace any fiber splices and/or terminations that become damaged.

Prior to disconnecting any LCDOT communication link, the Contractor shall contact the Traffic Engineer for approval of their planned construction method.

PASSAGE SYSTEM SUPPORT

The LCDOT PASSAGE TMC staff are available to provide a limited amount of technical support to the Contractor between the hours of 8:00 AM and 4:30 PM. The Contractor may request the TMC staff provide configuration information, settings, and testing support, and other items approved by the Traffic Engineer. Due to the primary responsibility of PASSAGE staff to maintain traffic flow in Lake County during peak hours, requests that require LCDOT support after 4:30 PM may not be honored until the next business day. Extensions to the Contract working days or completion date will not be authorized solely due to requests for support that do not meet these requirements.

ROADWAY LUMINAIRES (LCDOT)

Effective: October 1, 2016
Revised:
LC821.01

Description: This work shall consist of furnishing and installing a luminaire of the lamp type, mount type, and wattage shown on the plans.

Materials: The luminaire shall be according to Section 1067 of the "Standard Specifications" and the following:

- The luminaire housing shall be cobra head style.
- The luminaire shall be painted black or powder-coated black to match the finish of STEEL COMBINATION MAST ARM ASSEMBLY AND POLE (SPECIAL).

General: This work shall be performed according to Section 821 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price per each for LUMINAIRE, of the lamp type, mount type, and wattage specified.

FIBER OPTIC CABLE (LCDOT)

Effective: October 1, 2016
Revised:
LC871.01

Description: This work shall consist of furnishing and installing all accessories required and fiber optic cable of the type, size, and number of fibers specified.

Materials: The Fiber Optic Cable shall meet the requirements of Article 1076.02 of the "Standard Specifications" and the following:

The Fiber Optic Cable may be gel filled or have an approved water blocking tape.

General: This work shall be performed according to Section 871 of the "Standard Specifications" and the following:

This work shall consist of furnishing and installing fiber optic cable in conduit with all accessories and connectors. The cable shall be of the type, size, and the number of fibers specified with a maximum of twelve fibers per buffer tube. The work includes making all fiber splices and terminations to the proposed fiber optic cable as indicated on the plans and/or as directed by the Traffic Engineer.

The distribution enclosure shall be wall-mountable with capacity for four closet connector housing panels per enclosure and up to eight 0.2-inch or four 0.4-inch reduced length splice trays. The enclosure dimensions shall not exceed 13.5” x 8.5” x 4.5”. The enclosure shall be capable of accommodating the required number of fibers. The distribution enclosure shall be included in the cost of FIBER OPTIC CABLE of the type, size, and number of fibers specified, including connections to any existing cables.

All fibers being terminated shall be connected to the distribution enclosure and labeled at the connector and also at the enclosure bulkhead. The label shall include the direction and also the fiber number (e.g. S1, S2, N11, N12).

All splices and terminations on the installed fiber optic cable shall be included in the cost of the fiber optic cable, including the splicing of the installed fiber optic cable to any existing fiber optic cable. Splice trays and connector bulkheads required for the installed fiber optic cable shall be included in the cost of FIBER OPTIC CABLE of the type, size, and number of fibers specified.

All terminations and splices required only on existing fiber optic cable shall be paid for separately according to the pay item TERMINATE FIBER IN CABINET or SPLICE FIBER IN CABINET.

A minimum of 13 feet of slack cable shall be provided for the controller cabinet. The controller cabinet slack cable shall be stored as directed by the Traffic Engineer. The quality of the fiber optic cable, including all splices and terminations, shall be verified by testing and documentation according to Article 801.13(d) of the “Standard Specifications”, to the satisfaction of the Traffic Engineer.

Multimode: When multimode fiber is required, the Contractor shall coordinate with the equipment supplier, and shall terminate as many multimode fibers as are necessary to establish proper communications between new and/or existing signal controllers and/or video transmission equipment. In addition, the Contractor shall terminate four unused multimode fibers and attach them to the distribution enclosure. All multimode terminations shall be ST compatible connectors with ceramic ferrules.

Singlemode: The Contractor shall splice and/or terminate the number of singlemode fibers shown on the project plans, if any, according to the following requirements:

> Singlemode Fiber Terminations: All singlemode fiber terminations shall utilize pre-fabricated, factory-terminated (SC compatible with ceramic ferrules) pigtails fusion spliced to bare fibers. The pre-fabricated pigtails shall have all of their fibers color coded to match the singlemode fibers in the fiber optic cable. Connector bulkheads shall be the proper type for the fiber enclosure at the location, and shall be properly secured to the enclosure.

Singlemode Fiber Splices: All splices shall be made using a fusion splicer that automatically positions the fibers using a system of light injection and detection. The Contractor shall provide all equipment and consumable supplies.

Splices shall be secured in fiber optic splice trays within fiber optic distribution enclosures. All fusion splices shall be secured on aluminum splice trays capable of accommodating the required number of fusion splices, including necessary splice holders and a compatible splice tray cover. The tray dimensions shall not exceed 7.5" x 4.1" x 0.45" and shall be mounted within the enclosure using suitable hardware that allows removal for maintenance purposes without the use of tools. All individual splice trays shall be labelled.

All optical fibers shall be spliced to provide continuous runs. Splices shall only be allowed in equipment cabinets except where otherwise shown on the plans.

Basis of Payment: The work shall be paid for at the contract unit price per foot for FIBER OPTIC CABLE of the type, size, and number of fibers specified. *The unit price shall include distribution enclosure(s), all connectors, pigtails, splice trays, connector bulkheads, testing and documentation, and the required number of fiber splices and terminations shown on the plans.* Additional fiber terminations and/or splices required by the Traffic Engineer, (not included in this item), shall be paid for as TERMINATE FIBER IN CABINET and/or SPLICE FIBER IN CABINET.

ELECTRIC CABLE (LCDOT)

Effective: October 1, 2016
Revised:
LC873.01

Description: This work shall consist of furnishing and installing an electric cable of the type, size and number of conductors specified.

Materials: The electric cable shall meet the requirements of Article 1070.04 of the "Standard Specifications" and the following:

- Signal Cable: The conductors for signal cable shall be limited to No. 14 AWG solid copper.
- Service Cable: The service cable may be either single or multiple conductor cable.
- The electric service cable shall have an XLP jacket.
- All other cable jackets shall be polyvinyl chloride, meeting the requirements of IMSA 19-1 or IMSA 20-1.

- The jacket color for signal cable shall be black.\
- The jacket color for lead-in and communications cable shall be gray.
- All cabling between the signal cabinet and the signal heads shall signal cable
- Heat shrink splices shall be used according to the District 1 “Standard Traffic Signal Design Details” as shown on the plans.

General: This work shall be performed according to Section 873 of the “Standard Specifications”.

Method of Measurement: Electric Cable will be measured for payment in feet according to Article 873.05 of the “Standard Specifications”.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE, of the method of installation (IN TRENCH, IN CONDUIT, or AERIAL SUSPENDED), of the type, size and number of conductors or pairs specified.

TRAFFIC SIGNAL POST (SPECIAL) (LCDOT)

Effective: October 1, 2016
Revised:
LC875.01

Description: This work shall consist of furnishing and installing a metal traffic signal post at locations shown on the plans and/or as directed by the Traffic Engineer.

Materials: The traffic signal post shall meet the requirements of Article 1077.01 of the “Standard Specifications” and the following:

The traffic signal post shall be made of extruded aluminum, 16 feet in height, unless otherwise shown on the plans. The base shall be cast aluminum.

The traffic signal post and associated base shall be manufactured and/or supplied by Beacon, Sternberg Vintage Lighting, Union Metal, or Valmont, according to the following:

- Round, straight (non-tapered), 5-inch diameter, 12-flat fluted post.
- A ball center cap for the top of the post, instead of a tenon.
- The base section of the post shall be approximately 43 inches tall.

Manufacturer designations for TRAFFIC SIGNAL POST (SPECIAL) include the following:

- Beacon (MainStreet Series (100SJ)) base
- Sternberg (Hamilton Series (5400D)) base
- Union Metal
- Valmont

The traffic signal post and associated base shall be assembled and any exposed steel hardware shall be hot-dipped galvanized and powder-coated black by the supplier/manufacturer, as described below or by a pre-approved alternative finishing method. Cast aluminum base covers shall be powder-coated black by the supplier/manufacturer, as described below or by a pre-approved alternative finishing method.

Powder-Coated Finish: All galvanized and aluminum exterior surfaces shall be coated with chip resistive epoxy resin primer applied via electrostatic spray equipment. The primer is to be applied at a minimum dry film thickness (DFT) of 3.0 mils with a minimum DFT of 6.0 mils applied to the lower 8 feet of the pole. The primer coat shall be energy absorptive, and capable of achieving a rating of 10A under testing according to the American Society for Testing and Materials (ASTM) Procedure D3170, Standard Test Method for Chipping Resistance of Coatings. The primed surfaces shall then be coated with a black semi-gloss TGIC Super Durable Polyester topcoat to a minimum dry film thickness of 3.0 mils. The topcoat shall meet the requirements of the American Architectural Manufacturer's Association (AAMA) 2604 test for color and gloss retention properties.

The manufacturer shall warranty the finish of all components for a period of at least five years from the date of shipment. The Contractor shall provide a copy of the warranty to the Traffic Engineer, upon request.

General: This work shall be performed according to Section 875 of the "Standard Specifications" and the following:

All chips, scrapes, scratches, etc.., in the paint shall be touched-up by the Contractor according to the manufacturer's recommendations, with matching paint supplied by the manufacturer.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

Pedestrian pushbutton stations shall be mounted to mast arm base covers according to the following:

- The top and bottom of the station shall be secured by drilling, tapping, and installing a 3/8-inch stainless steel threaded bolt, lock washer, and hex nut. Do not use self-tapping screws.

- Spacers made of 3/4-inch aluminum conduit shall be installed behind the pushbutton station, to level and plumb the station.

Basis of Payment: This work will be paid for at the contract unit price per each for TRAFFIC SIGNAL POST (SPECIAL) of the length specified.

STEEL MAST ARM ASSEMBLY AND POLE (SPECIAL) (LCDOT)
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE (SPECIAL) (LCDOT)

Effective: October 1, 2016
Revised:
LC877.01

Description: This work shall consist of furnishing and installing a steel mast arm assembly and pole or steel combination mast arm assembly and pole at locations shown on the plans and/or as directed by the Traffic Engineer.

Materials: The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall meet the requirements of Article 1077.03 of the “Standard Specifications” and the following:

Steel mast arm assembly and pole and steel combination mast arm assembly and pole shall be manufactured and/or supplied by Sternberg Vintage Lighting, Union Metal, or Valmont, according to the following:

- Round, tapered, 16-sharp fluted pole.
- Round, tapered, smooth, standard-curved, flange-connected, traffic signal mast arm

The two-piece mast arm base cover shall be cast aluminum, and shall be manufactured and/or supplied by the same company as the mast arm assembly and pole. Manufacturer designations for the two-piece mast arm base cover to be used with (SPECIAL) MAST ARM ASSEMBLIES include the following:

- Sternberg (Hamilton 6401SS)
- Union Metal
- Valmont (Lake County AC1 base cover)

All mast arms, mast arm poles, luminaire arms, and any exposed steel hardware shall be hot-dipped galvanized, and then powder-coated black by the supplier/manufacturer, as described below or by a pre-approved alternative finishing method. Cast aluminum base covers shall be powder-coated black by the supplier/manufacturer, as described below or by a pre-approved alternative finishing method.

Powder-Coated Finish: All galvanized and aluminum exterior surfaces shall be coated with chip resistive epoxy resin primer applied via electrostatic spray equipment. The primer is to be applied at a minimum dry film thickness (DFT) of 3.0 mils with a minimum DFT of 6.0 mils applied to the lower 8 feet of the pole. The primer coat shall be energy absorptive, and capable of achieving a rating of 10A under testing according to the American Society for Testing and Materials (ASTM) Procedure D3170, Standard Test Method for Chipping Resistance of Coatings. The primed surfaces shall then be coated with a black semi-gloss TGIC Super Durable Polyester topcoat to a minimum dry film thickness of 3.0 mils. The topcoat shall meet the requirements of the American Architectural Manufacturer's Association (AAMA) 2604 test for color and gloss retention properties.

The manufacturer shall warranty the finish of all components for a period of at least five years from the date of shipment. The Contractor shall provide a copy of the warranty to the Traffic Engineer, upon request.

General: This work shall be performed according to Section 877 of the "Standard Specifications" and the following:

All chips, scrapes, scratches, etc.., in the paint shall be touched-up by the Contractor according to the manufacturer's recommendations, with matching paint supplied by the manufacturer.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

Stainless steel mesh screening shall be stainless steel banded to the anchor bolts, with a minimum 2-inch lap, to enclose the void between the top of the foundation and the base plate. The mesh screening shall have ¼-inch maximum opening and a minimum wire diameter of AWG NO. 16. The screening shall not be installed until the Traffic Engineer has inspected the leveling nuts at the Traffic Signal "Turn-On".

All base covers shall fit tightly around the poles, with little or no gap at the top of the base cover. Two-piece base covers shall fit together tightly, with little or no gap between the two pieces. All base covers shall fit securely on top of the foundation, and shall not easily move or wobble. All base covers shall have an access hand hole, with a removable cover, and a minimum opening size of 200 square inches.

Pedestrian pushbutton stations shall be mounted to mast arm base covers according to the following:

- The top and bottom of the station shall be secured by drilling, tapping, and installing a 3/8-inch stainless steel threaded bolt, lock washer, and hex nut. Do not use self-tapping screws.

- Spacers made of 3/4-inch aluminum conduit shall be installed behind the pushbutton station, to level and plumb the station.

Luminaire arms shall be steel, 20 feet in length, tapered, monotube style, with an AASHTO 2001 wrap-around, gusset style connection.

Luminaires shall be installed at a minimum mounting height of 45 feet unless indicated otherwise on the plans, and shall be paid for separately.

Basis of Payment: This work will be paid for at the contract unit price per each for STEEL MAST ARM ASSEMBLY AND POLE (SPECIAL) or STEEL COMBINATION MAST ARM ASSEMBLY AND POLE (SPECIAL), of the signal arm length specified.

CONCRETE FOUNDATION (LCDOT)

Effective: October 1, 2016
Revised:
LC878.01

Description: This work shall consist of constructing a concrete foundation for a traffic signal post, controller base, or mast arm at locations shown on the plans and/or as directed by the Traffic Engineer.

General: This work shall be performed according to Section 878 of the “Standard Specifications” and the following:

All anchor bolts shall be according to Article 1006.09 of the “Standard Specifications”, except all anchor bolts shall be hot dipped galvanized the full length of the anchor bolt including the hook.

Concrete Foundations, Type A for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the District 1 “Standard Traffic Signal Design Details" as shown on the plans. All Type A foundations shall be a minimum of 48 inches deep.

Concrete Foundations, Type C (Special) for Traffic Signal Cabinets with Uninterruptable Power Supply (UPS / Battery Back-Up) cabinet installations shall constructed be according to the latest version of IDOT Standard 878001, except as modified herein. The constructed foundation shall be a minimum of 48 inches long by 31 inches wide, and shall have a minimum depth of 48 inches. An integral concrete pad foundation for the UPS cabinet shall be constructed a minimum of 31 inches long by 20 inches wide by 10 inches deep. The UPS cabinet pad foundation shall be integral to the side of the signal cabinet foundation, and shall be constructed on the same side as the signal cabinet power panel. Anchor bolts shall be provided and spaced according to the cabinet manufacturer's specifications. The conduits shall be the number and size as shown in the plans and placed at minimum depth of 30 inches. An L-Shaped concrete apron shall be constructed along the entire front of the signal cabinet foundation, the entire side of the UPS cabinet foundation, and the entire front of the UPS cabinet foundation. This concrete apron shall be a minimum of 36 inches wide by five inches deep. Perpendicular grooves shall be installed in each direction in the concrete apron according to Article 424.06 of the "Standard Specifications", beginning at the interior corner of the L shaped apron.

Concrete Foundations, Type D for Traffic Signal Cabinets shall be constructed according to the latest version of IDOT Standard 878001, except as modified herein. The constructed foundation shall be a minimum of 48 inches long by 31 inches wide, and shall have a minimum depth of 48 inches. Anchor bolts shall be provided and spaced according to the cabinet manufacturer's specifications. The conduits shall be the number and size as shown in the plans and placed at minimum depth of 30 inches. The concrete apron at the signal cabinet shall be constructed a minimum of 36 inches wide by 48 inches long by five inches deep.

Concrete Foundations, Type E for Mast Arm and Combination Mast Arm Poles shall be constructed according to the latest version of IDOT Standard 878001. The foundation shall be 15 feet deep, except when deeper foundations are called for in IDOT Standard 878001.

The Engineer shall approve the foundation excavation prior to placing any concrete.

Basis of Payment: This work will be paid for at the contract unit price per foot of depth for CONCRETE FOUNDATION, of the type specified.

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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 were 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.

HANDHOLES
Effective: January 01, 2002
Revised: July 1, 2015
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.

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)."

GROUNDING CABLE
Effective: May 22, 2002
Revised: July 1, 2015
817.01TS

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a UL Listed grounding connector to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. The grounding conductor shall be bonded to conduit terminations using rated grounding bushings. Bonding to existing handhole frames and covers shall be paid for separately.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.
Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

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 90º and one at 120º.

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.

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.

PEDESTRIAN PUSH-BUTTON POST
Effective: May 22, 2002
Revised: July 01, 2015
876.01TS

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

The steel post shall be according to Article 1077.01. Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.02 (a) 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.

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.

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 REPLACEMENT AND/OR INSTALLATION (ROADWAY GRINDING, RESURFACING, & PATCHING OPERATIONS)
Effective: January 1, 1985
Revised: July 1, 2015
886.02TS

The following Traffic Signal Special Provisions and the "District 1 Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction" Section 886 and 1079.

The intent of this Special Provision is to prescribe the materials and construction methods commonly used to replace traffic signal detector loops and replace magnetic signal detectors with detector loops during roadway resurfacing, grinding and patching operations. Loop detector replacement will not require the transfer of traffic signal maintenance from the District Electrical Maintenance Contractor to this contract's electrical contractor. Replacement of magnetic detector will require wiring revisions inside the control cabinet and therefore the transfer of maintenance will be required. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer.

The work to be provided under this contract consists of furnishing and installing all traffic signal work as specified on the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Notification of Intent to Work.
Contracts such as pavement grinding or patching which result in the destruction of traffic signal detection require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the detection removal, the Contractor shall notify the:

- Traffic Signal Maintenance and Operations Engineer at (847)705-4424
- IDOT Electrical Maintenance Contractor at (773) 287-7600

at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection.

Failure to provide proper notification may require the District's Electrical Maintenance Contractor to be called to investigate complaints of inadequate traffic signal timing. All costs associated with these expenses will be paid for by the Contractor at no additional expense to the Department according to Section 109 of the "Standard Specifications."

Acceptance of Material.
The Contractor shall provide:

1. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.
2. Four (4) copies of a letter listing the vendor's name and model numbers of the proposed equipment shall be supplied. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approved. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.
3. One (1) copy of material catalog cuts.
4. The contract number, permit number or intersection location must be on each sheet of the letter and material catalog cuts as required in items 2 and 3.

Inspection of Construction.
When the road is open to traffic, except as otherwise provided in Section 801 and 850 of the Standard Specifications, the Contractor must request a turn-on and inspection of the completed detector loop installation at each separate location. This request must be made to the 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.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. If this work is not completed in time, the Department reserves the right to have the work completed by others at the Contractor's expense.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid price, 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 will be subject to removal and disposal at the Contractor's expense.

Restoration of Work Area.
Restoration of the traffic signal work area due to the detector loop installation and/or replacement shall be included in the cost of this item. All roadway surfaces such as shoulders, medians, sidewalks, pavement shall be replaced as shown in the plans or in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded.

Removal, Disposal and Salvage of Existing Traffic Signal Equipment.
The removal, disposal, and salvage of existing traffic signal equipment shall be included in the cost of this item. All material and equipment removed shall become the property of the Contractor and disposed of by the Contractor outside the State's right-of-way. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in this contract.

DETECTOR LOOP REPLACEMENT.
This work shall consist of replacing existing detector loops which are destroyed during grinding, resurfacing, or patching operations.

If damage to the detector loop is unavoidable, replacement of the existing detection system will be necessary. This work shall be completed by an approved Electrical Contractor as directed by the Engineer.

Replacement of the loops shall be accomplished in the following manner: The Engineer shall mark the location of the replacement loops. The Traffic Signal Maintenance and Operations Engineer shall be called to approve loop locations prior to the cutting of the pavement. The Contractor may reuse the existing coilable non-metallic conduit (CNC) located between the existing handhole and the pavement if it hasn't been damaged. All burrs shall be removed from the edges of the existing conduit which could cause damage to the new detector loop during installation. If the existing conduit is damaged beyond repair, if it cannot be located, or if additional conduits are required for each proposed loop; the Contractor shall be required to drill through the existing pavement into the appropriate handhole, and install 1" (25 mm) CNC. This work and the required materials shall not be paid for separately but shall be included in the pay item Detector Loop Replacement. Once suitable CNC raceways is established, the loop may be cut, installed, sealed and spliced to the twisted-shielded lead-in cable in the handhole.
All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement or the curb shall be cut with a 1/4" (6.3 mm) deep x 4" (100 mm) saw-cut to mark location of each loop lead-in.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Traffic Signal Maintenance and Operations Engineer (847)705-4424 to inspect and approve the layout.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details." Saw-cuts 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 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 vender, secured to each wire with nylon ties. The lead-in wire, including all necessary connections for proper operation, from the edge of pavement to the handhole, shall be included in the detector loop pay item.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane. The sealant shall be installed 1/8" (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.

Round loop(s) 6 ft (1.8 m) diameter may be substituted for 6 ft (1.8 m) by 6 ft (1.8 m) square loop(s) and shall be paid for as 24 feet (7.2 m) of detector loop.

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.

Heat shrink splices shall be used according to the "District 1 Standard Traffic Signal Design Details."

Detector loop replacement shall be measured along the sawed slot in the pavement containing the loop cable up to the edge of pavement, rather than the actual length of the wire in the slot. Drilling handholes, sawing the pavement, furnishing and installing CNC to the appropriate handhole, cable splicing to provide a fully operable detector loop, testing and all trench and backfill shall be included in this item.

Basis of Payment.
Detector Loop Replacement shall be paid for at the contract unit price per foot (meter) of DETECTOR LOOP REPLACEMENT.

MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION.
This work shall consist of the removal of existing magnetic detectors, magnetic detector lead-in cable and magnetic detection amplifiers and related control equipment wiring, installation of detector lead-in cable, detector loops, detector amplifiers and related equipment wiring. The detector loop, cable, and amplifier shall be installed according to the applicable portions of the "Standard Specifications" and the applicable portions of the Special Provision for "Detector Loop Replacement." All drilling of handholes, furnishing and installing CNC, cable splicing, trench and backfill, removal of equipment, and removing cable from conduit shall be included in this item.

Basis of Payment.
Magnetic Detector Removal and Detector Loop Installation shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I, per each for INDUCTIVE LOOP DETECTOR, and foot (meter) for ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR.

PEDESTRIAN PUSH-BUTTON
Effective: May 22, 2002
Revised: July 1, 2015
888.01TS

Description.
Revise Article 888.01 of the Standard Specifications to read:

This work shall consist of furnishing and installing a latching (single call) or non-latching (dual call) pedestrian push-button and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station sign size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Installation.
Add the following to Article 888.03 of the Standard Specifications:

A mounting bracket and/or extension shall be used to assure proper orientation when two pedestrian push buttons are required for one post. The price of the bracket and/or extension shall be included in the cost of the pedestrian push button. The contractor is not allowed to install a push-button assembly with the sign below the push-button in order to meet mounting requirements.

Materials.
Revise Article 1074.02(a) of the Standard Specifications to read:

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

Revise Article 1074.02(e) of the Standard Specifications to read:

Stations shall be designed to be mounted to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Add the following to Article 1074.02 of the Standard Specifications:

(f) Location. Pedestrian push-buttons and stations shall be mounted to a post, mast arm pole or wood pole as shown on the plans and shall be fully ADA accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

Basis of Payment.
Revise Article 888.04 of the Standard Specifications to read:

This work will be paid for at the contract unit price per each for PEDESTRIAN PUSH-BUTTON or PEDESTRIAN PUSH-BUTTON, NON-LATCHING.

TEMPORARY TRAFFIC SIGNAL INSTALLATION
Effective: May 22, 2002
Revised: July 1, 2015
890.01TS

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 ±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 UNITERRUPTABLE 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 aerially 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. Unless otherwise directed by the Engineer, temporary portable traffic signals shall be restricted to use on roadways of less than 8000 ADT that have limited access to electric utility service, shall not be installed on projects where the estimated need exceeds ten (10) weeks, and shall not be in operation during the period of November through March. The Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract if the bridge project or Engineer requires temporary traffic signals to remain in operation into any part of period of November through March. If, in the opinion of the Engineer, the reliability and safety of the temporary portable traffic signal is not similar to that of a temporary span wire traffic signal installation, the Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals at no cost to the contract.

2. The controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.

3. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.

4. 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 ºF (-34 ºC) and 120 ºF (48 ºC). When not being utilized to inform and direct traffic, portable signals shall be treated as nonoperating equipment according to Article 701.11.

g. Basis of Payment. This work will be paid for according to Article 701.20(c).

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, 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.

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.

INTENTIONALLY

BLANK

Division of Transportation

Paula J. Trigg, P.E.
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone 847 377 7400
Fax 847 984 5888

The following Special Provisions and Supplemental Specifications approved by the State of Illinois Department of Transportation are applicable for this work and are on file in the office of the Lake County Engineer. Copies are available to prospective bidders upon request.

- Fair Employment Practices, Form LRS11, amended to conform to the latest "Equal Employment Opportunity Clause" required by the Illinois Fair Employment Practices Commission as a material form of all public contracts.

- Prevailing Wage Rates for the County of Lake

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

SPECIAL PROVISION
FOR
EMPLOYMENT PRACTICES

Effective: January 1, 1999

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

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

Equal Employment Opportunity. During the performance of this contract, the Contractor agrees as follows:

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

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

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

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

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

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

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

Lake County Prevailing Wage for July 2015

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		ALL		39.400	39.950	1.5	1.5	2.0	13.98	10.72	0.000	0.500
ASBESTOS ABT-MEC		BLD		36.340	38.840	1.5	1.5	2.0	11.47	10.96	0.000	0.720
BOILERMAKER		BLD		47.070	51.300	2.0	2.0	2.0	6.970	18.13	0.000	0.400
BRICK MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030
CARPENTER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
CEMENT MASON		ALL		42.050	44.050	2.0	1.5	2.0	10.00	19.24	0.000	0.500
CERAMIC TILE FNSHER		BLD		36.810	0.000	1.5	1.5	2.0	10.55	9.230	0.000	0.770
COMMUNICATION TECH		BLD		35.130	37.230	1.5	1.5	2.0	11.07	11.77	0.000	0.530
ELECTRIC PWR EQMT OP		ALL		0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000	0.000
ELECTRIC PWR EQMT OP		HWY		39.220	53.290	1.5	1.5	2.0	5.000	12.17	0.000	0.390
ELECTRIC PWR GRNDMAN		ALL		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR GRNDMAN		HWY		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR LINEMAN		ALL		45.360	51.480	1.5	1.5	2.0	5.000	14.06	0.000	0.450
ELECTRIC PWR LINEMAN		HWY		46.950	53.290	1.5	1.5	2.0	5.000	14.56	0.000	0.470
ELECTRIC PWR TRK DRV		ALL		30.340	51.480	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR TRK DRV		HWY		31.400	53.290	1.5	1.5	2.0	5.000	9.730	0.000	0.310
ELECTRICIAN		BLD		39.400	43.340	1.5	1.5	2.0	13.59	15.71	0.000	0.640
ELEVATOR CONSTRUCTOR		BLD		50.800	57.150	2.0	2.0	2.0	13.57	14.21	4.060	0.600
FENCE ERECTOR		ALL		37.340	39.340	1.5	1.5	2.0	13.05	12.06	0.000	0.300
GLAZIER		BLD		40.500	42.000	1.5	2.0	2.0	13.14	16.99	0.000	0.940
HT/FROST INSULATOR		BLD		48.450	50.950	1.5	1.5	2.0	11.47	12.16	0.000	0.720
IRON WORKER		ALL		44.200	46.200	2.0	2.0	2.0	13.65	21.14	0.000	0.350
LABORER		ALL		39.200	39.950	1.5	1.5	2.0	13.98	10.72	0.000	0.500
LATHER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
MACHINIST		BLD		45.350	47.850	1.5	1.5	2.0	7.260	8.950	1.850	0.000
MARBLE FINISHERS		ALL		32.400	34.320	1.5	1.5	2.0	10.05	13.75	0.000	0.620
MARBLE MASON		BLD		43.030	47.330	1.5	1.5	2.0	10.05	14.10	0.000	0.780
MATERIAL TESTER I		ALL		29.200	0.000	1.5	1.5	2.0	13.98	10.72	0.000	0.500
MATERIALS TESTER II		ALL		34.200	0.000	1.5	1.5	2.0	13.98	10.72	0.000	0.500
MILLWRIGHT		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
OPERATING ENGINEER		BLD	1	48.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD	2	46.800	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD	3	44.250	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD	4	42.500	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD	5	51.850	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD	6	49.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD	7	51.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		FLT	1	53.600	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		FLT	2	52.100	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		FLT	3	46.400	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		FLT	4	38.550	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		FLT	5	55.100	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		FLT	6	35.000	35.000	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	1	46.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY	2	45.750	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY	3	43.700	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY	4	42.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY	5	41.100	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY	6	49.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY	7	47.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
ORNAMNTL IRON WORKER		ALL		45.000	47.500	2.0	2.0	2.0	13.55	17.94	0.000	0.650
PAINTER		ALL		41.750	46.500	1.5	1.5	1.5	11.50	11.10	0.000	0.770
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
PIPEFITTER		BLD		46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.780
PLASTERER		BLD		43.430	46.040	1.5	1.5	2.0	13.05	14.43	0.000	1.020
PLUMBER		BLD		46.650	48.650	1.5	1.5	2.0	13.18	11.46	0.000	0.880
ROOFER		BLD		41.000	44.000	1.5	1.5	2.0	8.280	10.54	0.000	0.530
SHEETMETAL WORKER		BLD		42.230	45.610	1.5	1.5	2.0	10.53	20.68	0.000	0.720
SIGN HANGER		BLD		31.310	33.810	1.5	1.5	2.0	4.850	3.280	0.000	0.000
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	11.75	9.650	0.000	0.550
STEEL ERECTOR		ALL		42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350
STONE MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030
~~SURVEY WORKER~~	->NOT IN EFFECT			ALL	37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000	0.500

TERRAZZO FINISHER	BLD		38.040	0.000	1.5	1.5	2.0	10.55	11.22	0.000	0.720
TERRAZZO MASON	BLD		41.880	44.880	1.5	1.5	2.0	10.55	12.51	0.000	0.940
TILE MASON	BLD		43.840	47.840	1.5	1.5	2.0	10.55	11.40	0.000	0.990
TRAFFIC SAFETY WRKR	HWY		32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500
TRUCK DRIVER	ALL	1	36.560	36.760	1.5	1.5	2.0	9.070	7.050	0.000	0.000
TRUCK DRIVER	ALL	2	36.000	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150
TRUCK DRIVER	ALL	3	36.200	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150
TRUCK DRIVER	ALL	4	36.400	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150
TUCKPOINTER	BLD		43.800	44.800	1.5	1.5	2.0	8.280	13.49	0.000	0.670

Legend: RG (Region)
TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)
C (Class)
Base (Base Wage Rate)
FRMAN (Foreman Rate)
M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.
OSA (Overtime (OT) is required for every hour worked on Saturday)
OSH (Overtime is required for every hour worked on Sunday and Holidays)
H/W (Health & Welfare Insurance)
Pensn (Pension)
Vac (Vacation)
Trng (Training)

Explanations

LAKE COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATION TECHNICIAN

Low voltage construction, installation, maintenance and removal of

telecommunication facilities (voice, sound, data and video) including outside plant, telephone, security systems and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

Class 6. ROV Pilot, ROV Tender

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted January 1, 2017

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

RECURRING SPECIAL PROVISIONS

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CHECK SHEET
FOR
LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

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

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

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

SPEED DISPLAY TRAILER (BDE)

Effective: April 2, 2014
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."

Add the following to Article 701.20 of the Standard Specifications:

"(k) When speed display trailers are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other speed display trailers, this work will be paid for at the contract unit price per calendar month or fraction thereof for each trailer as SPEED DISPLAY TRAILER."

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 sign letters shall be between 5 and 8 in. (125 and 200 mm) in height. 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 work zone posted speed 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 25 mph 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 speeds limit shall not be

displayed. On any roadway facility if detected speeds are less than 25 mph, they 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."

80340

MAST ARM ASSEMBLY AND POLE (BDE)

Effective: July 1, 2016

Revise Article 1077.03(a)(1) of the Standard Specifications to read:

"(1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 2015 Edition. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the "fillet welded, ring stiffened box connection" detail as shown in Figure C5.6.7-2. The mast arm and pole shall be designed assuming the ADT > 10,000, Risk Category Typical, and Fatigue Category I Natural Wind Gust only."

80369

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

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

<table>
<tr><th>Use</th><th>Mixture</th><th>Aggregates Allowed</th></tr>
<tr><td>HMA
High ESAL
Low ESAL</td><td>C Surface and Leveling Binder IL-9.5 or IL-9.5L

SMA
Ndesign 50
Surface</td><td><u>Allowed Alone or in Combination</u> [5/]:

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

SMA
Ndesign 50
Surface</td><td><u>Allowed Alone or in Combination</u> [5/]:

Crushed Gravel
Carbonate Crushed Stone (other than Limestone)[2/]
Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag[4/]
Crushed Concrete[3/]</td></tr>
<tr><td><u>Other Combinations Allowed:</u>

Up to... | With...</td></tr>
<tr><td>25% Limestone | Dolomite</td></tr>
<tr><td>50% Limestone | Any Mixture D aggregate other than Dolomite</td></tr>
<tr><td>75% Limestone | Crushed Slag (ACBF) or Crushed Sandstone</td></tr>
<tr><td rowspan="4">HMA
High ESAL</td><td rowspan="4">E Surface
IL-9.5

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

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

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

Up to... | With...</td></tr>
<tr><td>50% Dolomite[2/] | Any Mixture E aggregate</td></tr>
</table>

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

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

Crystalline Crushed Stone
Crushed Sandstone
Crushed Slag (ACBF)
Crushed Steel Slag
No Limestone.</td></tr>
<tr><td colspan="2"><u>Other Combinations Allowed</u>:</td></tr>
<tr><td>Up to...</td><td>With...</td></tr>
<tr><td>50% Crushed Gravel[2/], Crushed Concrete[3/], or Dolomite[2/]</td><td>Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone</td></tr>
</table>

1/ Crushed steel slag allowed in shoulder surface only.
2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. 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: April 1, 2016

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 steal 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 I 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				
	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
Ndesign	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/] 16.0 [3/]	75 - 83

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 with a quantity of 3000 tons (2750 metric tons) or more according to the Manual of Test Procedures for Materials "Hot Mix Asphalt Test Strip Procedures".

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 G_{mb}."

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: April 2, 2016

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 Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research 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, Superpave 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, Superpave (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, Superpave 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 Superpave (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 Bureau of Materials and Physical Research 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)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 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	
% Passing:[1/]	FRAP	RAS
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	3.0%
No. 200	2.2%	2.5%
Asphalt Binder Content	0.3%	1.0%

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, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from Superpave/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.

(3) RAP from Class I, Superpave/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 Bureau of Materials and Physical Research 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		
Ndesign	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. A RAS stone bulk specific gravity (Gsb) of 2.300 shall be used for mix design purposes.

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 material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

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 Bureau of Materials and Physical Research 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 µm) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation.”

HOT-MIX ASPHALT – LONGITUDINAL JOINT SEALANT

Effective: March 1, 2016
Revised: June 29, 2016

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. Articles 3.1.9 and 3.4.1.4 of the policy memorandum will be excluded.

Add the following to Article 406.02 of the Standard Specifications.

"(d) Longitudinal Joint Sealant (LJS) (Note 2.)

Note 2. 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 @ 82°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, %	6.0 max.	AASHTO T 111
Elastic Recovery, 100 mm elongation, cut immediately, 25°C, %	58 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"

Add the following to Article 406.03 of the Standard Specifications.

"(j) Longitudinal Joint Sealant (LJS) Pressure Distributor (Note 2.)
(k) 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.

Note 3. When a melter kettle is used to transport and apply the LJS longitudinal joint sealant, 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.

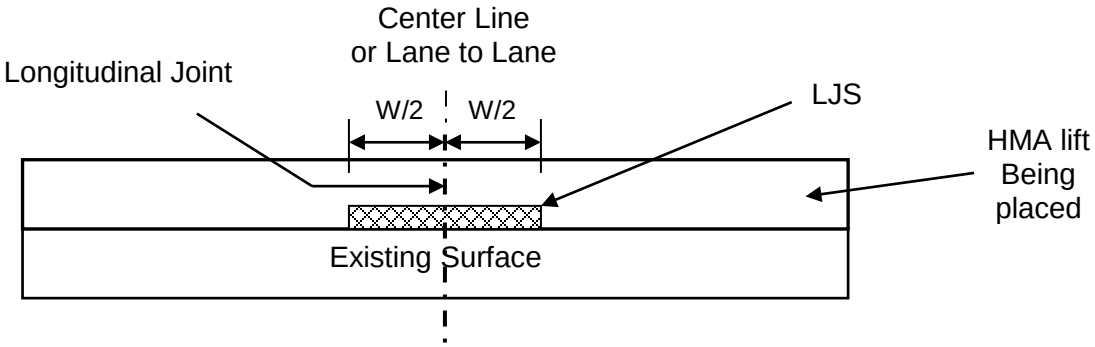
The notched wedge longitudinal joint shall consist of a 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the lane line, a 9 to 12 in. (230 to 300 mm) wide uniform taper sloped toward and extending into the open lane, and a second 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the outside edge.

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.

When using a notched wedge joint, the bituminous material specified for the mainline tack coat shall be applied to the entire face of the longitudinal 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 longitudinal joint sealant (LJS) is specified, it shall be applied for all lifts of paving excluding lifts of IL-4.75 mm mixtures. 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 application shall be centered under the joint of the HMA lift being constructed within 2 in. (50 mm) of the joint.



The width and minimum application rate shall be according to the following table:

LJS Application Rate Table		
Overlay Thickness in. (mm)	LJS Width "W" in. (mm)	Application Rate [1/] lb/ft (kg/m)
HMA Mixtures [2/]		
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 [2/]		
1 1/2 (38)	12 (300)	0.83 (1.24)
1 3/4 (44)	12 (300)	0.92 (1.37)
2 (50)	12 (300)	1.00 (1.49)

1/ The application rate has a surface demand for liquid included within it. The nominal thickness of the LJS may taper from the center of the application to a lesser thickness on the edge of the application. The width and weight/foot (mass/meter) shall be maintained.

2/ In the event of a joint between an SMA and HMA mixture, the SMA application rate will be used.

The Contractor shall furnish to the Engineer a bill of lading for each tanker supplying material to the project. The application rate of LJS will be verified within the first 1000 ft (300 m) of the day's scheduled application length and every 6000 ft (1800 m) the remainder of the day. For projects less than 3000 ft (900 m), the rate will be verified once. A suitable paper or pan shall be placed at a random location in the path of the placement for the LJS. After application of the LJS, the paper or pan shall be picked up and weighed. The weight per foot will be calculated. The tolerance from the plan target weight/foot (mass/meter) from the LJS Application Rate Table shall be ± 15 percent. The Contractor shall replace the LJS in the area where the sample was taken.

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 ½ 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 start of paving of pavement course, 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.

"Bituminous material for longitudinal joint sealant 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."

When the LJS is specified, the longitudinal joint density testing for QC/QA, QCP, or PFP will not be required on the joint(s) with the LJS and the pay adjustments will not be applied.

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:

City of Zion

Village of Beach Park

City of Waukegan

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

INTENTIONALLY

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Illinois Department of Transportation

Cultural and Natural Resources Review of Borrow Areas

Borrow ☐

Topsoil ☒

A. Submittal Date: _____ Requesting Agency: ☐ DOH ☐ DOA ☐ Local ☐ Other: _____
Previous survey request(s) submitted for this ☐ Yes ☐ No Addendum # _____
Date(s) of prior submittal(s): _____

B. Route: CH 27 Marked: Lewis Avenue County(ies): Lake District: 1
Section: 16-00089-08-RS Project No.: _____
Job No.: P- _____ C- _____ Contract No.: _____

C. Borrow Location:

Legal Description – indicate section, sub-section, township, range, and street address, if available:

_____

_____

_____

_____

Limits staked in field: ☐ Yes ☐ No

GPS/UTM Coordinates:
NAD Zone _____ Easting _____ Northing _____

Specify if ☐ Staked Corners ☐ Approximate Center

D. yds^3 (0.00 m^3) borrow from this area. Borrow Area Size: acres (0.00 ha)
Current Land Use (Check each which applies.): ☐ Timber ☐ Row Crops ☐ Pasture ☐ Other (Describe):

_____

_____

_____

_____

_____

E. Name of Contractor: _____
Contact Person: _____ Phone: _____
Address: _____
Name of District/Local Resident Engineer: _____ Phone: _____
E-mail: _____

F. Has the site been cleared by IDOT for cultural resources within the past 5 years?
☐ Yes ☐ No ☐ Unknown

G. This request is number _____ of _____ requests for this project.

ATTACHMENTS REQUIRED:

1. **Ground Level Color Photos**
2. **U.S.G.S. 7.5' Topo. Quad. Map**
3. **Aerial Photo**
4. **Landowner Agreement (See page 2)**
5. **Sketched Map with Landmarks**

(LEAVE THIS SPACE BLANK)

Illinois Department of Transportation

Landowner Agreement
For BDE 2289

Borrow ☐

Topsoil ☐

To whom it may concern:

I (we), said property owner(s), _____
(Name and Address of Property Owner)

_____

do hereby grant to the Illinois State Archeological Survey (ISAS), or their agents acting on behalf of Illinois Department of Transportation, permission to survey and/or test excavate said property, located:

_____

_____

_____

_____
(Indicate location of property by county, section, sub-section, township, range)

_____
(Signature of Property Owner)

_____
(Name of Property Owner)

_____
(Address of Property Owner)

_____

I (we), _____ owner(s) of said property, do hereby grant
(Name)
permission for ISAS, or their agents, acting on behalf of the Illinois Department of Transportation, to remove artifacts and scientific samples from said property and agree that all artifacts and samples shall remain in public ownership, in the custody of ISAS at the University of Illinois, Urbana-Champaign.

_____
(Signature of Property Owner)

_____
(Name of Property Owner)

_____
(Address of Property Owner)

_____

_____
(Phone number of Owner)

BORROW/WASTE/USE AREAS

Instructions

NOTE: PLEASE FILL OUT THE ENTIRE FORM. INCOMPLETE FORMS OR ATTACHMENTS WILL BE RETURNED FOR ADDITIONAL INFORMATION. If additional space is needed, incorporate necessary information in the transmittal memorandum. A TRANSMITTAL MEMORANDUM MUST BE SUBMITTED WITH EACH REQUEST FORM.

- Submit survey request at earliest possible date to ensure that construction schedules will be met.
- Complete and submit individual forms and attachments for each borrow area, haul road, plant site, staging/storage area, waste area, etc. to be surveyed.
- In order to avoid repeated trips to the same project site, indicate the number of requests being submitted for this project as the last entry on this form.

A. Requesting Agency:	DOH – Division of Highways project DOA – Division of Aeronautic project DOWR – Division of Water Resources project Local – County or Municipality project
B. Route: **Marked:**	FAP, FAI, FAU, CH, TR, etc. Illinois State route designations, U.S. route designations, etc.
C. Borrow/Use Area Location:	Describe the location of borrow area(s), haul roads, plant sites, staging/storage area, waste area, etc. Include location map* and plan sketch.

Submittals/Attachments:

- Transmittal Memorandum
- 1 original and 2 copies of this form, each with a location map*, plan sketch and signed "Landowner Release Form"
- 3 set of plan view layouts with approximate ROW/easement limits
- 1 copy of **ground level photos is required**.

* Copies from recent plat books are also very useful.

SUBMIT TO APPROPRIATE DISTRICT OFFICE FOR FORWARDING TO:

Bureau of Design & Environment
Illinois Department of Transportation
2300 South Dirksen Parkway, Room 330
Springfield, IL 62764

Attn: Peter J. Frantz

For additional information, call 217/782-4770.

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Illinois Department of Transportation

Waste/Use Area Review

A. Submittal Date: _____ Requesting Agency: ☐ DOH ☐ DOA ☐ Local ☐ Other: _____
Previous survey request(s) submitted for this project? ☐ Yes ☐ No Addendum # _____
Date(s) of prior submittal(s): _____

B. Route: CH 27 Marked: Lewis Avenue County(ies): Lake District: 1
Section: 16-00089-08-RS Project No.: _____
Job No.: P- _____ C- _____ Contract No.: _____

C. Will the use area require excavation greater than 6 inches in depth? ☐ Yes ☐ No ☐ N/A

If yes, a written approval from the BDE Cultural Resources Unit is required.

D. ☐ Waste/ ☐ Use Area Location (Legal Description and GPS Coordinates):

_____

GPS/UTM Coordinates:
Zone _____ Easting _____ Northing _____

E. Waste/Use Area Size: acres (0.00 ha)
Current Land Use (Check each which applies.): ☐ Timber ☐ Row Crops ☐ Pasture ☐ Other (Describe):

_____

F. Name of Contractor: _____
Contact Person: _____ Phone: _____
Address: _____
Name of District/Local Resident Engineer: Phone:

G. Has the area been cleared by IDOT within the past 5 years? ☐ Yes ☐ No ☐ Unknown

H. This request is number _____ of _____ requests for this project.

(LEAVE THIS SPACE BLANK)

ATTACHMENTS REQUIRED:

1. **Ground Level Color Photos**
2. **U.S.G.S. 7.5" Topo. Quad. Map**
3. **Aerial Photo**
4. **Landowner Agreement (page 2)**
5. **Sketched Map with Landmarks & Dimensioning**

}}

Illinois Department of Transportation

Agreement

Landowner

For BDE 2290

To Whom it May Concern:

I (We), said property owner(s), _____

_____

(Name and Address of Property Owner)

do hereby grant to the contractor(s) _____

_____

(Name and Address of Contractor)

Permission to deposit said materials from the construction project (Contract #) on my property as shown on the attached sketch and documentation.

_____

_____

_____

_____

(Indicate location of property by county, section, sub-section, township, range)

_____

(Signature of Property Owner)

_____

(Name of Property Owner)

_____

_____

(Address of Property Owner)

SPECIAL PROVISION
FOR
CONSTRUCTION DEBRIS

Effective October 18, 1999

Add the following to the third paragraph of Article 202.03 of the Standard Specifications:

"The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred , disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years."

CONSTRUCTION DEBRIS MANIFEST

Ticket No. _____

Contract No._____

Generator _____

Hauler _____ Truck No. _____

Description of Material

_____

_____

_____

_____

_____

_____

_____

Approximate Weight of Material _____

Approximate Volume of Material _____

Disposition of Material: Location: _____

Date: _____

Time: _____

Owner: _____

Operator: _____

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	CH27	Marked Rte.	Lewis Avenue
Section	16-00089-08-RS	Project No.	
County	Lake County	Contract No.	

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

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

Paula J. Trigg	Paula J Trigg
Print Name	Signature
County Engineer	Nov 11, 2016
Title	Date
Lake County Division of Transportation	
Agency	

I. Site Description:

A. Provide a description of the project location (include latitude and longitude):

The project is located on Lewis Avenue beginning 425 feet north of Wadsworth Road and extending north to the southern edge of 20th Street. The project is located in the City of Waukegan (south end of the project on the west side of the road) the Village of Beach Park (both sides from Wadsworth Road to 33rd Street and the west side from 33rd Street to 29th Street) and the City of Zion (east side from 33rd Street to 20th Street and west side from 29th Street to 20th Street), Lake County, Illinois.

B. Provide a description of the construction activity which is the subject of this plan:

The project includes milling and resurfacing the existing pavement; removing and replacing the curb and gutter; adjusting, reconstructing, or removing and replacing drainage structures; replacing the traffic signals at 33rd Street and 27th Street; constructing sidewalk and detectable warnings at street crossings; and related work.

C. Provide the estimated duration of this project:

April 2017 thru October 2017

D. The total area of the construction site is estimated to be 21.8 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 1.0 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.72

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

232A - Ashkum Silty Clay Loam 0-2% Slope
298A - Beecher Silt Loam 0-2% Slope
298B - Beecher Silt Loam 2-4% Slope
530B - Ozaukee Silt Loam 2-4% Slope
530C2 - Ozaukee Silt Loam 4-6% Slope, Eroded
531B - Markham Silt Loam 2-4% Slope
531C2 - Markham Silt Loam 4-6% Slope, Eroded
531D2 - Markham Silt Loam 6-12% Slope, Eroded

The erosivity index is 132 for the project site.

G. Provide an aerial extent of wetland acreage at the site:

There are several locations where existing identified wetlands abut the project site. No construction activities are proposed within these wetlands.

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

See Plans. Areas where disturbance results in exposed soil adjacent to roadside drainageways and to adjacent culvert construction. At a minimum, these areas along with the rest of the site will be monitored at a frequency that meets state and local permit requirements.

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

See Plans

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

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

Lake County Division of Transportation

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

Lake County
City of Zion
Village of Beach Park

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:

Kellog Creek and Dead River with Lake Michigan as the ultimate receiving waters

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.

See Plans

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:

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

2. TMDL (fill out this section if checked above)

   a. The name(s) of the listed water body:

   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:

   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 that allocation:

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

☒	Soil Sediment	☒	Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
☒	Concrete	☐	Antifreeze / Coolants
☒	Concrete Truck Waste	☐	Waste water from cleaning construction equipment
☒	Concrete Curing Compounds	☒	Other (specify) Sanitary Stations
☐	Solid Waste Debris	☐	Other (specify)
☐	Paints	☐	Other (specify)
☐	Solvents	☐	Other (specify)
☐	Fertilizers / Pesticides	☐	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:

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

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

Vegetation disturbance shall be limited to the area necessary to complete the work. Temporary or permanent erosion controls will be installed at the frequency described above. Disturbed soil shall be inspected until permanent stabilization is achieved. The Contractor shall disturb no more than 20 acres of area at any time.

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

Once construction activity in an area has permanently ceased, that area should be permanently stabilized. Temporary perimeter controls should be removed after final stabilization of those portions of the site upward of the perimeter control.

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 structural practices will be used for this project:

- ☒ Perimeter Erosion Barrier
- ☐ Temporary Ditch Check
- ☒ Storm Drain Inlet Protection
- ☐ Sediment Trap
- ☐ Temporary Pipe Slope Drain
- ☐ Temporary Sediment Basin
- ☐ Temporary Stream Crossing
- ☐ Stabilized Construction Exits
- ☐ Turf Reinforcement Mats
- ☐ Permanent Check Dams
- ☐ Permanent Sediment Basin
- ☐ Aggregate Ditch
- ☐ Paved Ditch
- ☐ Rock Outlet Protection
- ☐ Riprap
- ☐ Gabions
- ☐ Slope Mattress
- ☐ Retaining Walls
- ☐ Slope Walls
- ☐ Concrete Revetment Mats
- ☐ Level Spreaders
- ☐ Other (specify)
- ☐ Other (specify)
- ☐ Other (specify)
- ☐ Other (specify)
- ☐ Other (specify)

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

Perimeter controls of the site shall be installed prior to soil disturbance (excluding soil disturbance necessary to install the controls). Perimeter controls, including the silt fence, shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Existing field tiles will be adequately protected as necessary during construction operations. Additional Best Management Practices should be implemented on an as-needed basis to protect water quality.

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

Once construction activity in an area has permanently ceased, temporary structural practices shall be removed after final stabilization of those portions of the site upward of the temporary structural practices. Permanent control measures shall be field verified for proper function and installation during active construction. Upon submittal on the NOT, permanent control measures will be monitored as part of the long term Maintenance and Monitoring Plan.

D. **Treatment Chemicals**

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

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

Polymer flocculants are not scheduled for use on this project. A contingency quantity of flocculants has been include in the project pay items for use if necessary.

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 and 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:

In general this project will not impact existing drainage outlet locations.

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:

See Erosion Controll Plans

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 timeframe
- 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
- Timeframe 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 Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Vehicle and Equipment Cleaning and Maintenance – Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Dewatering Activities – Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
- Polymer Flocculants and Treatment Chemicals – Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
- Additional measures indicated in the plan.

III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide general maintenance guides 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 the Contractor's responsibility to attain maintenance guidelines for any manufactured

BMPs which are to be installed and maintained per manufacture's specifications.

See Plans and Contract Specifications
A. Spill Prevention and Control – BMPs shall be implemented to contain and clean-up spills and prevent material discharges to the storm drain system. The Contractor shall produce a written plan stating how his/her company will prevent, report, and clean up spills and provide a copy to all of his/her employees and the Resident Engineer. The Contractor shall notify all of his/her employees on the proper protocol for reporting spills. The Contractor shall notify the Resident Engineer of any spills immediately.

B. Vehicle and Equipment Cleaning – Vehicles and equipment are to be cleaned in designated areas only, preferably off site.

C. Vehicle and Equipment Fueling – A variety of BMPs can be implemented during fueling of vehicles and equipment to prevent pollution. The Contractor shall inform the Resident Engineer as to which BMPs will be used on the project. The Contractor shall inform the Resident Engineer how (s)he will be informing his/her employees of these BMPs (i.e. signs, training, etc.). Below are a few examples of these BMPs:

• Containment
• Spill Prevention and Control
• Use of Drip Pans and Absorbents
• Automatic Shut-Off Nozzles
• Topping Off Restrictions
• Leak Inspection and Repair

D. Vehicle and Equipment Maintenance – On site maintenance shall be performed according to all environmental laws such as proper storage and no dumping of old engine oil or other fluids on site. When not in use, vehicles utilized in the site preparation operations of the site should be stored in a designated area outside of the regulatory floodplain, away from any natural or created watercourse, pond, drainage-way or storm drain. Vehicle maintenance (including both routine maintenance as well as on-site repairs) should be made within a designated containment area to prevent the migration of mechanical fluids (oil, antifreeze, etc.) into watercourses, wetlands or storm drains. Drip pans or absorbent pads should be used for all vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids. Construction vehicles should be inspected frequently to identify any leaks; leaks should be repaired immediately or the vehicle should be removed from site. Dispose of all used oil, antifreeze, solvents and other vehicle-related chemicals in accordance with USEPA and IEPA regulations and per MSDS and/or manufacturer instructions.

E. To the extent practicable, portable sanitary stations should be located in an area that does not drain to any protected natural areas, Waters of the State, or storm water structures and should be anchored to the ground to prevent from tipping over. Portable sanitary stations located on impervious surfaces should be placed on top of a secondary containment device, or be surrounded by a control device (e.g., gravel-bag berm). Sanitary waste should be disposed of according to applicable State and/or local regulations.

F. Stabilized Construction Entrance: The entrances should be maintained to prevent tracking of sediment onto public streets. Maintenance includes top dressing with additional stone and removing top layers of stone and sediment. The sediment tracked onto the public right-of-way should be removed immediately.

G. Sediment Filter Bags and Treatment Swales: Sediment filter bags should be installed on pump outlet hoses that discharge off-site, and should be placed in an area that allows for the bag to be removed without producing a sediment discharge. If required, jute and flocculent placed in treatment swales should be monitored for effectiveness, and replaced as needed to maintain a sediment-free storm water discharge.

H. Vegetative Soil Erosion Measures: The vegetative growth of temporary and permanent seeding, vegetative filters, etc., shall be maintained periodically and supplied adequate watering and fertilizer. Reseed as necessary where vegetation establishment is poor.

I. Silt Fence: Silt fences should be inspected regularly for undercutting where the fence meets the ground, overtopping, and tears along the length of the fence. Deficiencies should be repaired immediately. Remove accumulated sediments from the fence base when the sediment reaches one-half the fence height. During final stabilization, properly dispose of any sediment that has accumulated on the silt fence. Alternative BMPs (e.g. staked wattles, run off control, etc.) should be considered for areas where silt fence continually fails.

J. Concrete Washout Faciities: Concrete waste or washout should not be allowed in the street or allowed to reach a storm water drainage system or watercourse. Concrete washout should be contained and completed in a location designated by the RE. Concrete washout containment facilities should be of sufficient volume to completely contain all liquid and concrete waste materials including enough capacity for anticipated levels of rainwater. Designated washout areas should be lined with a 30-mil impermeable membrane. The dried concrete waste material should be picked up and disposed of properly when two-thirds capacity is reached. Hardened concrete can be properly recycled and used again on site (as approved by the RE) or hauled off site to an appropriate landfill.

K. Management of Landscape Products: Herbicides, pesticides, and fertilizers will be stored in a secure location, away from any storm inlets or watercourses. The use of pesticides will be minimized in and near the storm drainage system or watercourses. The use of all pesticides will be recorded. Only the type and quantity of fertilizer or other soil amendment needed will be applied, based on the fertility of the soil and the type of vegetation. Landscaping stockpiles, including mulch, bark, topsoil, and other materials shall be stored in a secure location away from storm inlets or watercourses.

L. Dust Control: Dust controls should be implemented on site as necessary. Repetitive treatment should be applied as needed to accomplish control when temporary dust control measures are used. A water truck should be present on site (or available) for sprinkling/irrigation to limit the amount of dust leaving the site. Watering should be applied daily (or more frequently) to be effective. Caution should be used not to overwater, as that may cause erosion. If field observations indicate that additional protection from wind erosion (in addition to, or in place of watering) is necessary, alternative dust suppressant controls should be implemented at the discretion and approval of the RE.

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 email at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an “Incidence of Non-Compliance” (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Failure to Comply:

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

Illinois Department of Transportation

Contractor Certification Statement

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

Route	CH27	Marked Rte.	Lewis Avenue
Section	16-00089-08-RS	Project No.	
County	Lake County	Contract No.	

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

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

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	Signature
Title	Date
Name of Firm	Telephone
Street Address	City/State/ZIP

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

INTENTIONALLY

BLANK

Illinois Department of Transportation

Storm Water Pollution Prevention Plan
Erosion Control Inspection Report

Date of Inspection: _____ County: Lake

Name of Inspector: _____ Section: 16-00089-08-RS

Type of Inspection: Weekly ☐ Route: CH27

>0.5" Precip. ☐ Precip. Amt: _____ " District: District 1

Contractor: _____ Contract No: _____

Subs: _____ Job No. _____

_____ Project: _____

NPDES/ESC Deficiency Deduction: $ _____ NPDES Permit No: ILR40 (0517)

Total Disturbed Area: 1.0 acre Ready for Final Cover: _____ acre

Final Cover Established: _____ acre

Erosion and Sediment Control Practices

Item # / BMP			YES	NO	N/A
1.	**Slopes:**	Do all slopes and exposed areas where soil disturbing activities have temporarily or permanently ceased, and not permanently stabilized, have adequate temporary seed or other stabilization in accordance with the NPDES permitted 7 and 14 day rule?	☐	☐	☐
2.	**Ditches**	Are all ditches (existing and temporary) clear of sediment and/or debris?	☐	☐	☐
		Do all ditches have adequate stabilization and structural practices in place?	☐	☐	☐
3.	**Perimeter Erosion Barrier:**	Are all perimeter erosion barriers in good working order?	☐	☐	☐
		Has perimeter barrier no longer needed been removed and the area stabilized?	☐	☐	☐
4.	**Temporary Ditch Checks:**	Are all temporary ditch checks in good working order?	☐	☐	☐
		Are the current ditch checks adequate to control erosion?	☐	☐	☐
5.	**Temp Diversions/ Slope Drains:**	Are all Temporary Diversions and Slope Drains functioning properly?	☐	☐	☐
6.	**Inlet Protection:**	Are ALL inlet protection devices in good working order?	☐	☐	☐
		Are ALL inlet filters less than 25% full and fabric unobstructed?	☐	☐	☐
7.	**Sediment Basins/Traps:**	Are ALL sediment basins/traps in good working order?	☐	☐	☐
		Does sufficient capacity exist for the design stormwater event?	☐	☐	☐
8.	**Areas of Interest – Wetland/Prairie/Tree Preservation:**				
		Has the contractor remained clear of all designated "no entry" areas?	☐	☐	☐
		Are all "no intrusion" areas adequately marked to prevent accidental entry?	☐	☐	☐
9.	**Stock Piles:**	Are all stockpiles properly situated and maintained to prevent runoff and protected to minimize discharge of materials or residue in case of erosion?	☐	☐	☐
10.	**Borrow/Waste Sites:**	Are all borrow and waste locations, including those located offsite, in compliance with NPDES requirements?	☐	☐	☐
11.	**Other Installations:**	Are all other BMP installations shown in the plans properly functioning? (note in comments)	☐	☐	☐

General Site Maintenance Required of the Permit

12.	**Vehicle Tracking:**	Is the site free from mud, sediment and debris from the vehicles entering/leaving off road areas throughout the site?	☐	☐	☐
		Are Stabilized Construction field entrances properly located?	☐	☐	☐
		Are Stabilized Construction field entrances in good working condition?	☐	☐	☐

BC 2259 (Rev. 05/15/09)

Item # / BMP			YES	NO	N/A
13.	**Concrete Washout Areas:**	Are concrete washout areas adequately signed and maintained?	☐	☐	☐
		Has all washout occurred only at designated washout locations?	☐	☐	☐
14.	**Staging/Storage Areas:**	Are all staging/storage facilities free of litter, leaking containers, leaking equipment, spills, etc?	☐	☐	☐
15.	**Fuel/Chemical Storage:**	Are all fuels and chemicals stored only in designated locations?	☐	☐	☐
		Are all designated locations free of evidence of leaks and or spills?	☐	☐	☐
16.	**Previous Inspection Follow Up:**	Have all corrections from the last report been properly completed?	☐	☐	☐
		If not, has a NPDES/ESC Deficiency Deduction been assessed?	☐	☐	☐
17.	**Update SWPPP:**	Have all changes to the projects SWPPP been noted on the graphic site plan, signed and dated?	☐	☐	☐
18.	**Off-site Dischare of Sediment:**	Has sediment or other pollutants of concern been released from the project site?	☐	☐	☐
		If Yes, has the Illinois Environmental Protection Agency been notified within 24 hours of your observation of the discharge and an Incidence of Non-Compliance (ION) mailed within 5 days?	☐	☐	☐

Specific Instructions Related to "No" Answers From Above:

Item #	Station or Station to Station	Practice	Comments/Actions Required	Time for Repair

Other Comments:

Additional Pages (Attached As Needed)

☐ Outfalls / Receiving Waters
☐ Drainage Structure/Ditch Check Locations
☐ Additional Instructions to Contractor

Other: _____

If the answer to any of Items 1-16 above is "No", the contractor is hereby ordered to correct the deficiency. Repairs and stabilization are to be completed within 24 hours of this report (or as indicated above) or the DAILY NPDES/ESC Deficiency Deduction will be assessed for each noted deficiency until the required action is completed.

Inspector's Signature _____ Date/Time: _____

Contractor's Signature _____ Date/Time: _____

Original: Project File
cc: Contractor

BC 2259 (Rev. 05/15/09)

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

Permit No. ILR10 _____

OWNER INFORMATION

Company/Owner Name: Lake County Division of Transportation

Mailing Address: 600 West Winchester Road Phone: (847) 377-7400

City: Libertyville State: IL Zip: 60048 Fax: (847) 984-5601

Contact Person: _____ E-mail: _____

Owner Type (select one) County

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: Lewis Avenue Resurfacing County: Lake

Street Address: _____ City: Beach Park / Zion IL Zip: _____

Latitude: _____ (Deg) _____ (Min) _____ (Sec) Longitude: _____ (Deg) _____ (Min) _____ (Sec) 20 & 29 Section T46N Township **R12E** Range

Approximate Construction Start Date Apr 3, 2017 Approximate Construction End Date Oct 31, 2017

Total size of construction site in acres: 21.8

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 Transportation

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.

INTENTIONALLY

BLANK

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: Lake County Division of Transportation

Street Address: 600 W. Winchester Road P.O. Box: _____

City: Libertyville State: IL Zip Code: 60048 County: Lake

Phone: (847) 377-7400 Email: _____

Construction Site Information:

Site Name: Lewis Avenue Resurfacing

Street Address: _____

City: Beach Park / Zion State: IL Zip Code: _____

Latitude: _____ (Deg) _____ (Min) _____ (Sec) Longitude: _____ (Deg) _____ (Min) _____ (Sec) 20 & 29 Section T46N Township R12E 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:

IL 532 2105 WPC
624 Rev. 10/2011

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.

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

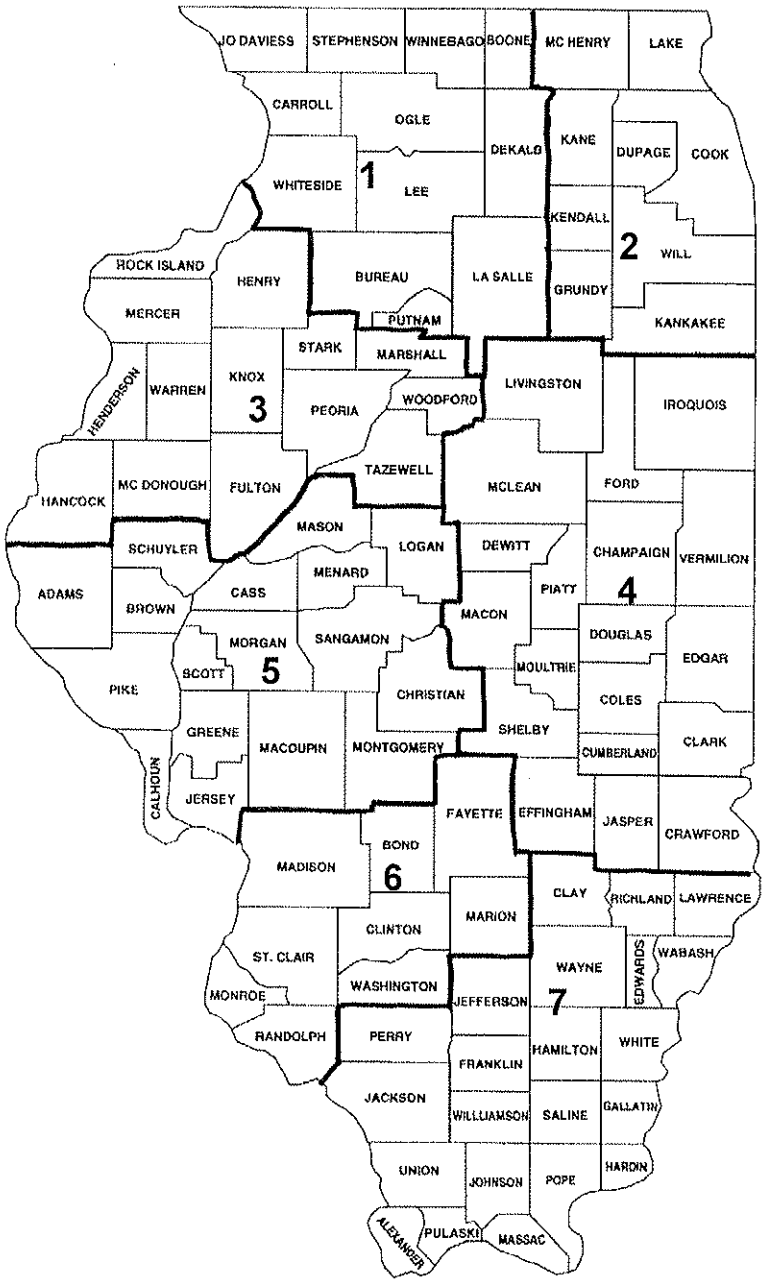
Region 3 - PEORIA
Jim Kammueller, Manager
Phone: 309/693-5463 Fax: 309/693-5467

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.

Permit No. ILR10 _____

OWNER INFORMATION

Owner Name: Lake County Division of Transportation

Owner Type (select one) County

Mailing Address: 600 W. Winchester Road Phone: (847) 377-7400

City: Libertyville State: IL Zip: 60048 Fax: (847) 984-5601

Contact Person: _____ E-mail: _____

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____ Phone: _____

City: _____ State: ___ Zip: _____ Fax: _____

CONSTRUCTION SITE INFORMATION

Facility Name: Lewis Avenue Resurfacing

Street Address: _____

City: Beach Park / Zion IL Zip: _____ County: Lake

NPDES Storm Water General Permit Number: ILR10 _____

Latitude: _____ (Deg) _____ (Min) _____ (Sec) Longitude: _____ (Deg) _____ (Min) _____ (Sec) 20 & 29 Section T46N Township **R12E** 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.

Illinois Environmental Protection Agency

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: Lewis Avenue, Zion CCDD Office Phone Number, if available: _____

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

Lewis Avenue from 500 ft north of Wadsworth Road to 20th Street

City: Zion State: IL Zip Code: 60099

County: Lake Township: Zion

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

Latitude: 42.44792 (Decimal Degrees) Longitude: -87.85454 (-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		Site Operator	
Name:	Lake County Division of Transportation	Name:	Lake County Division of Transportation
Street Address:	600 W Winchester Rd	Street Address:	600 W Winchester Rd
PO Box:		PO Box:	
City:	Libertyville	City:	Libertyville
State:	IL	State:	IL
Zip Code:	60048	Zip Code:	60048
Phone:		Phone:	
Contact:	Kevin Carrier	Contact:	Kevin Carrier
Email, if available:	KCarrier@lakeCountyIl.gov	Email, if available:	KCarrier@LakeCountyIL.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 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: Lewis Avenue, Zion CCDD

Latitude: 42.44792 Longitude: --87.85454

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)]:

See attached Narrative

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]:

Soil Analysis and accreditation attached

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

I, Steven F Grant (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: McClure Engineering Associates

Street Address: 2728 Grand Ave

City: Waukegan State: IL Zip Code: 60085

Phone: 847-336-7100

Steven F Grant
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

9/14/16
Date:

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

STEVEN F GRANT
062-062539
LICENSED
PROFESSIONAL
ENGINEER
STATE OF ILLINOIS